CLARIANT

Integrated Report 2018

what is precious to you?

The Clariant Integrated Report 2018 provides an in-depth overview of the company's holistic approach to multidimensional value creation, covering both tangible and intangible, and financial and non-financial aspects of the business.

Comprehensive information on financial results can be found in the online Financial Report. Details on governance and compensation are available in the online Corporate Governance Report and the Compensation Report. Additional information on the company's engagement regarding sustainable value creation can be found in the online GRI Report.

THE FOLLOWING REPORTS ARE AVAILABLE ONLINE AND AS A PDF FOR DOWNLOAD:

Integrated Report	Corporate Governance Report	Compensation Report	Financial Report	GRI Report
reports.clariant.com	reports.clariant.com/2018/corporategovernance	reports.clariant.com/2018/compensation	reports.clariant.com/2018/financialreport	reports.clariant.com/2018/gri

The core ideas of Clariant’s integrated reporting are based on the framework developed by the International Integrated Reporting Council (IIRC), which fosters sustainable change by promoting a holistic approach to corporate reporting that focuses on financial and non-financial value creation.

Integrated Reporting extends traditional formats of corporate disclosure in order to communicate the full range of factors that significantly affect a company’s ability to create value through its business model. In this third annual report published in the form of an Integrated Report, Clariant provides a comprehensive overview of its value creation process. The resources Clariant uses and affects are categorized into the following six »capitals«: financial, intellectual, manufactured, human, relationship, and natural.

Financial Capital

The pool of funds available to the company for use in the production of goods or the provision of services. This can include funds obtained through financing, such as debt, equity, or grants, and funds generated by the company, for example, through sales or investments.

Intellectual Capital

Knowledge-based intangibles used and created by the company, often in collaboration with partners. This can include intellectual property, such as patents, trademarks, copyrights, software, rights, and licenses, and »organizational capital«, such as tacit knowledge, systems, procedures, and protocols.

Manufactured Capital

Manufactured physical objects, such as buildings, equipment, and products. These can include objects that are available to the company for use in the production of goods or the provision of services, or that the company produces for sale to customers or for its own use.

Human Capital

The company’s staff and its composition, competencies, capabilities, experience, and motivation to innovate. This can include employees’ alignment with corporate values and their ability to understand and implement the company’s strategy.

Relationship Capital

Key relationships, including those with significant groups of stakeholders and other networks. This can include shared values, the trust and willingness to engage, and related intangibles associated with the company’s brand and reputation.

Natural Capital

Renewable and nonrenewable environmental resources and processes that support the past, current, or future prosperity of the company or are affected by it. Examples can include resources related to air, water, and land that are utilized or impacted by emissions.

Performance

FINANCIAL CAPITAL in CHF m

	2018	2017
Sales	**6 623**	6 377
EBITDA before exceptional items	**1 018**	974
EBITDA margin before exceptional items (%)	**15.4**	15.3
EBIT before exceptional items	**693**	673
Net income	**356**	302
Basic earnings per share (in CHF)	**1.02**	0.84
Adjusted earnings per share (in CHF)	**1.50**	1.47
Operating cash flow	**530**	428
Investment in property, plant, and equipment	**237**	248
Research & Development expenditures	**209**	211
Growth through innovation (%) [1]	**> 3.0**	2.5
Personnel expenditures [2]	**1 518**	1 516
Raw material procurement	**2 948**	2 674
Total assets	**7 981**	8 299
Equity	**2 970**	2 939
Equity ratio (%)	**37.2**	35.7
Net debt	**1 374**	1 539
Gearing ratio (%)	**46**	52

[1] Contains the contribution to growth from both Top Line Innovation as well as Life Cycle Innovation. Potential cannibalization of existing sales caused by Life Cycle Innovation in certain cases has not been excluded from the calculation.

[2] Including own employees and external staff

INTELLECTUAL CAPITAL

	2018	2017
Patents (year end)	**6 700**	6 600
Active innovation projects	**> 375**	> 370
Of which Class 1 Projects with double-digit million sales potential or of strategic relevance	**> 70**	> 65
Scientific collaborations	**> 125**	> 125

MANUFACTURED CAPITAL

	2018	2017
Research & Development Centers	**8**	8
Technical Centers	**> 50**	> 50
Production sites	**125**	125
Countries with production facilities	**39**	39
Raw materials procured (in m t)	**3.57**	3.14
Production (in m t)	**4.34** [1]	4.60

[1] For 2018, the production volume is based on a reduced reporting scope, which includes sites that are responsible for 95 % of total production.

People

HUMAN CAPITAL in FTE (Full Time Equivalents)

	2018	2017
Total staff	**17 901**	18 135
Employees	**10 405**	10 482
Of which male	**7 115 (68 %)**	7 264 (69 %)
Of which female	**3 290 (32 %)**	3 218 (31 %)
Workers	**7 496**	7 653
Of which male	**6 890 (92 %)**	7 066 (92 %)
Of which female	**606 (8 %)**	587 (8 %)
Total training hours	**234 240**	192 000
Training hours (Ø per participant)	**15**	20
Staff in Research & Development	**> 1100**	> 1100
Lost Time Accident Rate (LTAR: accidents with at least 1 day lost/200 000 work hours)	**0.15**	0.20

RELATIONSHIP CAPITAL

	2018	2017
Employee participation in engagement survey	**2 466**	n.a. [1]
Raw material suppliers	**7 000**	7 000
Raw material supply base by spend covered by sustainability evaluations (%)	**74**	65
Survey responses obtained from customer contacts	**2 791**	n.a. [1]
Customers who want to continue doing business with Clariant (%)	**90**	n.a. [1]

[1] Surveys are conducted every two years.

Planet

NATURAL CAPITAL

	2018 [1]	2017
Total energy consumption (in m kWh)	**3 209**	3 245
Energy consumption (in kWh/t production)	**739**	706
Total water consumption (in m m^3)	**49**	49
Total wastewater generation (in m m^3)	**13**	13
Total greenhouse gas emissions (Scope 1 & 2 CO_2 equivalents) (in m t)	**0.93**	0.97
Total indirect greenhouse gas emissions (Scope 3 CO_2 equivalents) (in m t)	**5.69**	5.21
Greenhouse gas emissions (Scope 1 & 2 CO_2 equivalents) (in kg/t production)	**215**	211
Total quantity of waste (in thousand t)	**232**	198

[1] Every three years, Clariant validates environmental data from all production sites. The last full reporting campaign was in 2017. In interim years, including 2018, the reduced reporting scope comprises the larger sites responsible for 95 % of production.

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Consistent Execution of the Group Strategy

Dear Shareholders

Clariant continued its success story in the 2018 financial year. This means that we were able to seamlessly build on the previous years, in which we significantly increased the attractiveness and earnings power of Clariant through the consistent implementation of our long-term strategy, in particular through the continuous development of the portfolio. Over the last few years, our shareholders have thus received a significantly higher total shareholder return than the peer-group average.

The 2018 results speak for themselves: We increased our sales in local currencies by 5 % to around 6.6 billion Swiss francs. The EBITDA before exceptional items also improved by 5 % to over 1 billion Swiss francs, which is the highest level since 2004. This operational performance improvement prompts us to propose a dividend increase of 10 % to 0.55 Swiss francs for you at the next Annual General Meeting.

We have always stressed that we need to continuously and consistently develop the Clariant portfolio towards specialty chemicals to further enhance the value of the company for you as shareholders. The size of the company is one aspect of this development. However, we cannot rely on organic growth alone. For this reason, one of our strategic priorities since the acquisition of Süd-Chemie in 2011 has been portfolio management, which has been further intensified over the past three years. The planned merger with the US company Huntsman was part of it – it would have led to an increase in value of over 3 billion Swiss francs. This merger was, however, thwarted by an activist investor.

Since our management feels obligated to actually realize the potential increase in value held out to the shareholders, we will now do so in cooperation with SABIC. We intend to form the new High Performance Materials Business Area from SABIC's specialty chemicals business and Clariant's Additives and high-value Masterbatches businesses. At the same time, we will sell more mature businesses such as Pigments and Standard Masterbatches. In this way, Clariant's portfolio will have a much more pronounced profile for high-quality specialty chemical products, which in turn will visibly improve the value of the company as a whole. At the same time, we will continue to develop our Care Chemicals, Catalysis, and Natural Resources Business Areas. Our focus remains on innovation, sustainability, highly qualified employees and the fast and reliable fulfillment of our customers' needs as the basis for future success. This will be reflected in a significant increase in the profitability of these businesses.

Keyword sustainability: It has long been an integral part of our business strategy. For us, this means constantly orienting our activities and shaping our product portfolio in such a way that they make a positive contribution to sustainability, based on a holistic approach whether in environmental protection, in the supply chain, in the minimization of risks, or in employee engagement. That is why we also support all sustainability targets of the United Nations and, especially in our industry, the Responsible Care™ Charter. In addition, we are proud to report that we have achieved top rankings in the Dow Jones Sustainability Index in recent years.

Our agenda for 2019 and 2020 is clear: The management, headed by the new CEO Ernesto Occhiello, is currently working hard to develop the new High Performance Materials Business Area, which will be one of the core activities of the new Clariant from 2020 onward. This means that Clariant, in contrast to today, will be significantly larger, considerably more profitable and – thanks to an increased cash flow – will also have potential for further growth. In principle, our medium-term objective must be to focus Clariant's portfolio even more on high-value, future-oriented and high-yield specialty chemical businesses.

HARIOLF KOTTMANN
Chairman of the Board of Directors



This is all the more important because the performance of the macro-economic environment is already weakening today. According to the International Monetary Fund (IMF), the risk of a greater decline in global economic growth has increased. Global gross domestic product is expected to increase by only 3.5 % in 2019, compared to 3.7 % in 2018. The geopolitical risks such as the trade conflict between the USA and China or the impending Brexit continue to be significant.

Nevertheless, we at Clariant are positive and confident about the future. The Board of Directors and Group management will continue to follow the current course in order to realize the potential increase in value held out to our shareholders and the desired attractiveness for customers and employees.

I would like to thank everyone who supported us in 2018 and the years before. I thank our employees for their loyalty and the high level of commitment we see within the company. Thank you, dear shareholders, for your continued confidence in Clariant. We will do our best to uphold this trust in the coming years.

Sincerely,



Hariolf Kottmann
Chairman of the Board of Directors



CHRISTIAN KOHLPAINTNER
Member of the Executive Committee, Clariant
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KLEMENTINA PEJIC
Head of Group Human Resources, Clariant
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LUCIUS KEMP
Head of High Throughput Experimentation, Clariant
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CAMILLA LANG
Site Manager Business Unit Functional Minerals & Country ESHA Nordics, Clariant → **PAGE 76**



PAUL LIECK
Corporate Safety Director North America, Clariant
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LYNETTE CHUNG
Head of Sustainability Strategy & Advocacy, Clariant
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SIBYLLE MUTSCHLER
Head of Digital4Clariant, Clariant
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JUDITH VAN VLIET
Designer ColorWorks®, Clariant
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RICHARD HALDIMANN
Head of New Business Development, Clariant
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Driving Questions

Asking Questions Is What Makes Us Better

Curiosity sparks progress. We ask how things work and how we can improve them. At Clariant, we don’t have all the answers. But we ask the right questions and take different perspectives. That’s why, for this Integrated Report, we spoke to our own experts and to our stakeholders about the most material topics of the Materiality Matrix. → PAGE 19

Growth and Profitability

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Talent Attraction and Development

038 What Helps People Reach Their Full Potential?

Innovation and Technological Advances

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Gao Feng Advisory Company
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ANKE WOLF
Freelance Consultant
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TIAGO MERCKEL HAUGG
Marketing Manager,
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DANIEL TEICHMANN
CEO,
Hydrogenious Technologies
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MARTIN CLAUSEN
Senior Risk Engineer,
Zurich Insurance
→ PAGE 90



ISOLDE BACHERT
Director Research & Development,
Follmann
→ PAGE 102



JIAN MIN SIM
CEO & Co-founder,
SourceSage
→ PAGE 132



JANIS AMBROSE SHARD
Senior Manager Product Planning &
Strategy, Toyota North America
→ PAGE 156



ALEXANDER SCHAU
Packaging Developer,
Werner & Mertz
→ PAGE 170

The Foundation of Success

The »Foundation of Success« provides an in-depth view of Clariant's holistic approach to creating added value. It presents an overview of Clariant's integrated business model and details how each layer of the model, from the external business environment to the discussion of three corporate-wide value creation phases, supports the Business Areas in achieving valuable outcomes for the company and its stakeholders.

008 Operating an Integrated Business Model
012 Thriving in the External Environment
014 Building on Vision, Mission, and Values
016 Internal and External Stakeholder Engagement
018 Materiality Assessment
020 Updated Strategy to Strengthen Clariant
022 Interview with CEO Ernesto Occhiello
026 Two Perspectives: What Will Help Us Succeed in China?
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044 Overview on Compensation Policy
046 Core Processes for Value Creation

Value creation from the short to the long term depends on a combination of financial and non-financial, tangible and intangible assets. The value a company creates for its customers, shareholders, and other stakeholders has to be attuned to their needs and provide valuable differentiation compared to the competition.

Clariant's success is measured by its ability to provide innovative and sustainable solutions that support its customers' goals, and to operate with efficiency and integrity. The discussion of Clariant's business model illustrates how Clariant transforms financial and non-financial inputs into valuable outputs by applying three main value creation phases throughout its corporate activities and in its four Business Areas.

Clariant's ambition to create sustainable value is guided by its vision, mission, and corporate values, which are underpinned by its corporate objectives, targets, and strategy. Its corporate governance principles, strong leadership culture, and compensation principles also support sustainable value creation.

By considering trends and market drivers in the business environment and engaging in ongoing dialog with its stakeholders, Clariant stays attuned to the needs of its customers, employees, shareholders, and society, and embraces their feedback to improve its business.

Operating an Integrated Business Model

Clariant's business model illustrates how the company transforms various resources into innovative, sustainable solutions. As expressed by Clariant's brand values – Performance, People, and Planet – the achieved outcomes benefit all stakeholders, and their feedback helps Clariant continuously improve value creation.

1. Building on a strong foundation

Clariant's business model is based on a focused vision and mission, and strong corporate values, all of which are operationalized through its five-pillar strategy and overall corporate objectives and financial targets.

Clariant recognizes global challenges as business opportunities and relies on an entrepreneurial leadership culture and dedicated employees who contribute their knowledge and skills to make Clariant a high-performing organization.

2. Transforming capitals to create value for all stakeholders

Clariant draws on six kinds of capital to fuel the value creation process: financial, intellectual, manufactured, human, relationship, and natural. Clariant converts these capitals into valuable outputs, such as products and services, which benefit customers, employees, shareholders, and the environment.

— Financial Capital refers to the pool of funds available to the company for use in the production of goods or the provision of services. This can include funds obtained through financing, such as debt, equity, or grants, and funds generated by the company, for example through sales or investments. In Clariant's business model, presented overleaf, these are, for example, R&D spend as an input and sales as an output.
— Intellectual Capital is the knowledge-based intangibles used and created by the company, often in collaboration with partners. This can include intellectual property, such as patents, trademarks, copyrights, software, rights, and licenses, and »organizational capital« such as tacit knowledge, systems, procedures, and protocols. For Clariant, examples include scientific collaborations as an input and patents at year end as an output.
— Manufactured Capital includes manufactured physical objects such as buildings, equipment, and products. These can include objects that are available to the company for use in the production of goods or the provi-

sion of services, or that the company produces for sale to customers or for its own use. In Clariant's business model, examples are raw material procured as an input and production volume as an output.
— Human Capital is the company's staff and its composition, competencies, capabilities, experience, and motivation to innovate. This can include employees' alignment with corporate values and their ability to understand and implement the company's strategy. In the case of Clariant, inputs include training hours and outputs are, for example, employee health and safety.
— Relationship Capital refers to key relationships, including those with significant groups of stakeholders and other networks. This can include shared values, the trust and willingness to engage, and related intangibles associated with its brand and reputation. For Clariant, examples are client interviews as an input and customer satisfaction as an output.
— Natural Capital includes the renewable and nonrenewable environmental resources and processes that support the past, current, or future prosperity of the company or are affected by it. Examples can include resources related to air, water, and land that are utilized or impacted by emissions. In the Clariant business model, energy consumption is one input and greenhouse gas emissions are an output.

Clariant categorizes these six capitals under its brand values Performance (encompassing financial, intellectual and manufactured capital), People (encompassing human and relationship capital), and Planet (encompassing natural capital).

3. Fueling growth and profitability with three value creation phases

Clariant's Business Areas are guided by three value creation phases that ensure excellence in execution throughout the company's activities:
— Idea to Market
— Market to Customer and
— Customer to Cash.

Idea to Market encompasses all processes that contribute to a well-filled and high-performing innovation pipeline. Market to Customer includes all steps of a truly customer-experience-centered marketing and sales process. Customer to Cash covers Clariant's efforts to ensure safe, efficient production and reliable delivery.

001 **BUSINESS MODEL**

Input

Resources and relationships that Clariant draws upon for its business activities.

PERFORMANCE

209
R&D spend in CHF m

2 948
Raw material procurement in CHF m

> 375
Active innovation projects

> 125
Scientific collaborations

125
Production facilities

3.57
Raw material procured in m t

PEOPLE

2 142
New employees hired

234 240
Training hours

538
Client interviews

74 %
Raw material supply base by spend covered by sustainability evaluation

PLANET

3 209[3]
Energy consumption in m kWh

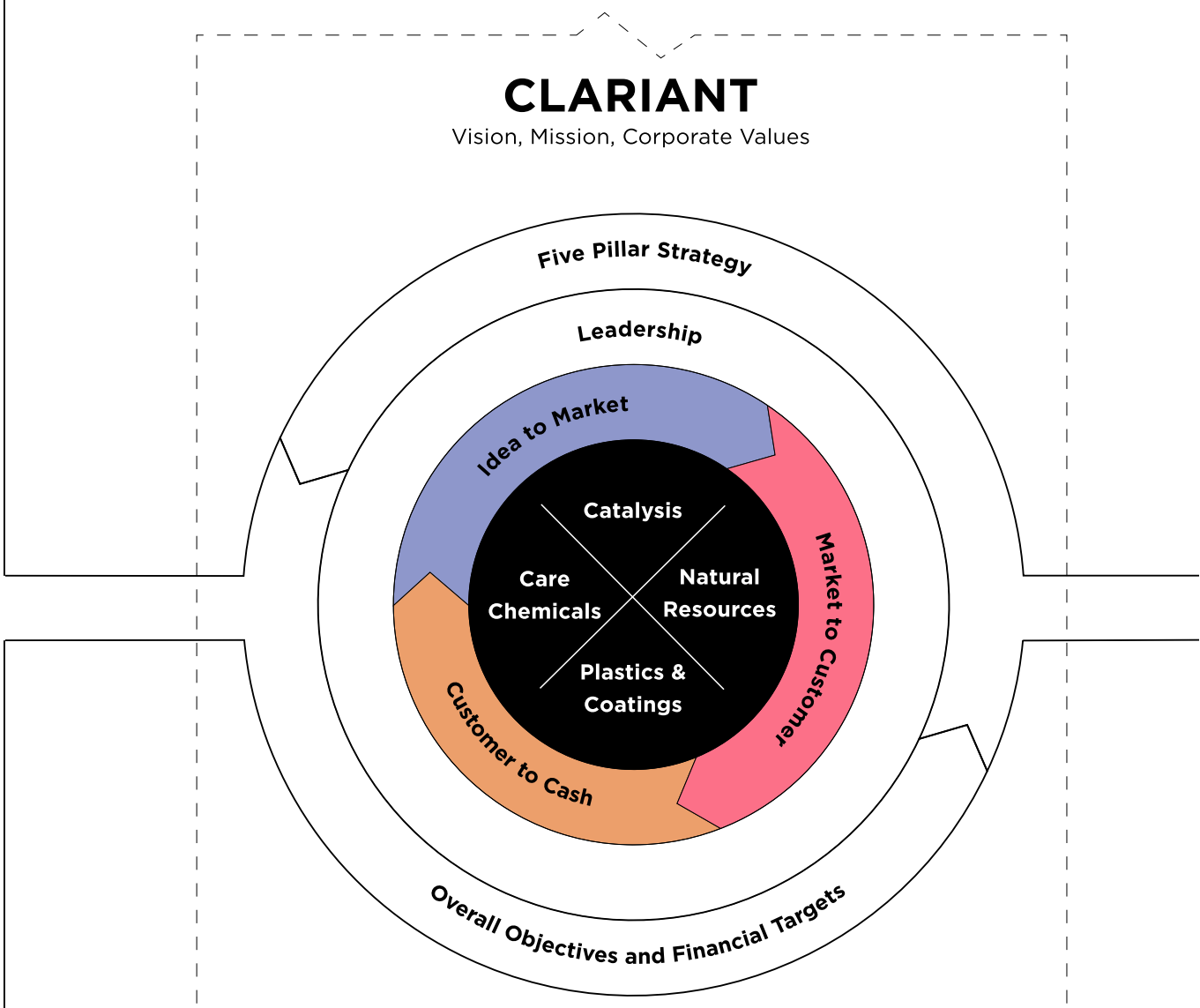
49[3]
Water consumption in m m^3

External Environment

Societal Trends and Market Drivers

CLARIANT

Vision, Mission, Corporate Values



FEEDBACK

Stakeholders

Clariant constantly engages with its stakeholders to stay attuned to their needs and gain feedback on how to best create value for them.

OUTCOME ACHIEVED FOR

Financial capital · Intellectual capital · Manufactured capital · Human capital · Relationship capital · Natural capital

[1] Contains the contribution to growth from both Top Line Innovation as well as Life Cycle Innovation. Potential cannibalization of existing sales caused by Life Cycle Innovation in certain cases has not been excluded from calculation.

[2] For 2018, the production volume is based on a reduced reporting scope, which includes sites that are responsible for 95 % of total production.

Output

Results from Clariant's business activities.

PERFORMANCE

6 623
Sales in CHF m

15.4 %
EBITDA margin before exceptional items

> 3 %[1]
Growth through innovation

6 700
Patents at year end

4.34[2]
Production volume in m t

24
Products awarded the EcoTain® label

PEOPLE

17 901
Staff in FTE at year end

0.93
Lost time accident rate (LTAR)

PLANET

0.93[3]
Greenhouse gas emissions (scope 1 & 2) in m t

13[3]
Wastewater in m m³

[3] Every three years, Clariant validates environmental data from all production sites. The last full reporting campaign was in 2017. In interim years, including 2018, the reduced reporting scope comprises the larger sites responsible for 95 % of production.

The Integrated Report 2018 can be explored not only through the subsequent layers of Clariant's business model, but also along three thematic »focus routes«. They shed light on value creation from the perspective of the Group as well as the Business Areas along the main threads of innovation, customer experience, and operational excellence, providing shortcuts between the respective parts of the report. For simple orientation and guidance, the content of each focus route is highlighted with a colored icon and vertical line.

IDEA TO MARKET

The Idea to Market focus route covers the innovation-related parts of the Integrated Report. After the overview in the »Idea to Market« chapter, this focus route elaborates on the Business Areas' innovation endeavors and discusses the results achieved with respect to the innovation-related material topics. → **PAGE 46**

MARKET TO CUSTOMER

The Market to Customer focus route includes report sections that illustrate Clariant's approach to customer-centricity. Starting with the »Market to Customer« chapter, this focus route sheds light on the Business Areas' efforts to develop their marketing and sales processes toward true customer-centricity, and reveals the results regarding the customer-related material topics. → **PAGE 49**

CUSTOMER TO CASH

The Customer to Cash focus route encompasses the parts of the Integrated Report that center around Clariant's efforts to ensure safe, reliable, and efficient operations. Beginning with the »Customer to Cash« chapter, this focus route illustrates the Business Areas' actions to optimize procurement, planning, production, and delivery, and presents the results achieved for the operations-related material topics. → **PAGE 51**

Thriving in the External Environment

How specialty chemicals companies and their customers innovate, collaborate, and operate does not change overnight. To develop the required know-how, relationships, and infrastructure in a timely manner, Clariant carefully tracks relevant external drivers, from current economic developments to megatrends with long-term impact.

1. Current regional trends shape the opportunity space

Regional developments relevant for the specialty chemicals sector, and for Clariant in particular, include:

— Renewed investment interest in the European chemical industry for the first time in over a decade. As an importer of most base chemical products, Europe has an opportunity to increasingly meet demand with local production, and reduce reliance on imports to only key inputs, such as feedstock from the United States. In addition, by maintaining the competitiveness of the base chemical industry, the raw materials required for specialty chemical production will continue to be available locally.

— An overall shift in China from export-related growth to growth based on local consumption. This would lead to slower, more sustainable growth but could also reduce the import demand for certain chemicals. Chinese companies aim to move into higher-specification products.

— Conflicting trends in the investment climate for the chemical industry in North America. High availability of feedstock in the US makes chemical investments potentially attractive, while changes to trade policy entail higher risks for future investments as North America is an exporter of many base chemicals and polymers.

— Growth in local currency rather than product volume in Latin America due to depreciating currencies. The current outlook indicates increased volume growth at potentially more stable currencies, with more optimism in Brazil than there has been in the last several years. The business environment is improving.

2. Innovative, sustainable solutions and trusted relationships are needed

Beyond these regional developments, a number of overarching trends are currently emerging. For example, demand for oil-based fuels is forecast to decrease globally in the longer term. This is motivating oil and refining companies to increasingly enter the chemicals business, where growth is still healthy. Regarding trends in market needs, customers are seeking innovative specialty products for differentiated, high-performance applications to avoid commoditization. In addition, customers are expecting shorter lead times from suppliers such as Clariant as they strive to become more agile, making digitalization an essential topic. Lastly, large customers are setting goals for supply chain sustainability that Clariant must meet as a supplier.

Concerning revenue developments, global Clariant sales were supported in 2018 by strong end-market growth during most of the year. Revenue growth in the oil, basic chemical, and refinery areas led to a continued recovery in the Catalysis and Natural Resources Business Areas following a dip in 2016. Growing revenues in the specialty chemical, healthcare, and agrochemical markets and steady growth in surfactants supported Care Chemicals' growth. Slower, but still positive, growth was experienced in the Plastics & Coatings end markets.

With regard to cost, after rising approximately 7 % in 2018 partly due to increasing commodity and oil prices, overall raw materials costs are expected to rise in the range of 2.5 to 4 % in 2019. Mitigating this will require collaborations with partners based on mutual appreciation, understanding, and cooperation. Clariant recognizes that trusted relationships with suppliers increase access to competitively priced raw materials, while proximity to customers supports value-based pricing by quantifying product and service benefits that allow customers to enhance their own offerings.

3. Long-term megatrends impact innovation and market perspectives

Megatrends, whose impacts will be felt beyond Clariant's strategic planning horizon, are relevant for the company's innovation programs and future-oriented marketing and business development. Considered megatrends are:
— Future of Oil
— Future of Plastics
— Future of Transportation
— Circular Economy

Concerning the Future of Oil, peak oil – the maximum petroleum extraction rate that will be achieved before decline begins – is forecast to occur in the 2030s. Over the next three years, forecasts project the oil price around USD 70 – 80/barrel (bbl), which is likely to motivate continued investment in shale oil in the US and in deep-water projects in Brazil – markets where Clariant has a strong presence – to meet demand growth while other sources mature.

With regard to the Future of Plastic, current demand for plastic products is expected to grow, especially in developing economies. In the longer term, however, growth may be slower than previously predicted due to plastic-saving product redesign and increased recycling. Both of these trends could create innovation opportunities for Clariant, as could the emerging need for substitutions between plastic types in order to reduce environmental impact.

Concerning the Future of Transportation, major shifts in automotive markets are expected over the next 15 years regarding powertrains, vehicle use, and design. Although Clariant currently has limited exposure to the automotive market, announced changes in the Clariant portfolio make Clariant well placed to benefit from the trends in this transition. → PAGE 20

Finally, with regard to the Circular Economy, 130 trends that could impact parts of Clariant's portfolio were assessed. While there is a business risk of decreasing demand growth from factors such as design for longer product life for consumer durables, this also presents opportunities to sell value-added products. The opportunities identified largely compensate for areas of potential risk to Clariant's business. Furthermore, the risk can be further mitigated by innovating and investing in the most promising opportunities. → PAGE 168

Building on Vision, Mission, and Values

Clariant relies on its guiding vision, a well-defined mission, and a culture that encourages every employee to explore new ways to create value for all stakeholders.

1. Vision and mission focused on value creation

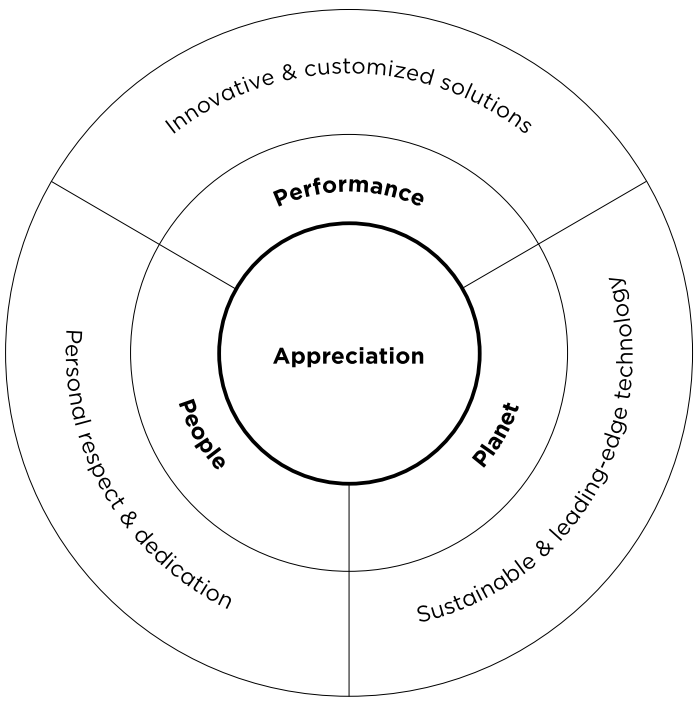
Clariant aspires to be the globally leading company for specialty chemicals, and to stand out through above-average value creation for all stakeholders. To bring this vision to fruition in the context of the drivers of Clariant's external environment, the company builds and maintains leading positions in its businesses and strives for functional excellence in innovation, commercialization, and operations as part of its corporate culture. Clariant's vision is underpinned by its mission to create value by appreciating the needs of:

— customers – by providing competitive and innovative solutions
— employees – by adhering to corporate values
— shareholders – by achieving above-average returns
— the environment – by acting sustainably

2. Appreciation, culture, and reputation as drivers for success

Clariant believes strongly that its brand essence »appreciation« is a key driver for successful value creation. → **FIGURE 001** For Clariant, appreciation means putting values at the center of everything the company does in each area where it is active or has an influence: performance, people, and the planet.

001 **BRAND VALUES WITH A FOCUS ON PERFORMANCE, PEOPLE, AND PLANET**

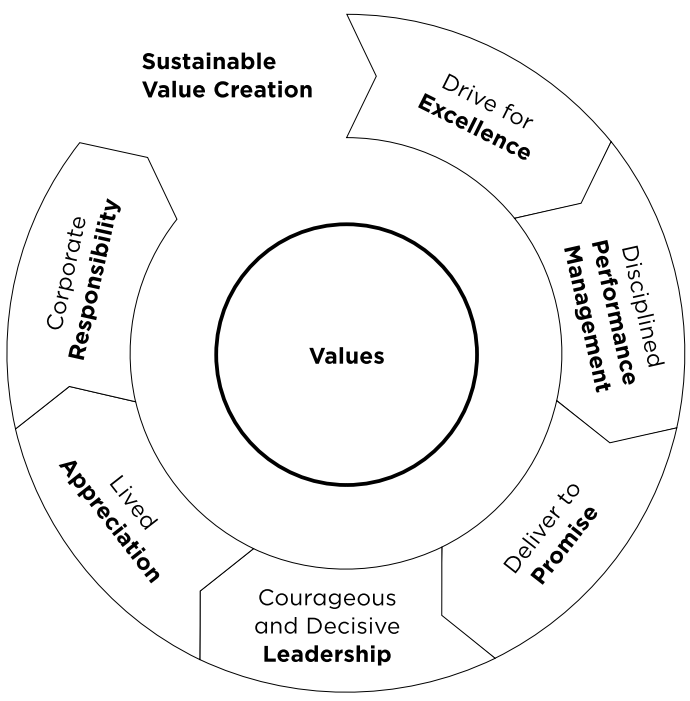


— Performance: Clariant appreciates its customers by striving for exceptional performance and offering innovative, customized, high-quality solutions.
— People: Clariant expresses appreciation toward its stakeholders and employees with its unflagging commitment to transparency and integrity, and by fostering a culture of dialog and mutual respect.
— Planet: Clariant embodies appreciation of the planet by protecting the environment and safeguarding natural resources. By using sustainable, cutting-edge technologies, Clariant meets the most stringent standards and sets new benchmarks in the industry.

Cultivating a corporate culture that balances business performance, social commitments, and environmental targets, while also upholding the goals of all stakeholders, is essential for generating value and sustainable growth. Therefore, appreciation is embedded throughout the company's culture and its six corporate values, → **FIGURE 002** which define expectations of employee behaviors and build the company's reputation and brand:

1. Drive for Excellence: Clariant goes for the highest standards to profitably meet customer needs and challenges its achievement for more.
2. Disciplined Performance Management: People at Clariant set – and ask for – clear direction and challenging but achievable targets. They give – and ask for – open feedback on measured progress.
3. Deliver to Promise: Clariant counts on self-driven employees, who fully leverage their true capabilities and do not over-promise or under-deliver.

002 **CORPORATE VALUES FOR SUSTAINABLE VALUE CREATION**



4. Courageous and Decisive Leadership: Clariant supports risk taking and acceptance of failure while learning from results and chooses the best people for the right places.
5. Lived Appreciation: People at Clariant acknowledge strength and advise on areas for improvement. They acknowledge outstanding contributions and celebrate success.
6. Corporate Responsibility: People at Clariant care for the welfare of all stakeholders, protect the environment and respect communities. They never shortcut a safety procedure and live Clariant's Code of Conduct.

Internal and External Stakeholder Engagement

Clariant constantly engages with its stakeholders to stay attuned to their needs and gain feedback on how to best create value for them. Clariant's key stakeholders are its customers, employees, and shareholders, as well as the environment.

1. Appreciation lies at the core of Clariant's stakeholder engagement

Clariant expresses appreciation to its stakeholders through a variety of channels: in its unflagging commitment to transparency and integrity; in fostering a culture of dialog and mutual respect; and by committing to sustainable, innovative technologies. A continuous dialog allows Clariant to understand all stakeholders' needs and develop corresponding solutions that meet the most stringent standards and set new industry benchmarks.

2. Ongoing engagement with stakeholders creates valuable insights

Clariant uses various channels to engage with its stakeholders. In addition to feedback received from daily interactions with customers, Clariant runs a biennial survey to monitor customer satisfaction, which is critical to learn about customers' perception of Clariant as a supplier and business partner. → PAGE 143 In addition, Clariant regularly conducts customer interviews in the context of the Marketing Excellence Initiative and Innovation Excellence Initiative. In 2018, these engagements included 538 customer interviews and 150 industry expert interviews. → PAGE 49

Clariant pays close attention to engaging with its employees on all levels, focusing on its core value of appreciation. Appreciation means providing the support and resources that employees need to achieve their goals, and giving credit for extra effort. Development goals and performance are discussed during annual Performance Dialogs as well as 360-Degree Feedbacks. In 2018, Clariant conducted a company-wide survey to assess employee engagement and gain valuable insights for future organizational development. → PAGE 139 In order to foster an ongoing dialog within the company, Clariant uses several channels to communicate with its employees, e.g., intranet, newsletters, townhalls.

For Clariant, ensuring transparency to all of its investors is a matter of course. The Integrated Report, the annual general meeting, investor updates, and an investor relations iPad application, as well as presentations at analyst conferences and roadshows, underpin this engagement. → PAGE 106 In 2018, Clariant's shareholder structure changed: The Saudi Basic Industries Corporation (SABIC) acquired a stake of almost 25 %. SABIC, one of the world's largest petrochemical manufacturers, aims to act as strategic shareholder. The resulting stability will allow Clariant to develop as a strong specialty chemicals company.

To minimize the company's impacts on the environment and safeguard natural resources, Clariant uses comprehensive management tools and programs that combine technology, data, and behavioral guidelines, and fosters a corporate culture that prioritizes environmental stewardship. → PAGE 158 Clariant consistently steers its product portfolio toward safer and more sustainable solutions in order to protect customers, consumers, and the environment. → PAGE 122

3. A shared language communicates sustainability
Clariant has welcomed the adoption of the 2030 Agenda for Sustainable Development by the United Nations member states in September 2015. The Agenda, including its 17 Sustainable Development Goals (SDGs), marks a milestone on the global path to a more sustainable future.

Clariant recognizes the opportunity offered by the SDGs to share a common framework of action and language when communicating with stakeholders and reporting on sustainability objectives, impact, and performance. Clariant thus plans to further increase transparency on the alignment of its strategy with the SDGs and to regularly report on the progress made toward achieving them.

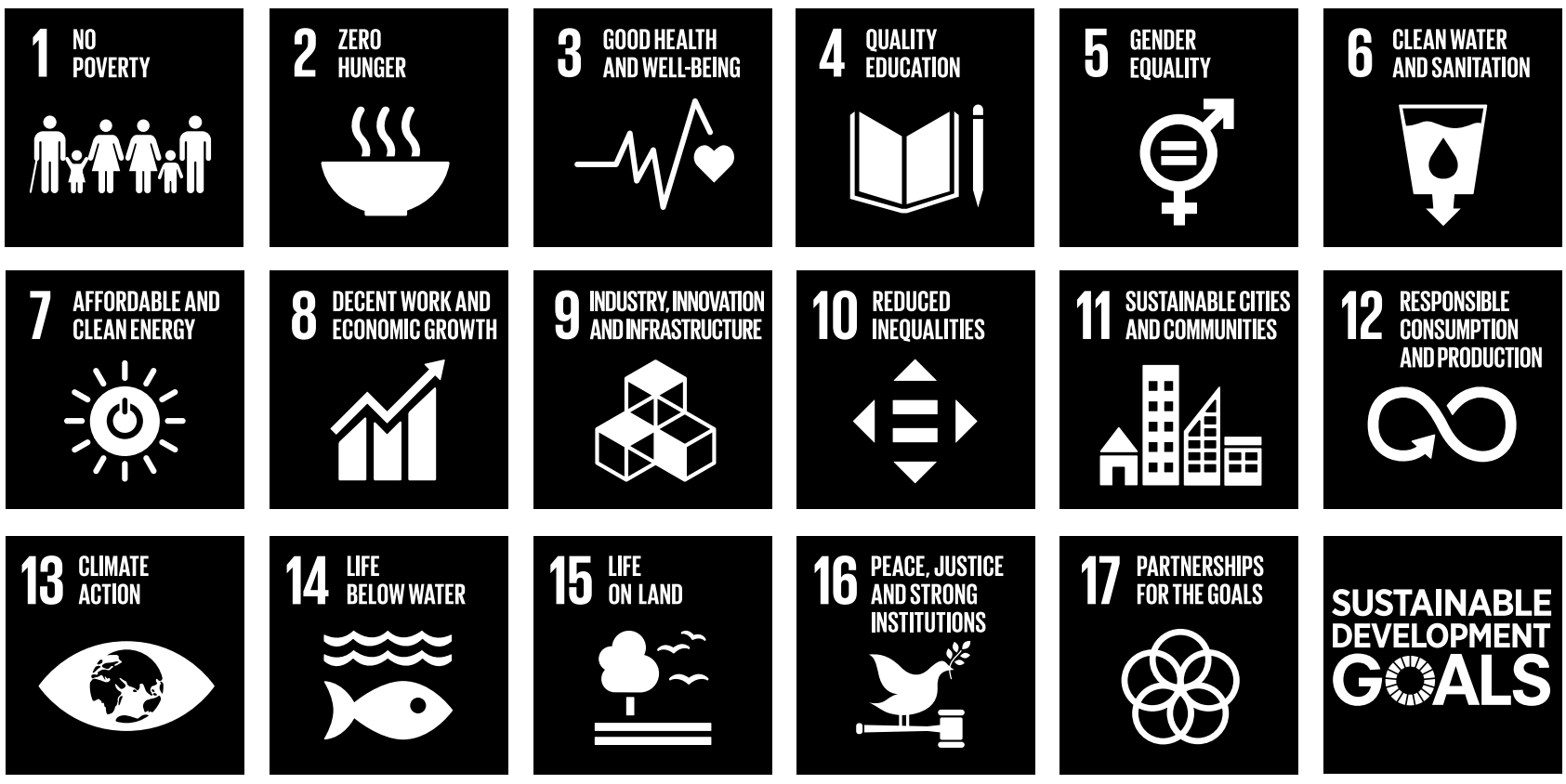
These universally accepted goals are highly relevant for the chemical industry and Clariant is committed to contributing to their realization. The SDGs are in many ways congruent with Clariant's own sustainability objectives, strategy, and values. Sustainability for Clariant is a journey – a continuous effort to steer the company's activities and product portfolio to contribute positively to global sustainable development.

Examples of Clariant's contributions to the SDGs are the 2025 environmental targets → **PAGE 158**, the extensive work done through the Portfolio Value Program (PVP) to screen the product portfolio for sustainability and bring forward more sustainable products and Eco-Tain® products → **PAGE 122**, and the company's efforts to promote health and safety in the workplace. → **PAGE 140**

Clariant's various initiatives have wide sustainability impacts on value chains, communities, and society, and thus contribute to several of the SDGs, including SDG 12 »Responsible Consumption and Production«, SDG 8 »Decent Work and Economic Growth«, and SDG 6 »Clean Water and Sanitation«.

4. Stakeholder perspectives inform Clariant's materiality assessment
In-depth engagement with internal and external stakeholders lies at the heart of Clariant's process of determining the economic, social, and environmental topics that offer the highest potential for value creation for stakeholders and for the company. This prioritization of topics related to performance, people, and planet helps Clariant further develop its integrated management approach. → **PAGE 18**

001 **CLARIANT SUPPORTS THE SUSTAINABLE DEVELOPMENT GOALS**



Source: United Nations Department of Public Information

Materiality Assessment

To determine which levers offer the highest potential for value creation in the long run, Clariant conducts comprehensive materiality assessments at regular intervals. The prioritization of material topics related to performance, people, and planet is well aligned with Clariant's strategic pillars.

International Integrated Reporting Council (IIRC)

integratedreporting.org

Global Reporting Initiative (GRI)

globalreporting.org

1. Based on recognized standards and procedures
The latest materiality assessment, performed in 2017, identified and prioritized the issues that matter most to Clariant and its stakeholders. It was based on two internationally recognized frameworks: the Integrated Reporting <IR> framework issued by the **International Integrated Reporting Council (IIRC)** and the sustainability reporting standards of the **Global Reporting Initiative (GRI)**. As a first step, Clariant compiled economic, environmental, and social topics that are included in frameworks such as GRI, <IR>, SASB, UN Global Compact, and UN Sustainable Development Goals, as well as Clariant's previously determined material topics and topics defined by peers. The resulting initial list of more than 400 topics was then consolidated to a list of less than 50 topics.

Then, Materiality was evaluated in two dimensions: stakeholders provided feedback on the relevance of each topic for Clariant from their perspective, and senior managers across the company assessed the importance of each topic for value creation by Clariant. The latter assessment included the potential influence of each issue on strategy development and achievement, market positioning and growth opportunities, risk management, compliance, and reputation management. Through considering the risks and opportunities linked to Clariant's external impacts, the process indirectly took Clariant's potential effect on various aspects of sustainable development into account.

2. Broad stakeholder inclusion
Both external and internal stakeholders were invited to express which topics they deemed most relevant for future value creation, with carefully defined selection criteria ensuring a balanced representation of interests among invited participants. Management and stakeholder surveys were conducted worldwide, with the latter offered in English, German, Spanish, Portuguese, and Mandarin.

Overall, 131 external stakeholders, 69 employees, and 36 managers gave feedback. Seventy-four customers included in the external stakeholder group responded to the survey, in addition to non-governmental organization representatives, sustainability experts, scientists, and suppliers. The outcome was evaluated and validated by senior management in a workshop that was part of the 2017 assessment.

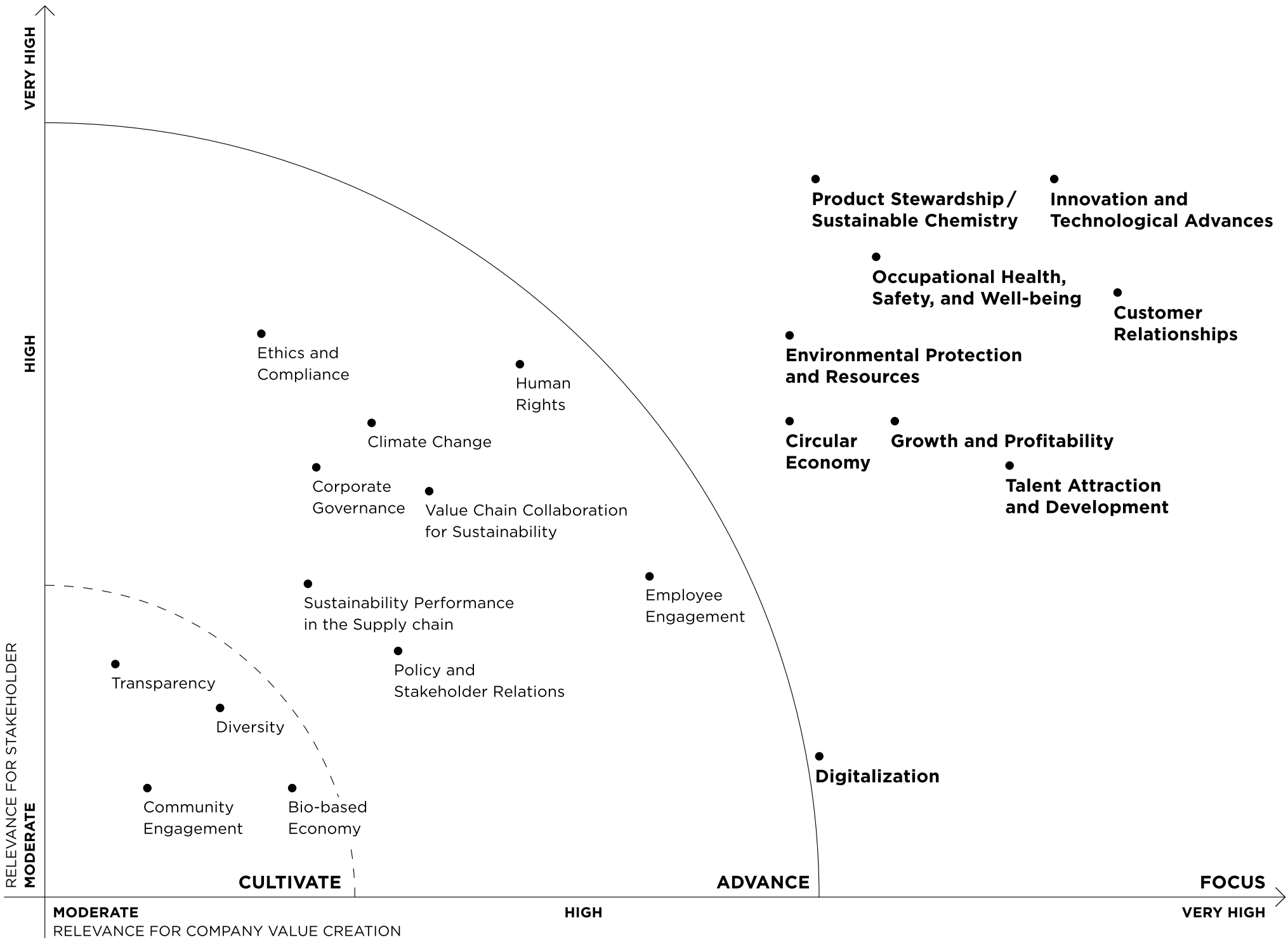
In 2018, the materiality assessment was reviewed to look for topics that had become more or less relevant during the year. In particular, recent stakeholder interactions and management discussions indicated that two topics – circular economy and digitalization – had become more relevant both to stakeholders and to value creation. The materiality matrix was refreshed accordingly.

3. Materiality Matrix

The results of the comprehensive materiality assessment are summarized in the Clariant Materiality Matrix → **FIGURE 001**, which shows topics considered moderately to highly relevant. The matrix depicts the relevance of the topics from the stakeholder point of view on the vertical axis and relevance for value creation by Clariant on the horizontal axis.

The topics are categorized in three areas: Cultivate, Advance, and Focus. Focus topics are at the core of Clariant's ability to create long-term value; further improvements regarding Advance topics allow Clariant to better meet company and stakeholder expectations; Cultivate topics support successful value creation in the future.

001 **CLARIANT MATERIALITY MATRIX**



For Focus topics as well as for Advance topics, Clariant has established management approaches. → **REPORTS.CLARIANT.COM/2018/GRI**
Current developments, activities, and achievements for each topic can be found throughout the Integrated Report, especially in the Multicapital Review. → **PAGE 104**

Focus topics are further illustrated by dedicated interviews with internal and external experts:
Growth and Profitability → **PAGE 26**, Talent Attraction and Development → **PAGE 38**, Innovation and Technological Advances → **PAGE 62**, Environmental Protection and Resources → **PAGE 74**, Occupational Health, Safety, and Well-being → **PAGE 86**, Product Stewardship/Sustainable Chemistry → **PAGE 98**, Digitalization → **PAGE 128**, Customer Relationships → **PAGE 152**, Circular Economy → **PAGE 166**

Updated Strategy to Strengthen Clariant

Clariant's holistic approach to creating value for all stakeholders is underpinned by its overall objectives, financial targets, and five-pillar strategy. In 2018, Clariant announced a portfolio upgrade that enables the Group to realize a significant step change into higher value specialties.

1. Overall objectives underpin Clariant's vision and mission

To advance into the top tier in specialty chemicals, Clariant focuses on overall objectives related to its different stakeholder groups. The company strives:

— to be a publicly listed company with a broad shareholder base, reliable long-term anchor shareholders, and a high reputation for above industry-average profitability, growth, and Total Return to Shareholders (TRS);
— to be known as a powerhouse for R&D and Innovation and to increase value by applying a forward-looking sustainability lens to operations and market offerings;
— to serve markets with future perspectives and strong growth rates and focus on businesses with competitive position, and
— to be a preferred employer.

In addition, Clariant has increased its financial targets based on the expected implementation of an updated strategy and significant portfolio upgrade, as summarized in → FIGURE 004.

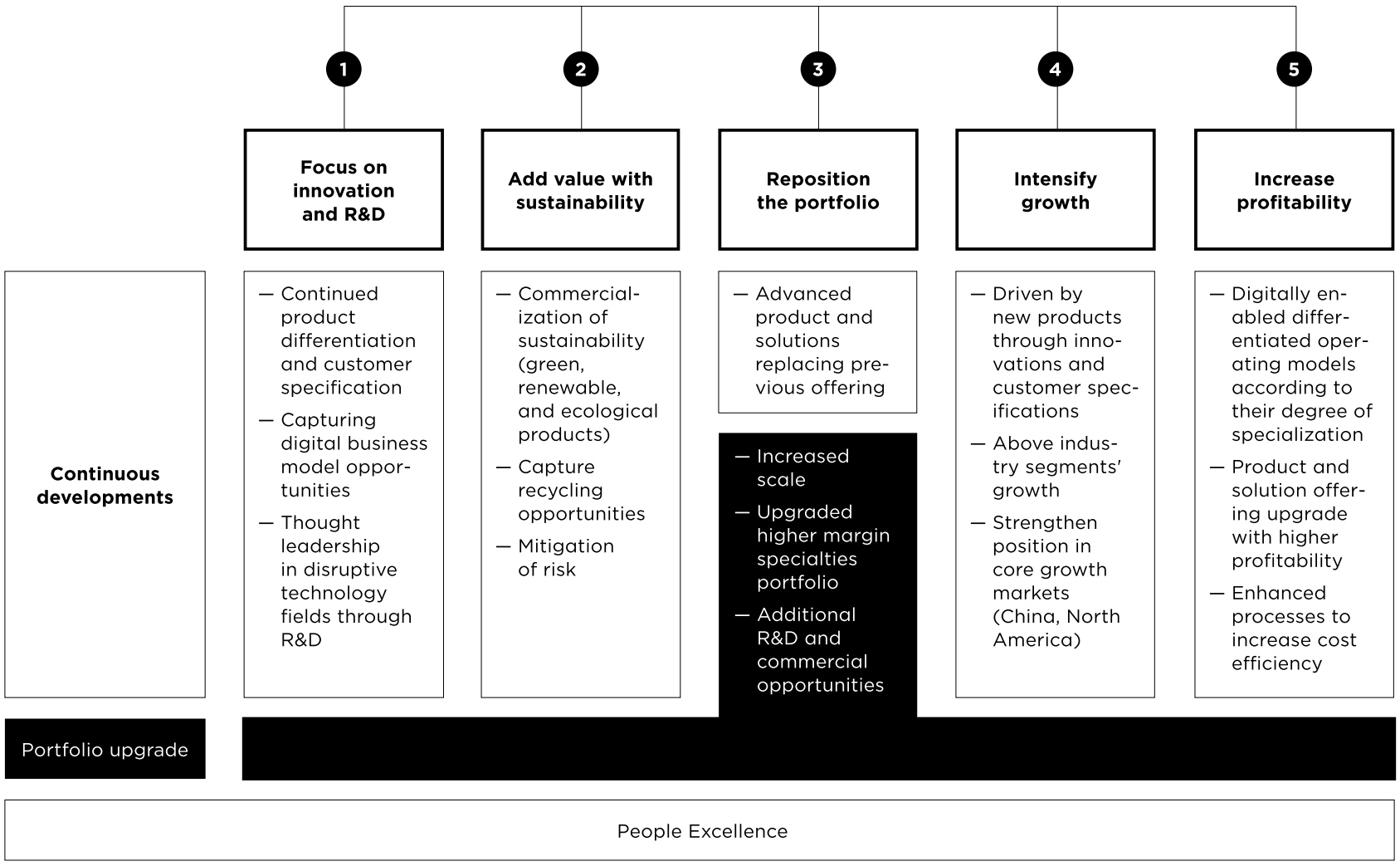
2. A five-pillar strategy provides guidance

Against the background of its qualitative objectives and financial targets, Clariant articulates its approach to long-term value creation for its stakeholders through its Group strategy, which has been further developed along five pillars: focusing on innovation and R&D; adding value with sustainability; repositioning the portfolio; intensifying growth; and increasing profitability. In 2018, a strategy update featured a major portfolio upgrade designed to capture a significant collaboration opportunity with SABIC in the area of high-performance materials. → FIGURE 001

The strategic pillars are well aligned with the material topics deemed most relevant for Clariant and its stakeholders. → PAGE 18 From the topics determined to be most material in the comprehensive materiality assessment conducted in 2017, Innovation and Technological Advances lies at the heart of the first strategic pillar; Product Stewardship and Sustainable Chemistry, as well as Environmental Protection and Resources, are essential aspects of the second strategic pillar, as is Occupational Health, Safety, and Well-being as part of the mitigation of risk; and Customer Relationships are an important foundation of the fourth and fifth strategic pillars, which together correspond to the most material topic of Growth and Profitability. All five strategic pillars are underpinned by Clariant's People Excellence initiative, for which the most material topic of Talent Attraction and Development is an important aspect.

In 2018, the materiality matrix was reviewed and slightly refreshed with two new topics elevated into the group of most material topics: Digitalization and Circular Economy. Digitalization is now represented in the first strategic pillar by highlighting digital business model opportunities and in the fifth pillar by including digitally enabled operating models. Circular Economy is addressed in the second pillar, emphasizing the focus on products and partnerships.

001 **UPDATED GROUP STRATEGY WITH ENHANCED PRODUCT AND SOLUTION OFFERING**



3. Expected portfolio upgrade will strengthen growth and value creation

Clariant seeks opportunities to adapt its portfolio in areas that align well with its corporate strategy: increasing growth and profitability, differentiating through innovation and sustainability, serving industry-leading businesses driven by megatrends, enhancing customer experience, and fast reliable customer fulfilment. This will be supported by creating operational and business synergies that significantly contribute to value creation, and strengthening the company in terms of the capabilities and talent of the people acquired with the business.

Based on these criteria, the 2018 corporate strategy update was grounded in a detailed assessment of Clariant's competitive environment and key developments in the specialty chemicals industry. It was determined that enhancing Clariant's engagement in the highly specialized field of high-performance materials would create strategic advantage in the current business environment, where leading businesses, such as SABIC's Specialties business with its promising positioning with respect to trends in transportation and consumer electronics, offer excellent innovation and investment opportunities. In line with this strategic priority, Clariant plans to combine its Additives and high-value Masterbatches activities (color, high-temperature resins, and healthcare) with complementary parts of SABIC's Specialties business to create the new Business Area High Performance Materials. Clariant would hold the majority stake of the new merged Business Area, which is expected to be completed by the end of 2019 and launched by January 1, 2020.

002 **CLARIANT MAKES STEP CHANGE INTO HIGHER VALUE SPECIALTIES**

	High Performance Materials	Care Chemicals	Catalysis	Natural Resources	Plastics & Coatings
Sales growth expectations p.a.	6 – 9 %	5 – 7 %	6 – 9 %	6 – 7 %	GDP
EBITDA margin ambition 2021E	24 – 25 %	19 – 21 %	26 – 30 %	16 – 17 %	steered for absolute EBITDA and cash flow generation

Major areas of application of High Performance Materials are expected to include smart electronics, aerospace, automotive, and robotics, as well as healthcare, additive manufacturing, renewable energy, and e-mobility. These applications demand differentiated fulfillment of customer specifications that require exclusive technology and formulation know-how. In addition, Clariant expects to divest Pigments, standard Masterbatches, and Healthcare Packaging by 2020.

Focusing on Best-In-Class Customer Experience and Excellence in Execution

Ernesto, you've been the CEO of Clariant for a few months now. What are some of your first impressions?
Clariant is an excellent company with great people. The company is run well and has some exceptional technologies. It has a lot of potential in creating value for our customers. And I think we're on the right path to become one of the fastest and most reliable suppliers in our field and a true world leader in high-value specialty chemicals.

2018 was another intense year for Clariant with the entry of a new shareholder and the announcement of a strategy update. What is your view on this?
First of all, we delivered on our promise. Business was good with sales increasing 5 % and an improved absolute EBITDA before exceptional items of more than one billion Swiss francs. Considering the state of the global economy, which softened towards the end of the year, that alone is a positive sign. Some of our businesses that are closer to the consumer have shown significant increases of sales and profitability, which is a remarkably good outcome. But the clearest evidence of what a good job the people at Clariant are doing is the operating cash flow. Its increase of 24 % is a real step change from previous years. However, we mustn't rest on our laurels. We aim high: We want to position ourselves in the top quartile of the high-value specialty chemical industry. And we want to be the best in what we do. To that end, with SABIC's entry as a new anchor shareholder and our announcement of the creation of a new Business Area High Performance Materials, 2018 saw two strategic milestones on this journey.

What are the next steps in terms of divestments?
We have already started to carve out Pigments, Standard Masterbatches, and Healthcare Packaging from the former Plastics & Coatings Business Area. I am very confident about their sale, which we hope to complete by 2020.

What will change with Clariant's transformation?
Everybody likes to see a new CEO put a different spin on how things are done. But Clariant is in good shape. That's why we will continue to execute our proven five-pillar strategy and to focus on innovation and R&D, which is key for our continued product differentiation and customer specification. We will also keep creating value by commercializing the sustainability needs of our customers, for example, by delivering more renewable and eco-friendly products. However, we'll remain open to bolt-on acquisitions in order to reposition our portfolio and open to taking additional transformative steps whenever appropriate. Part of our transformation is to further strengthen our profitability and improve our cash generation. Good cash management is a prerequisite for us to invest in growth. Another thing we'll continue is our Clariant Excellence initiative with an even stronger focus on operational efficiency and excellence in execution.

You seem to focus very much on customer needs...
Yes, we need to better align our application development and our products with the needs of our customers. Our customers should rely on us to get the fastest and most reliable customer fullfilment in the industry. In other words: we want to create the best possible customer experience and we want to maximize their success. This will help in both retaining existing customers and attracting new ones.

Where do you see potential for further growth?
The most successful companies rely on their core strengths. We have to make sure that our portfolio addresses the upcoming challenges, technology opportunities, and consumer demands – including their appetite for more convenience, safety, health, and resource efficiency. Our new Business Area High Performance Materials can deliver solutions for the increasing digitalization in many industries, like the fast-growing market for smart electronics and appliances. And our other businesses, like Care Chemicals, Catalysis, and Natural Resources, serve rising customer needs in safety and health – with anything from halogen-free flame retardants to natural, ethical, and sustainable ingredients for personal care products.

ERNESTO OCCHIELLO
Chief Executive Officer



Clariant is known as a leader in sustainability. How important is it to you?

Sustainability is the core of our strategy. We need to ensure that we address environmental, economic, and societal needs in order to compete. If you can run your business using fewer resources than others or if you find ways to reduce your environmental impact, you're very likely to be rewarded – by your customers, your shareholders, and society in general. Our catalysts are a great example. As the International Council of Chemical Associations put it, catalysts are the best way to significantly improve the energy efficiency of chemical processes.

What are your personal expectations for Clariant and the way forward?

Everybody knows that I don't talk too much. I prefer to let results speak for themselves. We have an experienced and dedicated leadership team, a lot of great talent and hardworking people in the company. I am convinced that with the support of our Board and Chairman, Hariolf Kottmann, we will continue on our successful path. We have certain goals: By 2021, we want to achieve sales of around 9 billion Swiss francs, an EBITDA margin after exceptional items in the order of 20 %, an operational cash flow of more than 1.2 billion Swiss francs, and an ROIC after exceptional items of more than 10 %. If we stay focused on our customers, on operational efficiency, and on excellence in execution, I'm sure we can realize the full potential of this great company – to the benefit of everyone: to our customers, who value fast and reliable service, to our employees, who appreciate a safe and motivating working environment, to our shareholders, who delight in increased dividends and shareholder value, and to society as a whole, which pushes for sustainable development.

Combined with attractive prospects in Care Chemicals, Catalysis, and Natural Resources, this portfolio upgrade will allow Clariant to focus even more on customer-specific, technologically advanced applications with high growth and high value-creation potential.

4. Strategic Management Process ensures Corporate and Business Unit involvement

Clariant's Strategic Management Process (SMP) ensures that the overall strategy development is conducted as an iterative process at the Group level as well as for each of the individual Business Units.

In the SMP process conducted during the course of 2018, each Business Unit in close cooperation with Corporate Planning & Strategy reviewed Cross-Business Unit topics both in regard to external trends (Future of Oil, Future of Transportation, Future of Plastics, Circular Economy) as well as regarding the five pillars of the Group strategy. For example, cross-Business Unit workshops regarding digital impact, innovation through R&D, and sustainability were conducted to identify priority areas. Each Business Unit selected specific topics for deep dives, and then substantiated these as core elements in their Business Plan, including must-win battles.

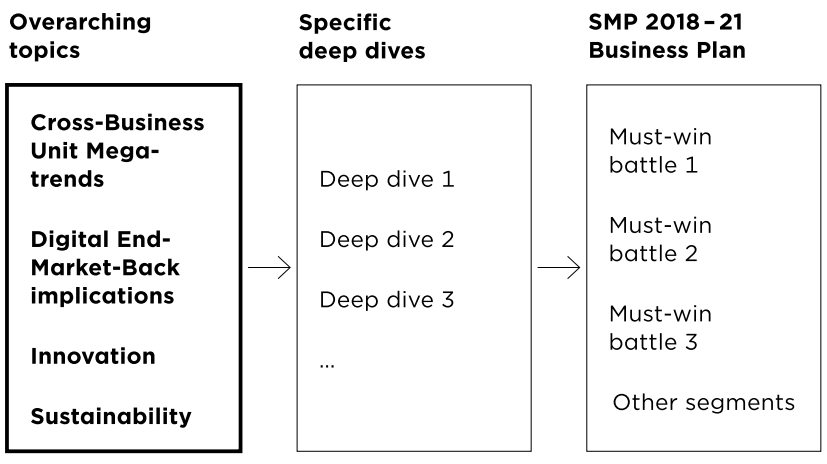
Depending on the Business Unit in question, must-win battles can include specific regional growth targets, supply chain or marketing opportunities, or innovation areas that are especially relevant in further differentiating the Business Units' product portfolio.

This process ensures that Business Unit strategies are developed with corporate guidance on aspects such as external trends or priorities of the five-pillar Group strategy, while also focusing on the specific opportunities and risks in the particular businesses. On the basis of these deliberations, the scope of the SMP discussions with each Business Unit included:

— marketing, innovation, sustainability, and operations strategy/roadmap, and growth and profitability targets at the segment level, and
— innovation focus fields, innovation growth targets, and core growth and profitability targets for the whole Business Unit.

The corresponding implementation plans feed into financial plans for each Business Unit that are developed and refined alongside the Group financial objectives. In the context of the enhanced growth profile of the Group related to the portfolio upgrade, Clariant expects to be able to reach sales growth of 5 – 6 % annually and to

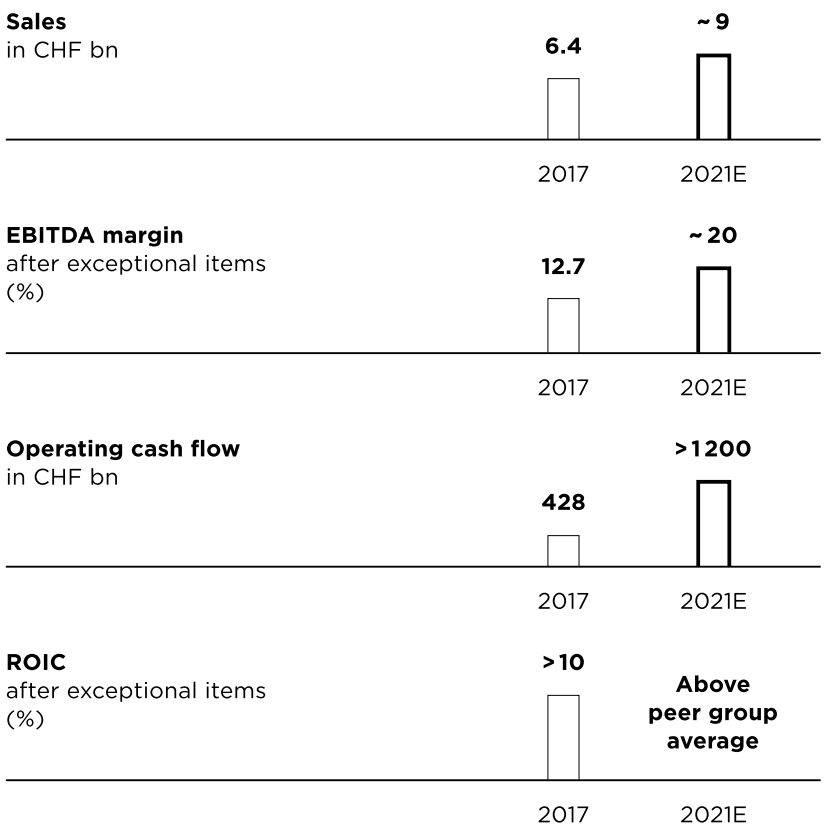
003 **CONTENT DEEP DIVES TO THE BUSINESS UNIT STRATEGIES**



194

In 2018, Clariant's Excellence Initiatives achieved a net benefit of CHF 194 m.

004 **OBJECTIVES FOR FUTURE FINANCIAL GROWTH**



Note: combines business foreign exchange rate assumption of 1.0 USD = 1.0 CHF; 2021E at stable 2018 FX rates

increase EBITDA margin after exceptional items to approximately 20 % by 2021. The combination of Clariant's and SABIC's offerings within Clariant is expected to result in significant synergies, with an anticipated annual run rate of CHF 100 million realized over three years from closing.

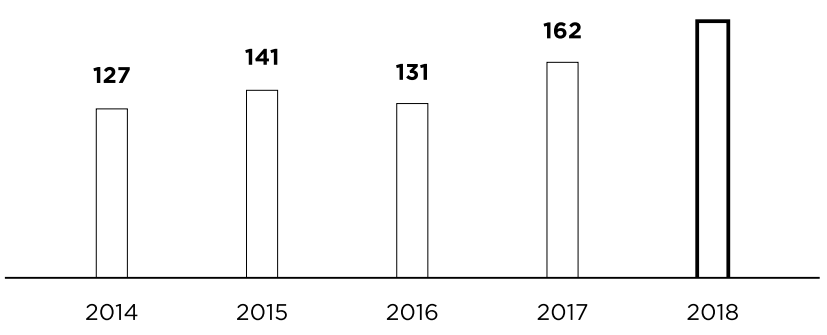
The mid-term financial objectives are discussed in the context of the »multicapital review«. → **PAGE 114**

5. Clariant Excellence supports value creation

Clariant Excellence (CLNX), the company's Business Excellence program, supports the Business Units in their strategy execution. Along with People Excellence, the program comprises Innovation Excellence (CIX), Commercial Excellence (CCE), and Operational Excellence (COX). These linked initiatives for excellence in execution drive value from EBIT improvements and cash flow from additional growth.

In total, **CLNX improvement projects** delivered estimated net benefits of CHF 194 m in 2018, of which CHF 112 m were cost savings. CLNX supports systematic value creation along the entire value chain: from ideation for new products, services, or business models to defining commercial strategy to ultimately ensuring effective and efficient production and delivery of finished goods to Clariant's customers. → **PAGE 46**

005 **NET BENEFIT BY CLARIANT EXCELLENCE** in CHF m



Where
Why
When
Who
What

Growth and Profitability

What Will Help Us Succeed in China?

Like so many others, Clariant has identified China as the driver for global business growth and innovation. But unlike many other Western companies Clariant has put China at the heart of its global strategy to explore new opportunities and fully adapt to the country's unique business environment.

Christian Kohlpaintner

As a Member of Clariant's Executive Committee, Christian spent more than two years in Shanghai, implementing the company's unique China strategy.

Edward Tse

As one of China’s leading Global Strategy Consultants, Edward and his unique perspective on the country’s development were instrumental in developing Clariant’s China strategy.

Christian, you've recently spent the better part of two years in Shanghai. What were you there for?
I had been responsible for Asia, and thus for China at the Executive Committee for some time, but we weren't seeing the kind of progress we were hoping for. So my move there in 2016 was to show our commitment to putting China from »Fringe to Core« of our global strategy. And it's been instrumental in building a China-focused governance structure that now reports straight to the top. We're the first multinational to have based an Executive Committee member in Shanghai, mainland China.

What makes China so essential to Clariant?
It's the largest single chemicals market in the world – twice the size of the US or Europe. China is also by far the fastest growing market. That makes for boundless opportunities and I'm more than ever convinced the future of Clariant will be decided in China.

How has the experience affected you personally?
I like to joke that China made me ten years younger. The speed and agility of doing business there, the pace at which you move and the way you use technology – it all »modernizes« you in a way that I really hadn't expected.

Is it important for an executive to gain that kind of insight?
Let's put it this way. I don't need anybody to tell me anything about megatrends anymore. Clariant wants to tap into trends like urbanization, shifting demographics, mobility, and sustainability. But there's only so much you can learn about these things from a cozy office in Switzerland. Living in Shanghai, I've experienced life in an exploding megacity of 24 million people first-hand – population density, traffic gridlock, the constant construction work and pollution. But I've also witnessed the unique Chinese entrepreneurial spirit.

What's different about Chinese entrepreneurs?
They're eager and open to innovate in a way that you rarely see in Western Europe. They're optimistic. They're ambitious, but also forgiving. Trying new things, failing, and then trying again tomorrow – that's deeply embedded in their business culture. It's also why I believe China should be our first market whenever we try to commercialize anything new.

What's the goal for Clariant in China?
In 2016 we set out to double our revenue by 2021. And we're on track to doing so. In the last twelve months we have been growing faster than any other competitor, be it multinational or domestic.

You mentioned sustainability as a trend. What role does that play in China?
Sustainability is a top priority in China's current Five-Year Plan. And rightfully so! People long to see blue skies again. They view pollution as a risk to their newly found prosperity. The Chinese government is fully aware of this and takes measures unlike anything you see elsewhere. Imagine your local supplier being shut down literally overnight for not complying with new regulations. Some of these regulations, by the way, are even much stricter than in Europe.

Tell us a bit about Clariant's new governance model in China.
It's essentially about giving China a voice at the table whenever and wherever global business decisions are made. Each of our seven Business Units is run by a global management team and the five most relevant ones in China have a member solely responsible for the China business. That way, China is always on the global agenda. And we've gone one step further by establishing China as a sort of eighth Business Unit. Its head, our new regional president, Fu Cai Wang, reports directly to the Executive Committee, just like the heads of all our global Business Units, with whom he is on peer level.

Why did Clariant fill these new positions almost exclusively with native Chinese?
It reduces cultural and language barriers, which is crucial in China – no matter if you're dealing with small local heroes or multi-billion dollar companies.

Was it hard finding the necessary talent?
We looked for seasoned business experts who not only know the Chinese market very well but also have ample experience with multinationals. The fact that we won over almost everyone we reached out to tells us that our China story is very compelling and thus has attracted top talents to Clariant.

How can we harness China's potential?



CHRISTIAN KOHLPAINTNER
Member of the Executive Committee, Clariant

What drives business and innovation in China?



EDWARD TSE
CEO & Founder, Gao Feng Advisory Company

Edward, what's the biggest misconception Western companies have about China?
It's the presumption that China's development will follow the path of the West, and that they can simply copy and paste their strategy and business model to China. The typical Western stance is, »If this cookie-cutter approach results in success, that's great and we know what we are doing! However, if it doesn't, then the problem has got to be with China, and not our strategy«.

What makes China so different?
It's an ancient civilization going back 5 000 years, but its modern business development is exceptionally young. Only since the reforms and opening of the late 1970s has China started to reconnect with the rest of the world. That development is far from perfect, but it has lifted 700 million people out of poverty. The China that you're seeing now comes from a rather unique background and makes for a very different context compared to that of the West.

Is the role of the government as big as we think?
Going from a Soviet-style planned economy to a market economy takes time, and China is not entirely there yet. But today, relative to the state sector, China's private sector is by far the bigger job creator and contributor to the country's GDP. It's also the primary source of business innovation. The reemergence of the Chinese entrepreneurial spirit is probably the most profound development in China's recent history.

It led you to write a book in 2015 about »China's Disruptors«. What contributed to their success?
What certainly helped was the size and growth of the China market, which allowed for rapid scaling of their business models. The prevalence of digital technology, specifically the wireless internet through smart devices, was the critical enabler.

What chapters would you like to add to this book today?
What's special today is the fact that entrepreneurship is not just for the privileged. It has become the fabric of Chinese culture today. State-Owned Enterprises (SOEs) still play an important role, but many young people have realized that starting a business or working for a start-up rather than an SOE is a path for them to get where they want to be. If I were to write a new book about Chinese innovation today, it would be about the new era we're entering with technologies like artificial intelligence, the internet of things, blockchain technology, and 5G. Those will have a profound impact on China's innovation and business. The Chinese entrepreneurs will be at the forefront of that.

Are Western executives in China less open to innovation?
Western executives are very keen – I would even say indoctrinated – to base their strategy on the doctrine of core competencies: »Focus on what you are good at and don't divert your attention to anything else«.

Why is that bad for innovation?
Because it limits what the company is willing to consider. Chinese entrepreneurs don't necessarily have that ideological baggage. Many of them are happy to develop multiple business ecosystems even if they don't have all the capabilities in place themselves. When they feel a new opportunity is worth pursuing, often they would rather jump before anybody else does and then fill the capability gaps along the way.

Are the gold rush days over for Western companies in China?
China continues to evolve and to open up. China today is very different from China ten years ago, and it will again look very different ten years from now. There is major potential for more growth. But if you want to make the most out of that, you need to put China at the core of your global strategy and organization, which means making China a part of your corporate brain. Including the ability to evaluate opportunities and to design, innovate, and execute new ideas. It's impossible for a corporate headquarter that is thousands of miles away to fully appreciate what's going on on the ground in China.

Overview on Corporate Governance

Clariant is committed to international compliance standards, ensuring checks and balances between the Board and Management, as well as a sustainable approach to value creation.

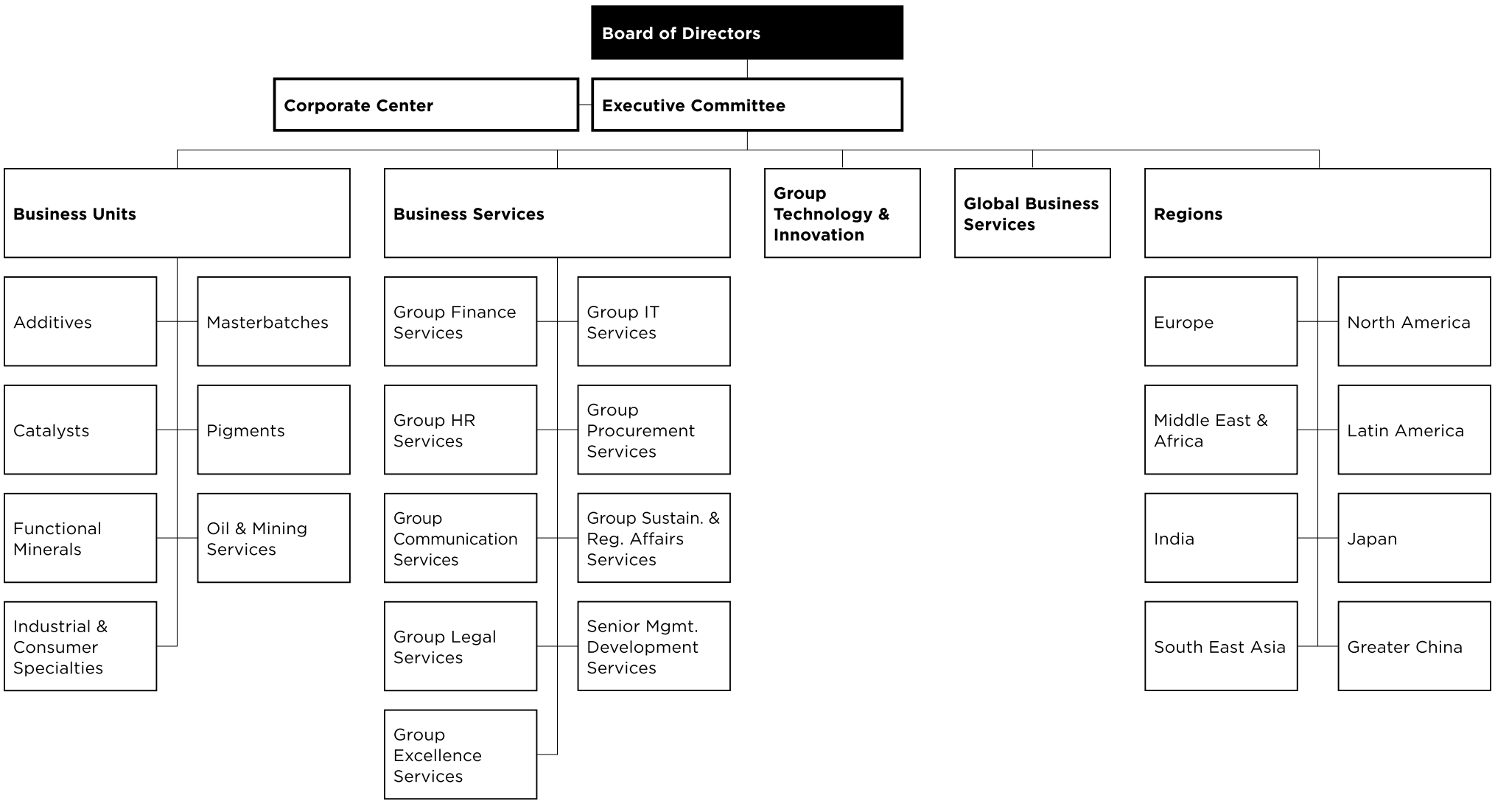
1. Principles of Corporate Governance

The Group commits to Swiss and international standards of corporate governance by following the respective statutory provisions and the rules issued by the SIX Swiss Exchange, and by implementing the principles of the Swiss Code of Best Practices for Corporate Governance.

2. Organizational overview

Clariant is headquartered in Muttenz, Switzerland. While Clariant reports in the four Business Areas Care Chemicals (Business Unit Industrial & Consumer Specialties), Catalysis (Business Unit Catalysts), Natural Resources (Business Unit Oil & Mining Services, Business Unit Functional Minerals), and Plastics & Coatings (Business Unit Additives, Business Unit Masterbatches, Business Unit Pigments), the seven Business Units are the highest-level operating units within the Group.

001 **CLARIANT ORGANIZATIONAL STRUCTURE AS OF 31 DECEMBER 2018**



Corporate Governance Report

This short overview summarizes some aspects of corporate governance that are particularly relevant for integrated value creation at Clariant. For more detailed information, see the separate Corporate Governance Report on reports.clariant.com/2018/corporategovernance

12

The Board of Directors is comprised of 12 members, of which three are women.

The organizational structure → **FIGURE 001** is further comprised of nine Business Services, Group Technology & Innovation (GTI), Global Business Services, Regional Service Centers, and the Corporate Center, which centralizes key corporate functions. The Executive Committee is responsible for the management of the Group.

3. The Board of Directors

The Board of Directors stands for election or re-election for one-year terms. The Chairman of the Board of Directors of Clariant Ltd, as well as the members of the Compensation Committee, are elected individually for a term of one year by the Annual General Meeting.

At the end of 2018, the **Board of Directors** of Clariant Ltd was comprised of 12 members: Hariolf Kottmann (Chairman), Dr. Khaled Homza A. Nahas (Vice-Chairman), Abdullah Mohammed Alissa, Günter von Au, Calum MacLean, Geoffery Merszei, Eveline Saupper, Carlo G. Soave, Peter Steiner, Claudia Suessmuth Dyckerhoff, Susanne Wamsler, and Konstantin Winterstein. All members of the Board of Directors (except for Hariolf Kottmann, who held the position of CEO until 15 October 2018) are considered to be independent in accordance with international best-practice standards.

Of the nine male and three female members of the Board of Directors, five have German citizenship, two Saudi Arabian, two British, one Swiss, one Canadian, and one US citizenship. Concerning education, Board members hold PhDs or other degrees in the following fields: four in economics, political economy, languages and economics, or law; three in chemistry; three in industrial engineering, production engineering, engineering management, mining and engineering, or engineering and economic systems; and two in business administration. With regard to age, one member of the Board is 50 years or younger, two are 51 – 55 years, four are 56 – 60 years, two are 61 – 65 years, and three are 65 – 70 years of age. Concerning the first year of election to the Board, two Board members were first elected in 2008, two in 2011, one in 2015, three in 2016, and four in 2018.

4. The Board of Directors' responsibilities and committees

The Board of Directors is the ultimate decision-making authority for Clariant Ltd in all matters except those decisions reserved by law or the Articles of Association for the shareholders. The Board provides the strategic direction for the Group and reviews and further develops the company's strategy annually during a two-day Board of Directors' meeting.

Further duties of the Board include establishing a management and corporate culture that is appropriate for the company's objectives and ensuring an internal control system and adequate risk and compliance management, particularly regarding financial, corporate governance and citizenship, personnel, and environmental protection matters.



ERNESTO OCCHIELLO
Chief Executive Officer (CEO)



HANS BOHNEN
Member of the Executive Committee



PATRICK JANY
Chief Financial Officer (CFO)



CHRISTIAN KOHLPAINTNER
Member of the Executive Committee

The members of the Board of Directors constitute the following committees: the Nomination Committee, whose duties include drawing up principles for the selection of candidates for election and re-election to the Board of Directors and the office of CEO, and preparing the corresponding recommendations; the Compensation Committee reviews and proposes to the Board of Directors Compensation and Benefits Policies and Programs, reviews performance criteria relevant to compensation and determines individual executive compensation, and benefits and the compensation paid to the Members of the Board of Directors, including the compensation of the Chairman and the CEO; the Audit Committee, whose duties include reviewing the activities of the external auditors, their collaboration with the internal auditors, and their organizational adequacy; and, until 31 December 2018, the Technology and Innovation Committee, which was discontinued as of 1 January 2019. Instead, reports on innovation performance will be directly presented to the Board of Directors on a regular basis.

5. Management of the Group

The Board of Directors has delegated the executive management of the Clariant Group to the CEO and the other members of the Executive Committee. The members of the Executive Committee are appointed by the Board of Directors on the recommendation of the Nomination Committee.

At the end of 2018, the Executive Committee consisted of CEO Ernesto Occhiello, CFO Patrick Jany, Hans Bohnen, and Christian Kohlpaintner.

»The Board of Directors has reviewed the 2018 Integrated Report and proposes its approval to the Annual General Meeting.«

HARIOLF KOTTMANN
Chairman of the Board of Directors

Of the four male members of the Executive Committee, three have German citizenship and one is an Italian citizen. Concerning education, Executive Committee members hold PhDs or other degrees in the following fields: two in Chemistry, one in Business Administration, and one in Chemistry and Business Administration. With regard to age, one member of the Executive Committee is 50 years or younger, two are 51 – 55 years, and one is 56 – 60 years. The first year of membership in the Executive Committee was 2006 for one member, 2009 for another, and 2018 for two members.

The Executive Committee is primarily responsible for implementing and monitoring the Group strategy, the financial and operational management of the Group, and the efficiency of the Group's structure and organization.

6. Enterprise risk management

Under the Enterprise Risk Management Policy, based on the standard of »The Institute of Risk Management«, each year a tool is used to prepare risk assessments by Business Units, Service Units, and Regions to assess threats that could impact the achievement of Clariant's objectives. These objectives stem from the overall strategy of the Group as set by the Board of Directors and implemented by the Executive Committee. The Executive Committee is responsible for monitoring the risk assessments for relevance and consistency.

A consolidated risk assessment is submitted annually to the Executive Committee, Audit Committee, and Board of Directors for review. In the case of new or changed risks, reporting is accelerated. To support functional responsibility, certain functions have access to risk assessments to assist them in their roles. Examples of such functions are Environmental Safety & Health Affairs (ESHA), to identify key sites for their property risk survey program, Corporate Auditing, and Group Procurement.

7. Significant shareholdings and shareholders' participation rights

At 31 December 2018, the following shareholders held 3 % or more of voting rights in Clariant Ltd: SABIC International Holdings B.V., 25.67 %, Blue Beteiligungsgesellschaft mbH, 3.49 %, APG Asset Management N.V., 5.01 %.

Subject to certain limitations on voting by nominees, each registered share entitles the holder to one vote at the Annual General Meeting. Shareholders have the right to receive dividends and such other rights as are granted by the Swiss Code of Obligations. However, only shareholders entered in the Clariant share register may exercise their voting rights.

Shareholders representing shares with a total par value of CHF 1 million have the right to submit written requests that an item be included on the agenda, at least 45 days prior to the 25th Annual General Meeting on 30 March 2020.

Empowerment through Leadership

Strong leadership is at the core of Clariant's high-performance culture. Through fair and authentic behavior, Clariant's leaders underscore the value of trust and collaboration, creating a work environment that motivates employees to continuously learn and achieve ambitious personal and organizational goals.

1. Evolving requirements for leadership

Fast-evolving markets, digitalization, and Clariant's strategic redirection are among the biggest challenges for people working at Clariant. The effects of these developments are manifold: skill requirements are rapidly changing; agile project management is increasing uncertainty in daily working life; people are more geographically scattered and change jobs more frequently; and employees are increasingly seeking jobs with a purpose.

These developments impact the ways people work together and require adjusted forms of leadership. For example, as employee location loses importance, remote leadership skills become more crucial; as digitalization increases the availability of information, organizations must promote collaboration and skill-building. Above all, change management skills and end-to-end thinking are becoming a prerequisite for motivating and inspiring people in these transformative times.

2. People Excellence provides the basis for high-performance

Clariant fosters a culture of learning and development throughout the organization to ensure outstanding performance in times of fundamental change. In 2017, it developed the People Excellence Strategy Initiative, which was rolled out systematically in 2018 in all Business Units and will be cascaded down to the regional level in 2019. Updated people strategies were defined in a process that involved the leadership teams in the global units. First, the business landscape was analyzed and major success factors for successful strategy execution were defined. Subsequently, key opportunities and challenges, as well as their root causes, were identified, allowing Clariant to derive improvement measures and define requirements for peoples' capabilities, mindsets, and behaviors. Major strategic themes were thus translated into organizational change and customized support measures, from recruiting to skills development.

The People Excellence Strategy Initiative has three main components: it provides clarity on the major requirements and development needs for Clariant's leaders, including communication skills and strategic thinking; it identifies solutions such as training programs and moderated workshops that address those systemic challenges and development needs; and lastly, it translates these solutions into concrete human resource measures, such as training in communication or recruitment strategy to target missing competencies. At Clariant,

strong leadership and sophisticated human resources processes go hand in hand. Different human resource functions thus play a key role in implementing the identified measures, which could be a new talent management initiative, an innovative recruitment campaign, or improvements to the performance management system.

3. Promoting continuous development and managing talent

Clariant pays close attention to continuous learning and development. This is not only crucial to stay competitive in rapidly evolving markets, but also central to motivate and advance employees on their career path. Clariant focuses on developing the interpersonal and technical skills of all employees, regardless of their employment level and experience. To ensure continuity and enhance organizational knowledge, developing internal talent and shaping new leaders is critical. In this regard, the global talent management program is a success story. The program includes structured talent identification and review processes, diverse talent development measures, such as internal mentoring or the **Pioneer Program**, and career management. In 2018, Clariant was able to fill 84 % of open management positions with internal candidates. → **PAGE 135**

4. Strengthening Clariant's position as a preferred employer

Given the global hunt for talent and the rapidly evolving skill requirements driven primarily by globalization and digitalization, retaining people is a business imperative. Employees are at the core of Clariant's sustainable value creation and constitute the company's most valuable asset. By providing challenging positions across functions, promoting the individual development of every employee, and showing appreciation for efforts made, Clariant strengthens its position as a preferred employer. → **PAGE 139**

For Clariant, being a preferred employer means offering a healthy working environment that is fair and consistent, encourages learning and evolution, and promotes team collaboration. As a preferred employer, Clariant encourages and values diversity of thinking and acting. By hiring and promoting people with different genders, ages, cultural backgrounds, and career paths into key positions, Clariant lays the foundation for addressing the key challenges created by globalization and digitalization.

Pioneer Program

The Pioneer Program enhances organizational understanding as well as leadership and communication skills of aspiring leaders by exposing them to short-term assignments outside of their area of responsibility.

»We empower our employees by supporting their development and by encouraging them to take risks.«

KLEMENTINA PEJIC
Head of Group Human Resources

Where

Why

When

Who

What

Talent Attraction and Development

What Helps People Reach Their Full Potential?

In the digital age, work is evolving and so are the expectations of professionals. New tools and work environments, unconventional career paths, and different forms of leadership are taking hold. How Clariant adapts to these changes will shape its future and that of its employees.

Klementina Pejic

As Head of Group Human Resources at Clariant, Klementina wants to foster an inspiring work environment that lets people thrive and develop their individual talents.

Anke Wolf

As a Freelance Consultant for human resources, Anke helps companies adapt their culture to new ways of collaboration and leadership.

Klementina, you've been with Clariant for 15 years now and recently took over as Head of Human Resources. What is your overall goal in this role?
The overarching goal I've always worked for in any of my roles at Clariant is to contribute to a healthy organization, one that's motivating and inspiring to people.

What is a healthy environment to you?
To me, it's a work environment where people trust one another, where they can be authentic and open. And that has a lot to do with principled leadership.

How do you achieve that?
Through many things. First and foremost, probably through consistency in terms of decisions and actions. Also by involving people in the decision-making process in order to foster a sense of participation and fairness.

What makes that motivating and inspiring?
People need to know that their leaders act with consistency and congruency. Only a merit-based system ensures fairness and a certain predictability. Employees want to know what you expect from them and what they can expect in return. They must be able to participate and be part of the game. I believe we all want to do something meaningful that makes a difference. And we want to learn and grow.

How does Clariant empower people to grow?
For one thing, by allowing them to not be perfect and to make mistakes. And by helping them learn from those mistakes. Reliability and accountability are very important to us as a company. That might make us more risk-averse than others. But if you want people to come up with new ideas and to collaborate, you need to encourage some form of risk-taking. And you need employees who are both willing to take those risks and able to endure some pushback. Not everything you come up with is going to be brilliant right away.

Are you talking from personal experience?
Absolutely! I was quite young when I joined Clariant in a global position. It was only my second job. But I walked into management committee meetings and spoke up about things I wanted to change, about new ideas I wanted to introduce. And of course I got a lot of pushback. For me, that wasn't the end of the world though. What mattered was that the people in charge never stopped listening. So I would typically offer to do a pilot. If the results showed I was right, we could go for it!

That surely took guts.
Yes, you need courage to speak up, to challenge established patterns, and to drive change.

Has that gotten easier over the past 15 years?
I'm sure it has. All of us at Clariant have gone through many changes over those years, and we've come to learn that change isn't a bad thing.

How does Clariant help people make their next career move?
We closely follow people's progress and assess their capabilities. And then we try and match those to what we look for in a certain role. In 2018, we filled more than 84 % of open management positions with internal talent.

Why is that important to you?
It shows that we're rewarding people based on merit rather than hiring leadership from outside. And we're developing the skills and people we need.

Who benefits from such development tools?
We offer programs on every level – from blue-collar workers to global managers and everyone in between. One thing I strongly believe though is that you need to put people in the driver's seat. They have to be motivated and somewhat self-reliant when it comes to developing and building their career.

You don't believe in nudging people?
Not too much. People are motivated to different degrees. They have different preferences and ambitions. I encourage everyone to talk openly about career goals. Those don't have to be about climbing a corporate ladder. Development can also mean taking on new and interesting project work or new functional experiences.

How do we inspire people to reach their goals?



KLEMENTINA PEJIC
Head of Group Human Resources, Clariant

How are careers and leadership evolving?



ANKE WOLF
Freelance Consultant Human Resources

Anke, you advise big companies in matters of talent management, leadership, and digital transformation. How do these things go together?
Digital transformation stands for a lot more than just clever ways of using and connecting data. It changes the way people work and how they collaborate. So immediately, we're talking about new skill sets, new forms of leadership, and a different type of organization altogether.

What's so different about this new work environment?
It gives us more flexibility, more transparency, and new ways of collaborating. But it also brings with it a certain degree of complexity and uncertainty. Take agile project management. It used to be that you'd run a development project for, say, three years and knew more or less exactly what your team had to deliver. Today's approach is radically different. It has to be, because innovation cycles are so much shorter. Projects are typically measured in months not years with decision points every other week. We focus on a specific problem our customers may have, narrow it down step by step, and then, very gradually, circle in on a possible solution. Upfront, neither the customer nor we will know what that solution might look like. That's a lot harder to manage. You need people who can handle this uncertainty and a culture that lets them thrive.

Where do you find these people?
First and foremost, companies will have to find them in their current workforce. You don't necessarily need new talent.

How are employees' expectations changing?
Probably the biggest change is that their expectations are more specific these days. That still catches some recruiters off-guard. Especially since the discussions go well beyond salary. Applicants today are more enticed by a package that may involve things like flexible working hours, training, and so on to fit their personal needs and ambitions. And then there are many other things applicants want to talk to you about. They look for a sense of purpose and they're interested in what your company contributes to society, its ecological impact, and how it treats people. Millennials especially want to work in an environment that embraces the digital technologies they've grown up with. Understandably so! Everything from Google to Amazon to Snapchat has taught them that information is always available and mostly free, that feedback is immediate and personal. It's hard to allow it to be any different in the workplace.

How is leadership changing?
There may have been a time when you could expect your boss to know everything there was to know about your business. Those times are long gone. Today, leadership is about connecting the right experts. It's about asking the right questions and letting people come up with creative answers.

What will careers look like in the future?
Job tenure is shorter today and employees are more flexible. That doesn't mean that professionals don't want to see a clear career path or opportunities to grow. However, they might not be swayed as much by job titles or power. Fulfilling careers may involve ever more interesting or ambitious projects, more responsibility, more creative freedom. So we should reconsider how we approach talent management.

How so?
Rather than nominating a pool of outperforming employees that we then groom to take on leadership positions, we may want to develop individual talents and skills within all of our employees. Especially if leadership becomes less of a measure of career advancement. And if collaboration is key, you have to take a hard look at the incentives you're giving. For instance, do individual objectives and bonuses really compel people to collaborate and share knowledge freely?

Overview on the Compensation Policy

Clariant's compensation philosophy supports its ambition to be an employer of choice. It is designed to attract, motivate, and retain committed employees.

Remuneration Components

Clariant considers six remuneration components:
— Business strategy
— Competitiveness
— Compliance
— Internal fairness
— Performance-based pay
— Transparency

1. Board oversight on compensation

The Compensation Committee of the Board of Directors establishes principles for the compensation of members of the Board of Directors and the Executive Committee, and submits these to the Board of Directors for approval. The Committee also takes note of employment contracts for the Heads of Global Functions, Global Business Units, and Region Heads, including their respective compensation.

2. Compensation concept

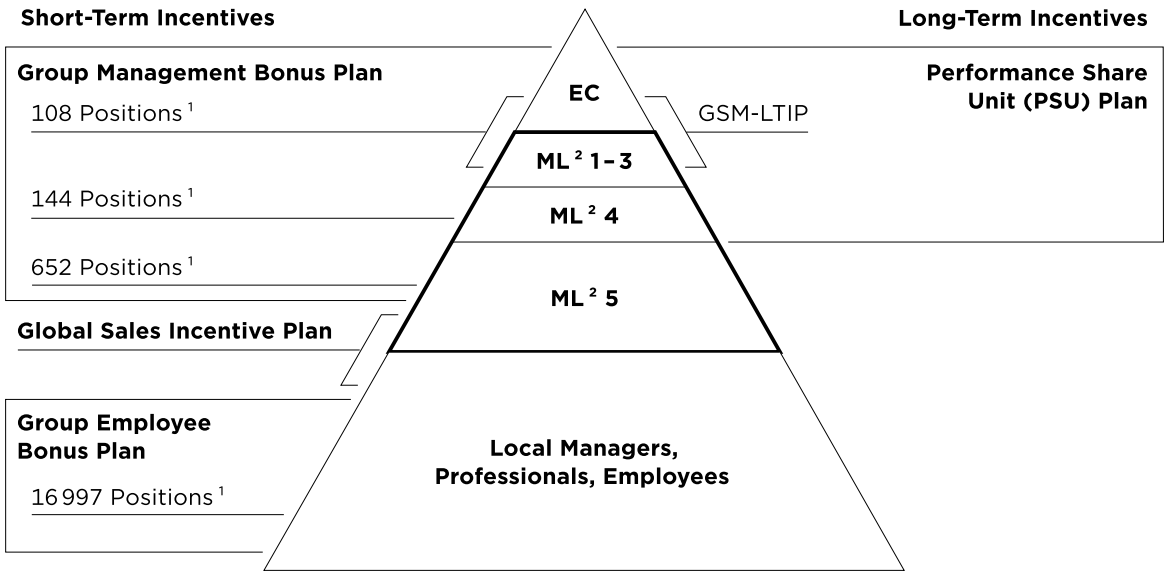
To attract, motivate, and retain qualified and committed employees throughout the world, Clariant's compensation policy is based on the following main principles:

Remuneration components are aligned with the Clariant Business Strategy and designed to support it. To be competitive, Clariant conducts regular benchmarking studies to ensure compensation levels are adequate and in line with market practices. With a focus on compliance, Clariant's compensation practices always follow local regulations, such as laws and collective union agreements. Compensation guidelines and work instructions are in place to ensure consistently fair treatment of employees working for Clariant. In regard to performance-based pay, Clariant's remuneration elements incentivize business and individual performance. Furthermore, remuneration elements must be clear and transparent in order to be understood and appreciated.

The structure of total remuneration is highly performance- and success-oriented to ensure that shareholder and management interests are aligned.

While long-term and short-term incentives are based on Group Performance only, individual performance – measured through a consistent, Global Performance Management system – is a determining factor in career development and annual salary reviews. Within the Global Performance Management System, each manager's or employee's performance is assessed and discussed on a yearly basis. This process includes regular 360-degree feedback for all management levels.

001 **CLARIANT INCENTIVE SCHEME LANDSCAPE**



[1] Number of positions as at 31 December 2018
[2] ML: Management Level

3. Linking compensation to sustainable value creation

Short-term incentive plans (cash bonus) include the Group Management Bonus Plan, the Group Employee Bonus Plan, and the Global Sales Incentive Plan. Long-Term Incentive Plans offer equity-based compensation for approximately 250 senior managers worldwide (Executive Committee and Management Level 1 – 4).

→ FIGURE 001

The Group Management Bonus Plan is anchored in the overall Performance Cycle at Clariant, which ensures a challenging business-specific target agreement for each Business Unit and Service Unit (BU/SU). The individual amount of each bonus payment generated in a year is determined by the achieved result of the Clariant Group measured against clear objectives. The achievement is calculated based on three elements:

1. financial result of the Group;
2. financial results of Business and Service Units; and
3. defined top priorities (Group Performance Indicators and strategic projects).

In addition to financial indicators, the Group Performance Indicators include, for example, inventory excellence, Clariant Excellence (CLNX) benefits, innovation sales, and Occupational Health and Safety (Lost Time Accident Rate).

The Group Employee Bonus Plan is an aligned and standardized bonus plan for non-management levels for all legal entities around the world that apply (where legally compliant and possible) the global Group Achievement or a combination of Group results and local Top Priorities as the basis for bonus payouts. For the sales force, the Global Sales Incentive Plan incentivizes premier sales performance and growth by focusing on the individual sales performance in the areas of sales, margin, and trade receivables.

Participation in the Performance Share Unit (PSU) Plan is limited to the Executive Committee and selected senior managers of Management Level 1 – 4, i.e., approximately 1.4 % of the workforce. The vesting is conditional on the achievement of the performance target (after three years). The relevant underlying key performance indicator is EBITDA (before exceptional items) in percentage of sales and the performance target to be at or above the median of a defined peer group.

The Compensation Committee has decided to amend the PSU Plan for senior management starting in 2019 to more closely align key performance indicators relevant for PSU vesting with the market perspective, and to present an attractive and competitive incentive for senior management. In addition, the committee has decided to discontinue another element of long-term incentives, the Matching Share Plan, and integrate its volume into the new PSU Plan.

4. Compensation of members of the Executive Committee

The Executive Committee participates in the same compensation elements as Clariant's senior managers, receiving a fixed annual base salary, an annual cash bonus, and long-term incentives. The annual bonus is based on achieved results for the particular financial year, according to the criteria mentioned above with respect to the Group Management Bonus Plan.

Compensation Report

This short overview summarizes some aspects of compensation that are particularly relevant for integrated value creation at Clariant. For more detailed information, see the separate Compensation Report on reports.clariant.com/2018/compensation

REMUNERATION STRUCTURE OF THE CLARIANT EXECUTIVE COMMITTEE [1] in CHF

	CEO Compensation		EC Compensation	
	2018 [2]	2017	2018	2017
Total target	**3 900 000**	**4 560 000**	**2 250 000**	**2 400 000**
Performance Share Unit [3]	**500 000**	500 000	**350 000**	350 000
Matching Shares [4]	**–**	460 000	**–**	200 000
Target Cash Bonus, thereof Investment Share [5] (20 % Invest)	**2 200 000 (–)**	2 300 000 (460 000)	**1 000 000 (–)**	1 000 000 (200 000)
Base salary	**1 200 000**	1 300 000	**900 000**	850 000

[1] Without other benefits

[2] New 2018 annual CEO remuneration structure for Ernesto Occhiello; annual total target remuneration for Hariolf Kottmann would have been 4 175 000 CHF

[3] 3 years vesting period with defined performance hurdle (Value at Grant)

[4] 2017: 1:1 Match of Investment Shares after 3 years vesting period (Value at Grant); 2018: no grant due to planned change in Long-Term Incentive Plan

[5] 2017: Investment of 20 % from Actual Cash Bonus into 3 years blocked shares (Value at Grant); 2018: no deduction for Investment Shares due to planned change in Long-Term Incentive Plan

Core Processes for Value Creation

The three value creation phases »Idea to Market«, »Market to Customer«, and »Customer to Cash« represent key processes at the core of Clariant's business model. Underpinned by Clariant's Innovation Excellence, Commercial Excellence, and Operational Excellence initiatives, the company's business activities are aligned with these three phases to turn customer needs into innovative and sustainable solutions that create value for all stakeholders.

The Idea to Market phase encompasses scouting global trends and ideas, scoping business opportunities and exploring unmet customer needs, executing product development, and commercializing and monitoring product performance. This phase is aimed at developing a product and service pipeline that is well-filled and delivers marketable innovations.

The Market to Customer phase includes identifying market attractiveness, developing and articulating clear value propositions, and capturing the value created through relationship-building and sales process. To reach a seamless customer experience, these steps are well-connected and centered around customer needs.

The Customer to Cash phase encompasses balancing demand and supply, optimizing sourcing for spend effectiveness, monitoring production for high efficiency, and delivering finished goods on time and in full to customers in order to achieve safe, reliable, and efficient operations that support profitable growth.

IDEA TO MARKET

1. Idea to Market

Translating unmet customer needs into market-ready solutions requires a strong focus on innovation and technology. With its extensive Research & Development resources and its commitment to breaking new ground beyond its core business, Clariant is well-equipped to tackle emerging trends and stay ahead of competition.

1.1. Addressing global trends and harnessing the potential of digitalization

Societal needs and the regulatory environment are evolving quickly, creating new challenges and opportunities for the chemical industry. Sustainability dominated the innovation agenda in 2018, fueled not only by stricter regulatory requirements but also consumers' increasing ecological sensitivity, which has a particularly strong effect on Clariant's consumer goods business. → PAGE 122

The current trend toward a circular economy requires chemical companies to create products that are recyclable or support recycling objectives. Clariant has responded by helping brand owners increase recyclability of their products, especially relating to plastic waste. In addition, Clariant is evaluating how different raw material qualities impact the characteristics of products, and how production processes can be adapted to fluctuations in energy availability.

→ PAGE 116

»The Innovation Committee will create strong and collaborative ownership to deliver innovation across the organization. This will enable Clariant to leverage its technical and commercial capabilities to their full extent and create room for strategic innovation, resulting in breakthrough solutions and cross-business innovations.«

MARTIN VOLLMER
Chief Technology Officer and Head of
Group Technology & Innovation

Generating, analyzing, and utilizing data, and then combining it with chemical know-how to generate added value, is critical in the digital age. Approaches such as High Throughput Experimentation (HTE) accelerate innovation, enabling Clariant to synthesize a vast variety of new molecules and test large numbers of formulations in parallel, thus discovering and delivering value-adding solutions to its customers at an unprecedented speed. By developing new data-driven business models, some of Clariant's Business Units look into becoming fully integrated solution providers. → PAGE 120

1.2. Providing a comprehensive toolbox to drive innovation

Clariant Innovation Excellence (CIX) supports the company's profitable growth strategy by ensuring that innovation portfolios are stringently steered and projects are managed according to the Clariant Idea-to-Market process. This iterative process allows project teams to discover attractive business opportunities and translate global trends and unmet customer needs into compelling value propositions. By systematically scouting emerging trends and ideas, scoping out customer needs, evaluating sustainability opportunities, executing product development, and commercializing products with agility and speed, project teams are able to launch differentiated innovations and decrease time to market. To ensure the quality of new products and solutions, the stage-gate process scrutinizes **innovation projects** at each gate according to five dimensions of attractiveness and feasibility. This allows Clariant to drive innovations from ideation to business opportunity, and efficiently execute more than 375 innovation projects (Class 1 and Class 2) in 2018.

1.3. Building on a strong innovation network

Clariant's elaborate Research & Development network comprises eight Research & Development Centers, more than 50 technical centers, and over 1100 employees. Research & Development activities are bundled in the department Group Technology and Innovation (GTI) and structured along four technology platforms: Chemistry & Materials, Biotechnology, Catalysis, and Process Technology. GTI collaborates closely with the Business Units to ensure that technology push and market pull go hand in hand. → FIGURE 001

This setup is complemented by New Business Development → PAGE 56, which explores business opportunities beyond the current scope of Clariant's Business Units with sustainability aspects being an essential driver, Group Engineering, which is responsible for management and execution of capital investment projects, and Group Intellectual Property Management, which secures the generated value through intellectual property protection.

In 2018, Clariant adjusted its innovation governance to enhance innovation management and further increase the innovation rate and profitability. As of January 2019, the newly established Innovation Committee, chaired by the Chief Technology Officer, will review and shape Clariant's innovation strategy, maximizing the value and delivery of the innovation pipeline. Further, the Innovation Committee will play an active role in driving cross-business and open innovation, in securing public funding, and forging win-win collaborations with academia and industry peers to foster Clariant's position as a leader in innovation. It will

Innovation Project Classes

Class 1 projects have an estimated annual market value of CHF 10 million or more and are managed by 18 fully dedicated Innovation Black Belts. Class 2 and Class 3 projects are led by over 270 Innovation Green Belts or trained Class 3 project leaders.

also steer innovation talent development programs to attract and develop talents and to foster expert as well as cross-functional and general management career paths.

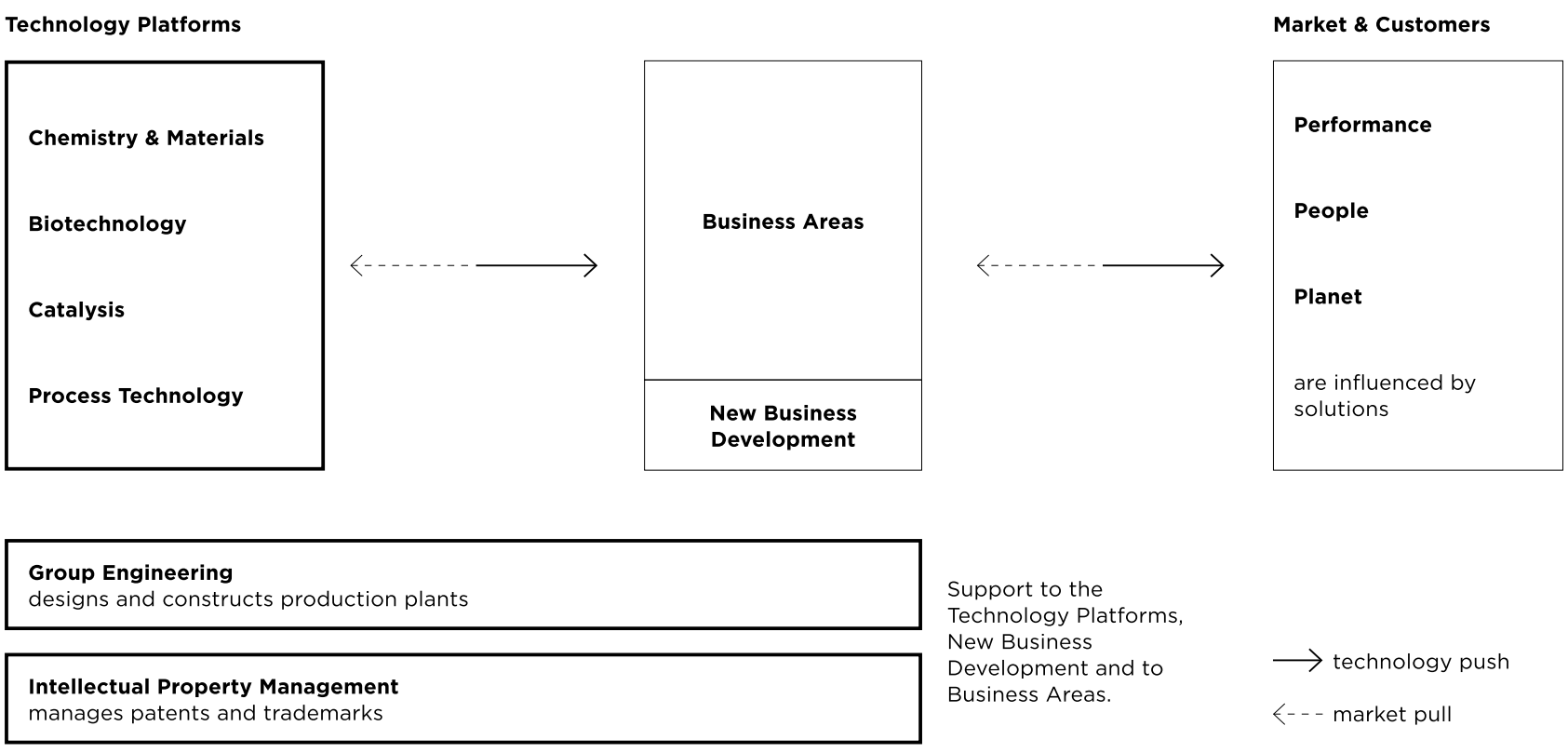
1.4. Fostering incremental and disruptive innovation through collaboration

Clariant has several initiatives to strengthen collaboration across functions and businesses, as well as with external partners. The Open Innovation initiative, managed by New Business Development, identifies collaboration partners ranging from large corporations to start-ups, universities, and other research institutions. In 2018, it launched the program »Chinese Innovation for China Market«, which encourages Clariant's Business Units in China to explore technologies that help meet local market needs. → PAGE 116

In 2018, Clariant also launched new formats to capitalize on the innovation potential within its workforce. For example, iEngine (Innovation Engine) crowdsources expertise across the firm to tackle key challenges within adjacent applications. Clariant also started the iGarage (Innovation Garage), a platform to develop strategic innovation opportunities at the discovery and early incubation stages by applying agile design thinking and lean start-up methodologies, yielding validated new business and technology concepts for identified, attractive opportunities.
→ PAGE 57, → PAGE 116

The Lab Excellence (LabX) program was initiated in 2017 to increase the speed and impact of innovation. The goal of the initiative is to streamline workflows within and across laboratories to gain efficiency in order to transform the entire R&D system into a lean organization, increase the quality of the research, and reduce time to market. In 2019 and beyond, the identified measures from the first pilot projects will be rolled out within Clariant's R&D community and the initiative will be expanded throughout the organization to strengthen the lean innovation culture and the consequent innovation performance management. Moreover, the implementation of an Electronic Lab Notebook across the company will significantly enhance efficiency by digitizing work flows.
→ PAGE 116

001 **CLARIANT INNOVATION CHAIN**



24

In 2018, 24 products were awarded the EcoTain® label.

2. Market to Customer

Understanding customer needs along the entire value chain, developing solutions to address those needs, and capturing the value created for profitable growth are fundamental to Clariant's success. Clariant focuses on building customer relationships and increasing its marketing and sales capabilities in order to achieve these goals.

2.1. Responding to market developments and evolving customer needs

Due to overcapacity in Asian markets in recent years, competitive and pricing pressure has developed in the specialty chemicals industry. In 2018, the market situation began to improve in China when older and less environmentally friendly chemical production plants were shut down due to the enforcement of regulations.

Also in 2018, customer demand for sustainable products and solutions further increased. To meet this demand, Clariant is continuously bringing forward solutions that are more sustainable while not compromising on performance and particular customer needs. Using 36 sustainability criteria to screen products across their entire life cycle, as part of its Portfolio Value Program (PVP), Clariant awarded 24 new products the **EcoTain® label** in 2018, given their outstanding sustainability profile. → PAGE 98, → PAGE 122

The continuing commoditization trend in the chemical markets has required Clariant to increasingly provide innovative products and services and maintain cost-efficient operations in order to meet customer-specific needs and stay competitive. Clariant addresses these challenges by leveraging digitalization capabilities in operations and innovative services to improve production efficiency and customer service. → PAGE 51

In 2016, Clariant launched Digital4Clariant, a dedicated cross-functional digital program to integrate opportunities presented by digitalization. By developing digital business models, Clariant explores new ways to spur growth, easily adjusts how it interacts with customers, and thereby meets customers' ever-changing needs. Customers increasingly prefer self-service when searching for an ingredient for their formulations. By offering comprehensive commercial and technical information about products and services digitally, for example through the new platform Chemberry™, customers are more informed and can make quicker decisions when they speak with sales professionals. → PAGE 120, → PAGE 128

2.2. Enabling active and consistent customer engagement

Looking through a »customer lens« allows Clariant to understand changing product and service needs, as well as discern how the customer perceives the company. Clariant manifests its customer-centricity through the Commercial Excellence Initiative established in 2011, which underlines its commitment to facilitating dialog with customers, partners, and prospects to evaluate and improve commercial strategies, customer engagement, and sales and marketing operations. In 2018, Commercial Excellence continued to implement the Marketing Excellence Find & Win process in order to increase sales in select market segments. Find & Win maps a market's value chain and

customer needs by interviewing customers and industry experts, allowing Clariant to develop tailored value propositions and go-to-market strategies to achieve targeted profitable growth rates.

As part of all Commercial Excellence marketing and strategy projects, Clariant conducted 538 customer interviews and 150 interviews with industry experts in 2018. Driven by the new roles filled as part of the Leading Marketing Organization, over half of the interviews were conducted by the Marketing & Sales Departments of the Business Units. In addition, customers completed scorecards to evaluate Clariant's performance compared to its competitors' product and service offerings. The resulting insights provide direction for Clariant's commercial and innovation pursuits.

To leverage customer feedback, Clariant conducts biennial customer satisfaction surveys, which provide insights into how Clariant's operational, commercial, and innovation performance is perceived. In 2018, customers of all Business Units in all regions were surveyed. The results show that more than three-quarters of the survey participants considered Clariant a reliable business partner and solution provider. Overall customer satisfaction and loyalty remained stable at a high level. »Products and Packaging«, which showed improved satisfaction and competitive performance compared to 2016, was ranked as one of the most important buying criteria, along with »Technical Service«. Sustainability, a new assessment criterion, also showed a strong competitive performance and was rated as important for their operations and/or markets by 92 % of the survey respondents. → PAGE 143

2.3. Developing compelling value propositions

The volatility of raw material prices over the last several years has created pressure on the profit margins of Clariant's Business Units, requiring close monitoring of costs and supply chain competitiveness while also staying focused on sales growth. Since the institution of the Pricing Excellence initiative in 2017, Clariant has used Value Stream Design to analyze the transactional pricing process and has drafted a roadmap of improvements to create a transparent, fast, and effective way of pricing execution in the market. Clariant is now developing a tool that transparently shows how the forecasted price changes of basic raw materials impact the costs and margins of finished goods, which helps determine where and when pricing actions are required to maintain value creation.

In 2018, Clariant initiated holistic pricing projects that analyze a portfolio of products and services to determine whether value-based or transactional pricing is better suited to maximize value in the long run. If the product or service offering is identified as adding more value than the next best alternative, Clariant uses value-based pricing. If a product or service offering is found to be nearly equivalent to the competitive offering, transactional pricing is employed. In 2018, Clariant also revisited the models that govern service offerings to support the focus on value-based selling. Additionally, it plans to further incorporate customer needs into the definition of customer segments to refine value propositions and focus marketing and sales activities.

Clariant's strategic marketing experts work with the Sales and Innovation teams to develop solutions that create value for both the customer and Clariant. By carving out the savings or revenue upside in terms of total costs of ownership at a mutually beneficial price

2.9

Clariant's spend on raw materials amounted to CHF 2.9 billion.

point, Clariant's commercial organization transforms value created for customers into profitable growth. Clariant's value calculators are a helpful tool to demonstrate a product's value to customers, as they quantify and visualize the financial benefits of using Clariant's products as compared to the next best competing alternative.

2.4. Establishing Leading Marketing Organization

In 2017, Clariant launched Leading Marketing Organization, an initiative that further integrates marketing within the Business Units. In 2018, all key positions of the redefined marketing organizations were filled and a training program that reinforces marketing skills was piloted. A »Marketing Essentials« training program was successfully launched and an advanced strategic marketing training program is being developed and will launch in 2019. Clariant also established a Marketing Advisory Board for the Marketing Heads of each Business Unit and Commercial Excellence to share best practices and drive further development of marketing processes, tools, and capabilities.

CUSTOMER TO CASH

3. Customer to Cash

With its holistic, cross-functional approach, Clariant continually optimizes planning, procurement, production, and delivery. By balancing supply and demand, Operational Excellence improves product availability, supplier cost, and risk. This results in ever-shorter lead times and increased On-Time, In-Full deliveries, enhancing both customer satisfaction and Clariant's profitability.

3.1. Agility is key

As customers across all markets are becoming more agile, they expect the same from Clariant. While long lead times for high product volumes were the norm in the past, short lead times and small volumes are now more typical. This is particularly pronounced in Asia, where production time is often more decisive than price, requiring Clariant to enhance its focus on optimizing lead times. For example, in one of the Shanghai production facilities for Business Unit Masterbatches, lead times in 2018 decreased from about two weeks to five days, with a future goal of only three days. This was achieved by implementing a value stream design approach developed in Kaizen workshops. Although Clariant's products are well-known for their high quality, the company is striving to also be known as a fast, reliable supplier.

3.2. Optimizing procurement and delivery with digitalization

Digitalization offers many new opportunities, and Clariant is in a leading position to seize them. Clariant aims to further integrate the operational with the commercial value chain to make comprehensive information more accessible to all departments. By connecting all steps from planning to delivery, Clariant will be able to integrate sales volumes in production planning in realtime and quickly react to changes in customer requirements. With a smartphone app, sales representatives will obtain immediate information about raw material availability and production capacity, allowing them to inform customers about delivery dates within minutes.

0.15

The Lost Time Accident Rate (LTAR) decreased to 0.15 days lost per 200 000 hours of work.

Digitalization is also influencing Clariant's procurement. Opportunities to purchase raw materials via electronic interfaces such as e-auctions are constantly growing, speeding up purchasing and enabling instant cost comparisons between various suppliers. In addition, artificial intelligence applied in production will identify machine outages, allowing for predictive maintenance and impeding production bottlenecks.

3.3. Continuous cost saving and risk reduction

As a global player with a comprehensive product portfolio, Clariant is embedded in an extensive supply chain. In 2018, approximately 7 000 vendors delivered **raw materials** worth CHF 2.9 billion to Clariant, and Clariant purchased about CHF 1.3 billion of other products and services from roughly another 27 000 suppliers. Careful procurement is therefore vital in overall cost savings. In 2018, Clariant achieved savings greater than the cost of inflation thanks in large part to Clariant Procurement Excellence (CPX). CPX takes a broad perspective on procurement to profit from countries with favorable sourcing conditions and bundles purchasing power, reducing supply risks and costs as well as improving free cash flow.

Clariant also continued de-specification in 2018. By widening specifications and available sources, the company reduced supply chain complexity and broadened the supplier base, leading to lower purchasing prices, a minimized need for high safety stocks, and more efficient inventories. A thorough analysis of Clariant's supply chain led to the implementation of a customized tool that improved estimations of upcoming efforts and trainings. This helped optimize external contractor management, which further reduced costs in 2018.

3.4. Steady advance of the Integrated Planning Landscape

The Integrated Planning Landscape (IPL), launched in 2015, enhances organization, aligns best-practice planning, and optimizes capabilities and IT tools. One key element is the Inventory Health Check, which continuously improves inventory performance by determining optimum levels, defining targets, and optimizing cash flow based on market research and data analysis. Inventory Health Checks are now regularly applied across all Business Units. In 2017, Clariant began rolling out the Manufacturing Execution System (MES), a powerful tool used in production. It provides a real-time view of the production status and online information that is essential for continuous improvement. By the end of 2018, 50 plants with about 20 % of total production volume were integrated.

In addition, Clariant Production System methods (CPS) employ lean methodologies within the Customer-to-Cash Process, such as door-to-door material and information flows along value chains of shared facilities. This fosters collaboration between Business Units and is a key lever for increased productivity. Overall, IPL contributes substantially to On-Time, In-Full (OTIF) orders, ensuring profitable operations.

3.5. Toward integrated value chains

In 2018, Clariant thoroughly assessed all its supply chains to establish high-performing supply chain management across all Business Units and regions. The assessment was used to prioritize gaps to close and develop detailed roadmaps that will help different Business Units attain cross-functional processes and end-to-end effectiveness. These new priorities will lead to optimized costs, inventories, and on-time deliveries.

3.6. Operational efficiency through sustainability
Sustainability topics are gaining in importance, not only for Clariant's customers but also for its operations. CPS embraces sustainable production as a driver for cost savings by optimizing chemical yield and reducing emissions, while simultaneously saving energy. The Production System Yield, Energy, Environment (YEE) contributes to these efforts, as does the eWATCH™ program. Within YEE, specific production processes or production units are analyzed to gain a comprehensive picture of energy optimization, while eWATCH™ identifies savings potential by carefully analyzing energy consumption across Clariant's entire operations. → PAGE 160

3.7. Safe and healthy operations
Running a safe operational chain is not only a stipulation of a responsible employer, it also minimizes disruptions in production. Clariant's ambitious health and safety target of zero accidents reflects both of these factors. In 2018, Safety Moments – brief documents containing safety messages – were rolled out internally and used at the beginning of meetings to raise safety awareness. Safety Moments helped slightly decrease the **lost time accident rate (LTAR)** from 0.2 to 0.15 days lost per 200 000 hours of work in 2018. → PAGE 140

»With Operational Excellence, we aim to achieve world-class performance in supply chain, procurement and production for all our operations.«

AXEL SCHOENFELD
Head of Operational Excellence

Value Creation in the Four

Business Areas

»Value Creation in the Four Business Areas« outlines how each Business Area contributes to Clariant's overall growth and profitability. To contribute to value creation, the Business Areas transform key societal trends, market drivers, and stakeholder needs into valuable products and solutions. They succeed in the market by relying on Clariant's three value creation phases: »Idea to Market«, »Market to Customer«, and »Customer to Cash«.

056 How Care Chemicals Creates Value
062 Two Perspectives: Where Can We Help Accelerate Innovation?
068 How Catalysis Creates Value
074 Two Perspectives: When Can We Advance the Shift to Renewable Energy?
080 How Natural Resources Creates Value
086 Two Perspectives: Where Can We Improve Safety Even Further?
092 How Plastics & Coatings Creates Value
098 Two Perspectives: Why Does It Pay to Focus on Sustainability?

With a vast product portfolio and countless applications, Clariant's Business Areas serve multiple industries and continuously translate customer needs into innovative and sustainable solutions.

In 2018, the overall economic conditions led to increased sales throughout Clariant's Business Areas. In addition, increased environmental awareness in the markets presented business opportunities that fueled growth.

The Business Areas accelerated their innovation processes, for example, by applying High Throughput Experimentation. Strategic partnerships led to innovation breakthroughs, such as the development of a liquid organic hydrogen carrier.

Implementation of the Leading Marketing Organization initiative in the Business Areas strengthened marketing capabilities, helped better identify customer insights along value chains, and refined customer segmentation.

In order to guarantee shorter lead times, the Business Areas adapted production processes and implemented smart delivery systems. Multiple supplier strategies and increasing de-specification secured availability of raw materials. By increasing the share of direct spend on suppliers covered by sustainability assessments, the Business Areas solidified their reputations as sustainability leaders.

Business Area Care Chemicals
comprises the Business Unit Industrial & Consumer Specialties (ICS) and New Business Development (NBD). It focuses on attractive, high-margin, and low-cyclicality segments. Care Chemicals follows lifestyle-driven megatrends and strengthens Clariant's position as a supplier of sustainable products.

Business Area Catalysis
comprises the Business Unit Catalysts and the Business Line Biofuels & Derivatives. It develops, manufactures, and sells a wide range of catalysts for the chemical and fuel industries, which contribute significantly to value creation in customers' operations, ensuring finite raw materials and energy are used efficiently. In addition, Catalysis is at the forefront of developments for bioethanol.

Business Area Natural Resources
comprises the Business Units Oil & Mining Services and Functional Minerals. It is characterized by high growth as well as a strong megatrend orientation. Main drivers are the rising demand for high value-added specialty chemicals used in the oil, mining, food, and packaging industries and the increased consumption of oil, gas, and base metals driven by fast-growing economies.

Business Area Plastics & Coatings
comprises the Business Units Additives, Pigments, and Masterbatches. The Business Area is typically subject to GDP growth and economic cycles due to its highly diversified end applications. Main drivers are the increasing use of plastic applications, as well as the growing demand for more sustainable coating solutions.

How Care Chemicals Creates Value

The Business Area Care Chemicals, comprised of Industrial & Consumer Specialties (ICS) and New Business Development (NBD), concentrates on markets with high margins and low cyclicality. By responding to consumer-driven trends, generating cutting-edge innovation, and operating agile, integrated value chains, Care Chemicals has created a foundation for success in highly dynamic markets.

1. Responding agilely to market developments in each business

As overall economic conditions improve, and the megatrends of convenience, well-being, sustainability, and urbanization continue to drive demand, Care Chemicals has risen to the challenge with its high-performing, sustainable products.

In the personal care market, Asia is a center of gravity as new regulatory requirements are generating opportunities for developing market-specific molecules, while Latin America continues to set the trends in hair care and cosmetics. In Europe, the new ISO standard 16128-1 for organic products provides further pull for natural solutions, and new brands in the North American market are spurring growth in eco-friendly and responsibly sourced products.

In the home care market, Clariant offers a comprehensive portfolio of highly concentrated and easy-to-handle solutions that address new customer needs, such as quick-drying formulations. With stringent regulations for sustainability driving the industry toward ingredients that perform well at low temperature and low water consumption, Clariant constantly scouts new ingredients in order to benefit from first-mover advantages.

Clariant's paints and coatings business achieved market growth of more than 5 % in 2018. With an extensive portfolio of neutralizing additives, watering and dispersing agents, and emulsifiers, Clariant capitalizes on the demand for more ecological and less harmful ingredients in waterborne paints, which represent more than 80 % of the architectural coatings market.

001 **CARE CHEMICALS**

OVERVIEW

The Business Area Care Chemicals is comprised of Industrial & Consumer Specialties (ICS), which serves customers in the personal care, home care, paints and coatings, and crop solutions markets, and New Business Development (NBD), which scouts and develops solutions with high growth potential for all Business Areas.

APPLICATIONS

Industrial & Consumer Specialties

— Automotive fluids
— Aviation
— Construction
— Crop solutions
— Gas treatment
— Heat transfer fluids
— Industrial and home care
— Industrial lubricants
— Paints and coatings
— Personal care
— Special solvents

New Business Development

— Food ingredients
— Silver-based inks for the electronic and graphic industries
— 3D printing materials
— Encapsulation technology

30

By 2025 Care Chemicals aims to increase the use of renewable raw materials by 30 %.

While the crop solutions business has been affected by shrinking farm incomes, new regulations and increasing demand for bio-based solutions are disrupting the crop market. In Europe, the ban on additives for agrochemicals and the discontinuation of endocrine disruptors has unlocked opportunities for substitute products. With its previous investment in a modern crop greenhouse, Clariant is now in a leadership position to benefit from the continuing global trend toward bio-based pesticides, foliar fertilizers, and plant growth regulators.

IDEA TO MARKET

2. Innovating ahead of the curve

Creating disruptive innovation requires a diversified toolset. In 2018, Care Chemicals broke new ground by piloting the Innovation Garage. → PAGE 116 The iGarage combines aspects of agile innovation and design thinking by bringing together various parties (e.g., detergent customers, washing machine manufacturers, and academic researchers) to enhance Clariant's understanding of different needs along the value chain. Such collaborations help formalize product and service offerings for the benefit of all parties in the value chain.

To keep up with increasing requirements for agility and speed, Care Chemicals is also exploiting the possibilities of digitalization. By synergistically combining advanced electronics laboratory documentation with data from High Throughput Experimentation (HTE), → PAGE 116 Clariant is able to develop predictive tools that can increase the speed and quality of innovation and enhance the capability to find disruptive solutions.

To minimize products' ecological impacts during production and use, Clariant is improving the traceability of raw materials so customers can distinguish a sustainably produced ingredient from a chemically identical product. New Business Development addresses this challenge by scouting partnerships with companies offering suitable technologies. For example, a minority stake in Haelixa, a spin-off from the Swiss Federal Institute of Technology Zurich, was acquired. Haelixa provides expertise in a unique tagging and tracing technology based on encapsulated DNA. This technology may be applied to ensure product authenticity in the value chain and is evaluated for several fields of application with the support of New Business Development. Areas of focus for future innovation activities include recycling plastic waste for chemical building blocks and developing biodegradable polymers to address the microplastic problem.

Care Chemicals is striving to create a portfolio based on renewable resources coming from agricultural waste streams, which do not compete with food production. By 2025, Care Chemicals aims to increase the use of **renewable raw materials** by 30 % and achieve an innovation pipeline that is entirely based on renewable feedstocks. Regarding the use of palm oil, Industrial & Consumer Specialties already offers almost all personal and home care products in RSPO Mass Balance quality. → PAGE 160 Since a key enabler of this transition is the combination of chemistry and biotechnology, Industrial & Consumer Specialties teamed up with Group Biotechnology in 2018 to drive future innovation in this field.

One example of how Care Chemicals addresses the sustainability megatrend is with its high-performing hair conditioner line Genadvance®, which was launched globally in 2018. The conditioning agents outperform classical technologies and show a significantly improved sustainability profile, mainly due to the use of natural raw materials and a silicone-free formulation. Genadvance® Hydra is certified by the independent organic certification organization **ECOCERT™** and is one of nine new product launches that have been awarded the EcoTain® label in 2018.
→ PAGE 122

Another 2018 highlight was the global launch of Aristocare™ Smart, a versatile polymer that reduces the filming, spotting, and drying time of cleaning detergents. This considerably lowers the cleaning effort for consumers and responds to the growing demand for high-performance, easy-to-use home care products.

ECOCERT™

ECOCERT™ is active in over 80 countries and one of the largest organic inspection and certification organizations in the world.
ecocert.com

MARKET TO CUSTOMER

3. Addressing emerging customer needs with new products and solutions

Given the sharp increase in demand for plant-based ingredients, Care Chemicals strengthened its integration of sustainability into key marketing segments. As a first step, a business development role was established to fully capture the natural ingredients trend and further develop the portfolio. Mutually beneficial partnerships play a key role in this regard, such as a partnership announced in October 2018 with the Indonesian company PT Martina Berto, which will add Southeast Asian biodiversity ingredients to Clariant's expanding personal care portfolio.

The personal and home care businesses leverage their respective trend-monitoring platforms, BeautyForward® and CleanForward™, to identify market trends at an early stage and pinpoint customers' evolving needs. For example, in 2018, products that protect consum-

»Our ambition is to become the number one supplier for natural and sustainable solutions for consumer care.«

VINCENT GASS
Head of Global Marketing, Business Unit
Industrial & Consumer Specialties

ers from blue light and pollution were identified as a trending customer demand. In response, Clariant launched Eosidin®, an active ingredient that protects skin from indoor pollution. Eosidin® won the silver ITEHPEC Innovation Award at InCosmetics in Brazil in 2018 and the gold medal for »Sustainable Innovation of the Year« at Cosmetics Design Europe.

New Business Development focused on the rapidly growing 3D printing market. At the end of 2017, it bundled Clariant's materials capabilities to create a portfolio of high-quality 3D printing filaments that meet the evolving requirements of end-part production. In 2018, Clariant collaborated with Original Equipment Manufacturers (OEMs) to tailor filaments that meet their specific material requirements and comply with the relevant regulations in their respective end markets. In addition, Clariant continually increased the printability of the materials. To make the printing as reliable and simple as possible, a collaboration was entered with the printer manufacturer Ultimaker, which provides optimized printing parameters for Clariant's filaments. Its high-quality materials, ability to rapidly adapt to industry requirements, and its print optimization support have made Clariant an attractive partner for OEMs who significantly support the expanding market of 3D printed products.

According to the customer satisfaction survey conducted in 2018, the customers of Business Area Care Chemicals particularly value its products. »Products and Packaging« was ranked as the most important buying criteria by survey respondents and showed an outstanding competitive performance. Overall customer satisfaction improved to 79 points (2016: 77) and the **Net Promoter Score** jumped to 43 % (2016: 28 %).

4. Increasing marketing and digital capabilities to enhance customer relationships

Industrial & Consumer Specialties has further developed its marketing organization in 2018 based on a blueprint developed in 2017. It created five centers of excellence for strategy execution, innovation management, market intelligence, launch management, and portfolio value management. All functions were replicated at a global and regional level and new key positions were filled, adding valuable competencies to detect, qualify, segment, and serve local market opportunities. To translate improved market penetration into profitable growth, Care Chemicals successfully ran a transactional pricing campaign in 2018 and implemented value-based pricing methods for all new product launches.

Customer relationships were simplified through a series of digital initiatives. In Europe, an e-commerce platform was deployed for industrial applications and a chatbot was added on the Industrial & Consumer Specialties website to address basic customer requests. Furthermore, Clariant launched Chemberry™, a chemical ingredients search engine to enhance the connection between suppliers and buyers. → **PAGE 120**

CUSTOMER TO CASH

5. Streamlining production and delivery processes

To upgrade the portfolio to higher-value products, Care Chemicals is working to adapt production processes to smaller batch sizes and shift from bulk shipping to transporting smaller packages. This shift will benefit customers who demand more agility and shorter lead times for their orders. To improve production planning and securing of raw material supplies, a web

Net Promoter Score (NPS)

The NPS gauges the loyalty of a company's customers on a scale from –100 (no loyalty) to +100 (high loyalty). An NPS of > 50 % is felt to be excellent.

360

Care Chemicals established relationships with 360 new suppliers.

shop for distributor self-service was introduced, enabling fast and flexible offer placement and management, and facilitating the coordination between the commercial and the operational chain.

As a result of the continued rollout of the Manufacturing Execution System, which provides a real-time view of the status of production, and the implementation of the Integrated Planning Landscape (IPL) in Latin America, North America, and Europe, operational reliability was strengthened. → PAGE 52 Additionally, **relationships** with 360 new suppliers were established to reduce dependence on single-sourced materials, leading to improved flexibility and reliability.

6. Increasing efficiency while reducing environmental impacts

In 2018, Care Chemicals reduced the consumption of energy and water and the emission of waste, wastewater, and greenhouse gases, in accordance with Clariant's 2025 environmental targets. By analyzing end-to-end processes with a focus on increasing yield through initiatives such as the Production System Yield, Energy, Environment (YEE) → PAGE 53, emissions and resource consumption were reduced, helping Industrial & Consumer Specialties achieve ISO 50001 certification for all of its sites in Europe. To further reduce pollution and protect ecosystems, a chiller at the Gendorf, Germany, site was replaced, eliminating the emission of Frigen, a halogenated hydrocarbon. At the Bonthapally, India, site, the wastewater treatment was upgraded to achieve zero liquid discharge. → PAGE 160

In 2018, Industrial & Consumer Specialties started Project Olive II, which will upgrade the site in Tarragona, Spain, to a fully integrated production plant for Squalane and Squalene and the respective downstream products. Integrating several value creation steps in one location will allow Clariant to produce higher-value products while effectively reducing negative impacts on the environment by decreasing transport requirements.

7. Achieving safe operations

In 2018, Care Chemicals undertook important steps toward Clariant's goal of zero accidents. The Avoiding Accidents program was implemented at all sites while refresher trainings were conducted at four sites that had already implemented the program. → PAGE 140 Additionally, individual safety training sessions for managers were rolled out, covering modules such as electrical safety and personal protective equipment. At its Gendorf, Germany, site, Industrial & Consumer Specialties conducted a pilot of the Global Operational Discipline initiative, which is based on an approach developed by DuPont and consists of safety trainings and an awareness-raising campaign. The global rollout of the initiative began in 2018 with the initial implementation at Clariant's Suzano, Brazil, site. Other sites will follow over the course of 2019 and 2020. Finally, frequent audits at all plants contributed to rigorous improvements in product quality, environmental protections, and health and safety precautions.

Targets 2021

5 – 7 %
Growth potential per year

19 – 21 %
EBITDA target margin

Performance

INPUT

2.8 %
R&D spend of sales

965
Raw material procured in CHF m

> 70
Active innovation projects

13
Production sites

2 988
Number of raw materials procured

OUTPUT

1665
Sales in CHF m

7 %
Growth in local currencies

19 %
EBITDA margin before exceptional items

0.98[1]
Production volume in m t

People

INPUT

32 019
Training hours

1 710
Raw material suppliers

OUTPUT

2 541
Staff in FTE at year end (2017: 2 582)

Planet

INPUT

806[2]
Energy consumption in m kWh

OUTPUT

60[2]
Waste in thousand t

217[2]
Greenhouse gas emissions in kg/t production

Financial capital
Intellectual capital
Manufactured capital
Human capital
Relationship capital
Natural capital

[1] For 2018, the production volume is based on a reduced reporting scope, which includes sites that are responsible for 95 % of total production.

[2] Every three years, Clariant validates environmental data from all production sites. The last full reporting campaign was in 2017. In interim years, including 2018, the reduced reporting scope comprises the larger sites responsible for 95 % of production.

Where
Why
When
Who
What

Innovation and Technological Advances

Where Can We Help Accelerate Innovation?

Speed was always crucial in innovation. Whether in solving a problem or bringing a new solution to market, being first can make all the difference. Ever shorter innovation cycles and lower entry barriers for competitors make it harder to stay ahead of the curve. At Clariant, new ways of doing research and a unique approach to joint product development help bringing new ideas to life faster and more reliably.

Lucius Kemp

Via High Throughput Experimentation (HTE), Lucius and his global team help Clariant to efficiently explore new research areas while boosting innovation output.

Tiago Merckel Haugg

Tiago worked with Clariant to develop three different dairy-alternative beverages in record time for Piá, a leading Brazilian dairy cooperative.

Lucius, what is the HTE lab you're building in Houston, Texas, right now?
The High Throughput Experimentation (HTE) lab in Houston is a satellite facility to the HTE lab we have established in Frankfurt, Germany. The instrumentation, infrastructure, and operational model are a direct clone of the facility in Frankfurt. This ensures that our efforts in extending these capabilities to the Americas region deliver the same successes as those experienced in Europe. The same concept will be applied in the HTE expansion to Asia.

How does HTE speed up research?
HTE approaches are a collection of research practices that are designed to deliver more information, hopefully with less effort. The more we understand about our processes and products, the better we can design solutions that deliver the required performance. Enhanced experimental design, automation-assisted execution, big data evaluation, and modeling are concepts that enable this in-depth knowledge.

Automation is nothing new to the industry. What sets the Clariant HTE group apart from the rest?
In most environments, automation is deployed for a particular process. At Clariant, for example, we successfully use high throughput screening for the development and optimization of catalysts at the Business Unit Catalysts or for the screening of enzymes and microorganisms in our Technology Platform Biotechnology. We have designed a laboratory that truly automates research from end to end with a broader scope of applications.

How does that increase efficiency?
The efficiency gained from automation comes from numbers, reproducibility, and times of operation. Many of our instruments work in parallel, and many reactions are being conducted simultaneously. Having operations run continuously, overnight and weekends, greatly increases the throughput when compared to classical laboratory approaches. This allows us to explore the full solution space. The efficiency is realized by gaining more knowledge in a shorter amount of time, thus providing answers and ultimately solutions faster.

How do you design experiments differently?
By initially focusing on the most important aspects required for screening, we can streamline efforts that will deliver results with the greatest impact. We employ software tools and statistical analysis to better understand the process and point us to the most promising areas for testing. This often yields solutions that can easily be overlooked with classical approaches.

How do you physically set up the experiments?
This was actually the biggest challenge when designing the first HTE lab. As a central research group we serve all Clariant Business Units. One day we synthesize molecules for personal care applications, the next day we optimize formulations for a refinery and the next, we model the stability of chocolate milk. So our lab is designed to allow quick transitions from one workflow to another.

Does HTE increase sustainability?
Yes, one way is by miniaturizing experiments. We can run experiments on much smaller scales compared to a standard chemical lab, thus using less raw materials and generating less waste. This both decreases costs and supports the progress towards Clariant's environmental targets.

Will this type of automation replace people?
No, not at all. Often when brainstorming on a new research area, a great deal of ideas are generated and discussed. But time and resources are finite, which in turn limits the number of ideas that can realistically be explored. Automation allows for more. We use automation at Clariant to enable broad screening and exploration of the solution space. The information gained is then fed into the application labs of each Business Unit to help them determine where to focus their efforts and ultimately increase their chances of success in the market.

What helps us test more ideas faster?



LUCIUS KEMP
Head of High Throughput Experimentation, Clariant

How can we help customers accelerate innovation?



TIAGO MERCKEL HAUGG
Marketing Manager, Cooperativa Piá

Tiago, Piá was first established over 50 years ago as a milk farmers' cooperative and now is one of southern Brazil's leading dairy companies. Why did you decide to also offer non-dairy substitutes?
Piá is about healthy food, regardless of whether that is milk or any other product. We see a growing trend for plant-based products. That's why we launched a complete new line not only of vegetable-based beverages, but also other vegetable-based dairy substitutes. We see it as a way to retain consumers who've stopped consuming milk for different reasons, be it health issues or personal beliefs about animal welfare.

How is that trend manifesting itself?
We witnessed a strong trend in Europe and the United States, with dairy brands buying out vegetable-based companies. Brazil's market is in an emerging stage, but we made the strategic decision to be the first to build up such a portfolio and use our well-established distribution system here in Brazil.

You partnered with Clariant to develop the product. What were your requirements?
We wanted a good level of quality at a fair cost, but the product also had to work within our existing assets and manufacturing processes.

What made that challenging?
Apart from the technical challenge, there was also a very close deadline. We had only six or seven months because we wanted to launch the new product line at our region's leading trade fair for supermarkets.

Why was that so important?
It's the difference between introducing your product to the whole sector within two days or having to go door-to-door to about 15 000 customers.

How long would a project like this usually take?
There is no general answer to this question. Complex projects like this can take up to two years.

How did Piá and Clariant work together?
Clariant presented some concepts and market opportunities. Then we started the development phase with the R&D team, prototyping and negotiating. They set up pilot plant tests and then we moved on to industrial testing.

How would you describe that collaboration?
What stood out for me was the interest and effort in speeding up the process to meet our deadline. That was really exceptional! It went very smoothly, which is amazing, considering we were developing a new product and a new process with new ingredients and even a new supplier.

What was particularly important in this project?
I think the most important aspect was trust. Both companies had to share some very valuable information. We worked very closely on a technical level but also shared ideas on things like marketing, regulation, and packaging.

How's the new product doing with consumers?
We're still developing the market, and we have some work to do in increasing volumes. But the feedback we've gotten so far is positive, especially regarding the product's sensory properties and its packaging.

What are you working on now? Has the collaboration spawned any new ideas?
We started working on some important new projects with Clariant. We're testing new flavors and new packaging sizes. And we're also developing vegetable-based yogurt products.

How Catalysis Creates Value

Business Area Catalysis helps customers increase yield while simultaneously decreasing energy consumption and emissions. After developing an innovative process to produce biofuels using biologic catalysts, Catalysis entered a new, promising market. With its impressive innovation activities and long-standing expertise, Catalysis contributes to Clariant's growth and profitability.

1. Benefiting from economic growth and future-oriented regulation

Business Area Catalysis is embedded in a highly globalized business environment, with production sites around the world and a product portfolio that serves a multitude of industries. Thus, the global economic growth in 2018 supported strong sales in Business Unit Catalysts. In addition, promising business opportunities emerged from the regulatory environment, which is continually adapting to increased awareness of environmental issues, such as climate change. In China's fast-growing market, for example, stricter emission legislation led to an increase in demand for catalysts, enabling more sustainable production processes and products. In the European Union, the Renewable Energy Directive foresees a 3.5 % usage of advanced biofuels by 2030, and China is aiming to achieve a 10 % renewable ethanol content in transportation fuels in the next few years. These commitments offer substantial growth potential for Business Line Biofuels & Derivatives by spurring demand for sustainably produced biofuels.

IDEA TO MARKET

2. Innovating for a fossil-free future

For Business Area Catalysis, innovation is the cornerstone of all activities to develop outstanding, multipurposed products. Due to the negative environmental effects of burning fossil fuels, harvesting renewable energies is becoming increasingly important. As wind and solar power are dependent on weather fluctuations, storage is paramount in order to ensure steady energy supply.

In 2018, Clariant partnered with Hydrogenious Technologies to revolutionize the hydrogen economy. The innovative Liquid Organic Hydrogen Carrier (LOHC) technology significantly improves safety, scalability, and convenience in hydrogen storage and transporta-

001 **CATALYSIS**

OVERVIEW

Business Area Catalysis comprises Business Unit Catalysts, which runs 14 production sites globally, and Business Line Biofuels & Derivatives. The applications for its product portfolio include chemicals and feedstock production, fuel processing, as well as custom catalysts.

Business Line Biofuels & Derivatives complements the offering with sunliquid®, a groundbreaking technology to produce biofuels and renewable raw materials from agricultural residues.

APPLICATIONS

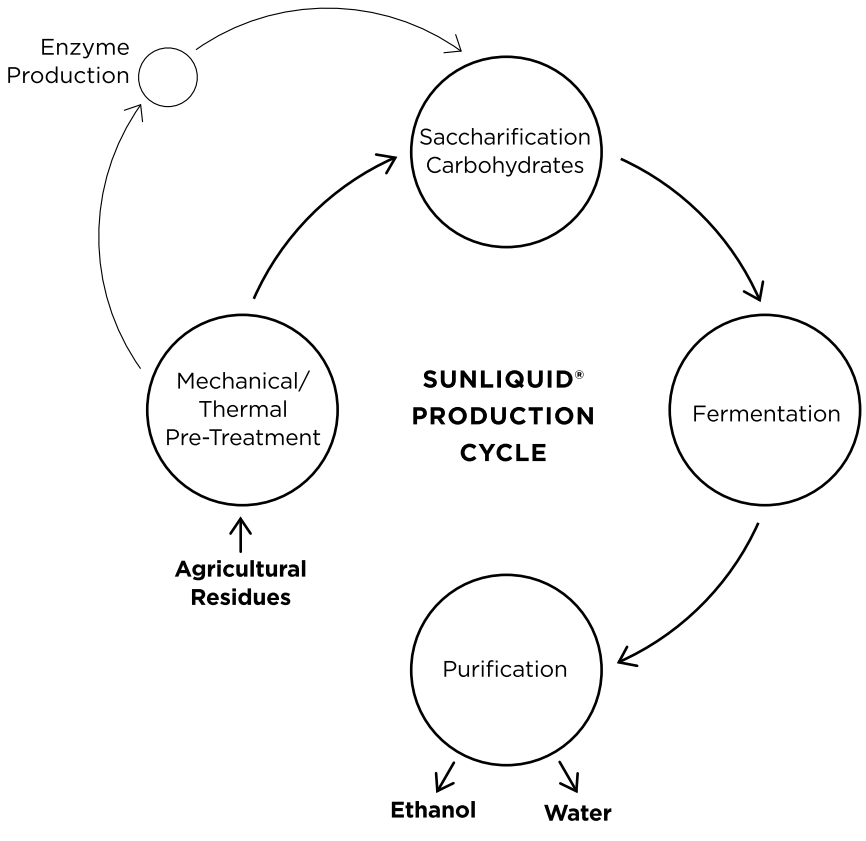
Business Unit Catalysts

- Ammonia
- Custom catalysts
- Ethylene and -derivatives
- Fischer-Tropsch
- Fuel cell
- Fuel upgrading
- Gasoline desulfurization
- Gas processing
- Hydrogenation
- Methanol
- Off-gas treatment for chemical plants and stationary engines
- Oxidation
- Polypropylene and on-purpose propylene, MTP
- Hydrogen
- Refinery stream purification
- Sour gas shift
- Steam cracker and Olefin purification
- Styrene and BTX
- Synthetic natural gas
- Zeolite powders

Business Line Biofuels & Derivatives

- Biocatalysis
- Cellulosic ethanol
- Fermentation
- Low carbon advanced biofuels
- Residue derived biomaterials

SUNLIQUID® – A FULLY INTEGRATED PROCESS DESIGN



sunliquid® is an innovative process to produce biofuels and biomaterials from agricultural residues. First, an agricultural residue, such as wheat straw, is treated with steam, followed by a subsequent sudden drop in pressure, which leads the straw to break down. Second, the straw remnants enter a series of reactors in which they are liquefied and specific enzymes are grown. These enzymes break down the straw into simple sugars. Then, the sugars are fermented to create an ethanol-water mixture. In the last step, the ethanol is purified, so it can serve as biofuel or as a feedstock for biomaterials. By using lignin, the insoluble part of the straw, as fuel, the sunliquid® process is energy self-sufficient.

Clariant completed a report on the carbon footprint of sunliquid®, which revealed that the carbon intensity of ethanol produced with sunliquid® is up to six times lower compared to conventional fuels.

tion. Clariant's EleMax™ catalysts chemically bind and release hydrogen to and from an organic carrier, permitting storage without notable energy losses and enabling optimized life cycle efficiency of the LOHC. The carrier is non-toxic and of low flammability, thus classifying it as non-hazardous. In addition, the compound remains liquid through a broad temperature range at ambient pressure and can be transported in the existing infrastructure for fossil fuels. This enables a ready supply of industrial locations and fueling sites. In Tennessee, USA, the first commercial-scale units are in operation, confirming the technical and economic attractiveness of the technology. Clariant is proud of its role in facilitating this major leap forward to making hydrogen a safe, efficient, and scalable energy carrier.

For Business Line Biofuels & Derivatives, the innovation focus remains on sunliquid®. In 2018, the sunliquid® technology was granted the Meyer-Galow Award for business chemistry, which is bestowed on innovations with outstanding sustainability. Clariant was honored for its achievements and contributions to the successful development and commercialization of this groundbreaking technology. In collaboration with Exxon and the Renewable Energy Group (REG) the technology was diversified to produce cellulosic diesel from second-generation sugars. Further Research & Development activities are aimed at optimizing sunliquid® with regard to further optimizing the platform in itself and in further diversifying the suit of derivatives products from sunliquid® platform.

MARKET TO CUSTOMER

3. Engaging with customers

Understanding and anticipating customer needs is crucial for business success. Thus, Business Area Catalysis focuses on spotting and identifying customer insights along the value chain. Clariant's Leading Marketing Organization initiative is addressing these goals by constantly analyzing the company's existing marketing capabilities.

A central source of customer insights is the biennial customer satisfaction survey. The results of the 2018 survey emphasize the importance of innovation for the customers of Business Area Catalysis. After »Technical Services«, it is the second most important buying criteria and the customers see a clear competitive edge over Clariant's competitors. The Customer Satisfaction Index reached 77 points (2016: 79) and the **Customer Loyalty Index** remained at a high level, reaching 81 points (2016: 83).

81

The Customer Loyalty Index of the Business Area Catalysis remained at a high level of 81 points.

Clariant's Business Unit Catalysts also organizes a biennial customer event, the »Defining the Future« conference, to gather the global industry community for networking, insight, and critical analysis. In 2018, over 50 presentations by experts on global chemical markets were given to more than 600 participants during the eighth »Defining the Future« conference in Hangzhou, China. Clariant detailed several customer challenges and how the company addressed them by designing products with outstanding performance and sustainability properties.

Business Line Biofuels & Derivatives continued relationship-building with political stakeholders in 2018. In addition, the sunliquid® sales and marketing team participated in various international conferences, particularly in the biomarkets and renewable energy sector, to further promote sunliquid® and its applications.

4. Launching products with enhanced sustainability profiles

Products of Business Unit Catalysts enhance sustainability and safety performance of customer production sites and processes. In 2018, Clariant expanded its EnviCat® portfolio with a high-performance solution that significantly reduces nitrogen oxides, which contribute to a range of negative environmental impacts, such as acid rain, smog, and ground-level ozone. The honeycomb-structured catalyst uses ammonia as a reducing agent for the conversion of the nitrogen oxides into harmless nitrogen gas and water. The catalyst effectively lowers nitrogen oxide emissions from gas-fired exhaust streams and is well suited for use in a multitude of chemical and industrial applications, such as power generation or petrochemical refining.

»The successful development of dedicated catalysts for the LOHC technology is not only a testament to Clariant's pioneering capabilities, but also reflects the importance of sustainability to our culture, operations, and as a driver for growth and innovation.«

MARVIN ESTENFELDER
Head of R&D at Business Unit Catalysts

Clariant prides itself on consistently innovating catalysts that achieve optimal performance. The OleMax™ 260 catalyst, launched in 2018, for example, provides close to 100 % selectivity to ethylene. Not only does OleMax™ 260 produce higher yields, it also fosters a sustainable process with a simplified operation that reduces start-up-related hydrocarbon flaring, as well as time to on-specification ethylene production. The first commercial start-up in the new ethylene production plant of The Dow Chemical Company in Freeport, Texas, USA, proved the potential of the catalyst.

With every product launch, Business Unit Catalysts further strengthens its product capabilities. In 2018, HYDEX™ E, the latest diesel dewaxing catalyst in the HYDEX™ series, was launched. The catalyst improves the cold flow properties of the fuel, facilitating its handling during cold conditions. HYDEX™ E is a new catalyst that can even operate under full sour service conditions, increasing diesel yield and reducing by-product formation. Due to improved **desulfurization**, additional product swelling, and an increased share of combustion-benign substances in the final product, HYDEX™ E prepares customers for new, more stringent fuel regulations regarding particulate formation.

In 2018, the MegaMax® 800 methanol synthesis catalyst was successfully implemented at one of China National Offshore Oil Corporation's (CNOOC) plants in Hainan Province. Methanol is used as a feedstock for a variety of chemicals, as well as a fuel, solvent, and antifreeze. MegaMax® 800 increases yield and efficiency while being compatible across a range of methanol process technology platforms. Furthermore, it maintains high selectivity over its lifetime and therefore considerably reduces by-product formation. The installation of MegaMax® 800 improves profitability and carbon efficiency of the CNOOC site, owing to the catalyst's high productivity and due to its high activity and performance in lower operating temperatures.

CUSTOMER TO CASH

5. Securing profitable partnerships

Engaging with partners along the value chain is vital for Business Area Catalysis to drive business and access new markets. In 2018, Business Unit Catalysts signed two key agreements with Sinopec, China's largest petroleum and chemical company. One of the agreements allows Clariant to license S-Zorb, a sorbent used to desulfurize naphtha for gasoline production. The sorbent is ideal for upgrading gasoline in existing refineries in order to comply with the China National V standards for fuel quality. The other agreement positions Clariant as representative for Sinopec's fluid catalytic-cracking catalysts to oil refineries in Qatar.

Another example showcasing that partnerships can lead to outstanding results is the contract to work with McDermott, formerly CB&I, to design the world's largest single-train propane dehydrogenation unit for Jinneng Science & Technology Company in China. The partnership combines Clariant's CATOFIN™ catalysts and Heat Generating Material with McDermott's Lummus CATOFIN™ propane dehydrogenation technology. Clariant's catalysts enable maximum conversion of raw materials, while the patented Heat Generating Material increases the catalysts' selectivity, both producing higher yields at lower operating costs.

Desulfurization

Crude oil, the base of diesel, always contains a fraction of sulfur, which is responsible for acid rain. The latest Clariant diesel catalyst shows improved desulfurization and thus helps reduce harmful emissions.

9

A smart cooling tower helped decrease overall electricity consumption of the precommercial plant in Straubing, Germany, by 9 %.

sunliquid®

The sunliquid® production facility in Romania is expected to produce 50 000 tons of ethanol from straw every year.

6. Advancing procurement, production, and operational safety

Business Area Catalysis continued to advance Clariant's global procurement initiative in order to increase reliability and sustainability of its vast, global supply chain. In addition, Business Unit Catalysts managed to reach the goals set for third-party sustainability assessments.

For the **sunliquid®** production plant in Romania, a dedicated team worked on establishing a long-term stable supply base and relationship with local farmers to ensure feedstock supply in the operational phase of the plant. Business Line Biofuels & Derivatives is developing a digital solution to support a transparent and efficient operation of the straw supply chain.

Within Business Line Biofuels & Derivatives, ongoing safety trainings are used to increase safety awareness in day-to-day operations. In addition, by conducting health days, awareness on working ergonomics and a healthy lifestyle was raised.

7. Improving environmental performance of production sites

Business Area Catalysis is determined to improve environmental sustainability of its production sites. At the Severodonetsk, Ukraine, facility, for example, upgrades with new technologies are planned in order to enhance energy and water management. By 2020, a modern evaporation unit will decrease overall energy consumption, and the installation of a reverse osmosis plant for wastewater treatment will introduce water circulation, reducing consumption and releasing cleaner runoff.

Business Line Biofuels & Derivatives initiated several projects as part of Clariant's eWATCH™ program and the Production System Yield, Energy, Environment (YEE) to reduce resource consumption. In its precommercial plant in Straubing, Germany, a smart **cooling tower** decreased overall electricity consumption by 9 %. In addition, thanks to optimized production protocols, fresh water use and wastewater production are reduced continuously and the costs of wastewater discharge were reduced significantly by first feeding the wastewater to a biogas plant.

Targets 2021

6 – 9 %
Growth potential per year

26 – 30 %
EBITDA target margin

Performance

INPUT

6.6 %
R&D spend of sales

263
Raw material procured in CHF m

> 110
Active innovation projects

14
Production sites (50:50 or minority joint ventures not included)

968
Number of raw materials procured

OUTPUT

861
Sales in CHF m

11 %
Growth in local currencies

23.1 %
EBITDA margin before exceptional items

0.06[1]
Production volume in m t

People

INPUT

27 726
Training hours

538
Raw material suppliers

OUTPUT

2 061
Staff in FTE at year end (2017: 1970)

Planet

INPUT

588[2]
Energy consumption in m kWh

OUTPUT

15[2]
Waste in thousand t

2 709[2]
Greenhouse gas emissions in kg/t production

Financial capital · Intellectual capital · Manufactured capital · Human capital · Relationship capital · Natural capital

[1] For 2018, the production volume is based on a reduced reporting scope, which includes sites that are responsible for 95 % of total production.

[2] Every three years, Clariant validates environmental data from all production sites. The last full reporting campaign was in 2017. In interim years, including 2018, the reduced reporting scope comprises the larger sites responsible for 95 % of production.

Where

Why

When

Who

What

Environmental Protection and Resources

When Can We Advance the Shift to Renewable Energy?

Renewable energy sources are the future. Their use is taking hold across the globe but also poses new challenges with energy storage and distribution. The chemical industry has an important role to play both as a big energy consumer and by enabling new ways of using and storing electricity.

Camilla Lang

As Site Manager and Country ESHA for the Nordics region, Camilla helped Clariant's Swedish sites make the switch to renewable energy.

Daniel Teichmann

As CEO of Hydrogenious Technologies, Daniel has set out to finally make using hydrogen for storing and transporting energy easy and safe.

Clariant's three production sites in Sweden recently switched to renewable energy. Why?
Because it makes a lot of sense. Clariant has set itself global environmental targets, such as to reduce greenhouse gas emissions by 35 percent per ton of produced goods by 2025. Our switch to renewables is a step towards that. The time was right too. We had different contracts with our electricity providers for each of our three sites, and they were all up for renewal. So we decided, first of all, to combine the three agreements and to look for renewable options.

What type of energy were you using and what do you use now?
We switched from mostly nuclear, which still makes up the largest share of Sweden's electricity mix, to 100 percent hydroelectric power.

How much electricity do the three sites use?
We use around three million kilowatt-hours, and we've calculated that we now avoid about 300 tons of CO_2 per year.

What was your role in all this?
I've been the site manager for our site in Hällekis since 2011. In 2016, I also took on the responsibility for Environmental, Safety and Health Affairs, or ESHA, in the Nordics region. In this role, I could negotiate a single agreement for all of our three Swedish sites across the business units. I talked to my fellow site managers and management. They were all immediately on board.

Did you face any problems or concerns?
No. It was fairly easy to convince people. We are very conscious of environmental issues in Sweden. And we have a well-working market for renewables. So it was actually very easy to switch.

What about energy costs?
Because of our newly combined purchasing power, we now actually spend less on electricity than we did before.

Is the supply as stable and secure as, say, nuclear power?
We're connected to the power grid the same way as before, so there are no concerns about stability. We just pay for hydroelectric power. It's basically the same as when you switch at home. In any case, hydroelectric power is among the most stable renewable sources anyway.

What are some of the other things you're doing to reduce emissions?
We're in the process of reducing diesel in our production processes. We still use it mainly in the drying process for bentonite clay here in Hällekis. We're also looking at our fleet of cars and considering more sustainable options. But, admittedly, we still have quite a way to go in that regard. Still, little things have an impact. Some years ago, we replaced an old engine in our mill here in Hällekis, which now uses only half as much energy as it did before.

Do you think your experience with the switch to renewable energy is applicable elsewhere?
Certainly. There obviously needs to be enough supply and a working market for renewable energy. Then it's just a matter of, well, just doing it. For us, the timing was right because we wanted to renegotiate our contracts anyway, and I had just taken over my new role for the region. I think that's a lesson you can take away from it: get different sites and Business Units together under one roof to increase your purchasing power and keep costs down. That may be more difficult in other regions where they operate, let's say, more independently. And then you need someone or even a small team to take this idea and just run with it.

Can we fill our energy needs sustainably?



CAMILLA LANG
Site Manager Business Unit Functional Minerals & Country ESHA Nordics, Clariant

Can catalysis shape the future energy storage?



DANIEL TEICHMANN
CEO, Hydrogenious Technologies

Daniel, hydrogen is often touted as the fuel of the future. Why isn't our world running on hydrogen?
Hydrogen is a powerful and fully renewable energy carrier. The only emission from using it as fuel is water. That's why we believe it will play a significant role as fuel for cars and as a way to store energy from renewable sources like wind and solar power. The problem lies with storing and transporting hydrogen, which at normal temperatures has a low density and is extremely volatile. The conventional fix was to either compress it or cool it to very low temperatures. Both methods require elaborate equipment and additional energy.

What is your solution?
We store hydrogen in a liquid by chemically binding it in an oil – our Liquid Organic Hydrogen Carrier, or LOHC.

How do you get the hydrogen into the oil?
We hydrogenate the oil using a catalyst. Basically, we build our hydrogen atoms into the molecule.

What's the oil in question?
Dibenzyl-toluene, a readily available commodity mostly used to transfer heat in commercial applications.

How safe is LOHC once it's full of hydrogen?
A demonstration I often perform for TV crews involves dipping a burning torch into a bucket of loaded LOHC. The torch just dies. The oil doesn't react at all.

You can literally carry your hydrogen around in an open bucket?
Yes. It is non-toxic and not classified as a dangerous good. It is safer than diesel fuel.

What role does catalysis play and what kind of catalyst do you use?
Catalysis is the key to getting hydrogen into the molecule. We use precious metal catalysts from Clariant's EleMax™ range tailored specifically to our needs.

How is your partnership with Clariant helping?
Efficiency is crucial. That's why we work with Clariant to further tweak the catalysts and the process. One of the challenges was that we designed our system to extract hydrogen from mixed streams from industry exhausts. That makes it compatible with real-life hydrogen sources but it demands a lot from the catalyst.

How much hydrogen can the LOHC hold?
A cubic meter of LOHC can carry about 57 kilograms of hydrogen. To give you a better sense, a regular fuel tank with 80 liters of LOHC would carry enough hydrogen to travel about 500 kilometers in a fuel cell car.

Could you fill your fuel tank with LOHC to drive your fuel cell car?
That's certainly the long term goal. It will require, however, a miniaturized version of our technology. At the moment, we're focussing on large-scale applications, like providing hydrogen to industrial users and large-scale hydrogen refueling stations. Our current technology comfortably fits a 20-foot shipping container. The beauty is that LOHC lets us use existing infrastructure! Our system can work basically anywhere a truck can go. And the resulting LOHC is easy to transport using conventional fuel trucks.

What would a complete LOHC ecosystem for hydrogen cars look like?
A gas station could store loaded LOHC in their conventional underground fuel tanks and de-hydrogenate it on demand. Our home city of Erlangen is the first to open such a refueling station. But we're also working towards solutions that could de-hydrogenate LOHC right in your car so that refueling would involve simply exchanging unloaded for loaded oil. Heavy-duty vehicles, such as trucks, trains and even ships, are obvious first contenders on the path to an ever more compact system. One of the pilot projects, coordinated by our partner Helmholtz-Institute of Renewable Energy Erlangen-Nuremberg, involves a train running on LOHC.

How Natural Resources Creates Value

Business Area Natural Resources combines businesses that extract minerals, oil, and gas with those that use these materials to develop high-performing and sustainable solutions. Driven by growing oil, metals, and food consumption around the globe, the Business Area addresses emerging trends in multiple industries.

1. Capitalizing on economic upturn and growth in key industries to drive business

In 2018, Functional Minerals continued on its growth path supported by the positive dynamics of the global economy, which increased demand for processed bentonite. Global trends such as urbanization, renewable energy, and changing food consumption supported growth opportunities for purification products. Although purification sales were initially weak due to an unfavorable quality of soybean and palm oil crops, the market saw some recovery in the second half of the year. In addition, the growing demand for purification solutions in the field of renewable energy compensated for the weaker edible-oil purification sales in early 2018. Functional Minerals is very well positioned to grow in this segment as it demonstrated its ability to develop tailor-made and innovative solutions for the purification of second-generation biofuels through strong collaborations with key customers.

Continued growth in the global automotive industry and an increasing trend toward reducing harmful emissions in the iron-casting process created favorable conditions for Clariant's foundry additives business. Functional Minerals capitalized on this trend by expanding the sales of low-emission foundry additives, such as Geko™ LE. The electrification trend in the passenger car industry is a disrupting challenge where Mining Services has refocused activities in the industrial minerals field toward solutions for lithium extraction, a key raw material for the batteries.

In 2018, the price of oil continued to recover while key commodity markets stabilized. This allowed many of Clariant's Oil & Mining customers to reevaluate their operations to look for ways to grow and gain efficiencies alongside of opening strategic growth opportunities. However, regional differences persisted. With the trade

001 **NATURAL RESOURCES**

OVERVIEW

The Business Area Natural Resources is comprised of Functional Minerals and Oil & Mining Services. Functional Minerals operates a fully integrated value chain, from the exploration and mining of bentonites to the processing of finished products to the application of technical know-how at the customer's operations. Oil & Mining Services provides innovative chemistry, technology, and service solutions for the oil, mining, and refinery industries

APPLICATIONS

Functional Minerals

- Oil purification
- Foundry additives
- Desiccants, oxygen absorber, humidity indicator solutions
- Sediment management
- Civil engineering
- Wastewater treatment
- Clay specialties
- Paper additives
- Detergent additives
- PVC stabilizers
- BTX catalysts
- Kerosene and jet fuel purification

Oil & Mining Services

- Pour point depressants
- Explosive emulsifiers
- Froth flotation chemistries
- Well service additives
- Oil and water separation
- Asphaltene control technologies
- Scale management
- Corrosion management
- Chemical delivery and data management systems
- Gas well deliquification
- Near wellbore remidation technologies
- Hydrate management and control

35

Functional Minerals ran about 35 active innovation projects (Class 1 and 2) in 2018.

dispute between the United States and China creating uncertainty in the market and hampering growth in China, Chinese-sourced raw material prices might increase due to the growing costs of regulatory compliance and tariffs.

IDEA TO MARKET

2. Innovating for food safety and environmental protection

The innovation agenda at Functional Minerals was dominated by three main themes in 2018. First, Functional Minerals addressed the need for improved food safety with, for example, the launch of new Tonsil® grades that reduce the risk of harmful substance formation, such as 3-monochloropropane-1,2-diol (3-MCDP), during purification processes.

Second, Functional Minerals developed products that help customers reduce their overall costs. For example, Clariant supports the edible-oil processing industry and the growing renewable fuel industry by innovating in the field of dry-soap removal. Dry soaps are generated during production processes and present a considerable cost factor for Clariant's customers.

Third, the Business Unit further developed Invoque®, an innovative solution that helps customers in the dredging and mining industries manage disturbed sediments suspended in water. Invoque® allows users to separate solid and liquid components faster and more efficiently while also reducing water usage, environmental impacts, and overall costs.

Addressing these three challenges contributed to a well-filled **innovation pipeline** at Functional Minerals, with about 35 active Class 1 and Class 2 projects and about the same number of smaller Class 3 projects in the stage gate process at the end of 2018. In order to accelerate innovation processes and improve the pipeline output, Functional Minerals improved the stringent evaluation, prioritization, and tracking of innovation projects.

3. Increasing speed to exploit opportunities from unconventional oil production and electrification

The growing global oil demand and rapidly changing characteristics of produced oils increase the complexity of oil production and require shorter innovation cycles. Oil Services is tackling this challenge by working with Group Technology & Innovation on High Throughput Experimentation (HTE) and advanced analytics. → PAGE 116 The collaboration led to five successful applications in identified growth fields, such as pour point depressants, and will continue into 2019. To support the commercialization of the innovative pour point depressants used in oil production, the iGarage concept was adopted. → PAGE 116

Flotigam™ 7500

The EcoTain®-awarded iron ore collector Flotigam™ 7500 decreases the amount of fine material discarded to tailing ponds by up to 70 %.

In 2018, Mining Solutions focused its innovation activities on copper and iron ore benefication by flotation in efforts to improve customers' operational efficiency. To improve sustainability in the mining industry, Mining Solutions has been working on replacement technology for the current use of the hazardous material xanthate. Clariant Hostaflot™ products were developed to overcome the hazardous xanthate properties. The current use of hazardous xanthate as a flotation additive to recover fine particles of the desired mineral is both dangerous and cost-intensive since storage involves controlled conditions, specific handling requirements, and constant monitoring.

Lastly, as increasing amounts of lithium are needed to support the growing sales of electric passenger cars and other battery-powered devices, Clariant is developing innovative flotation collectors that improve the separation of lithium-bearing minerals from other rock-forming minerals, enabling lithium extraction from new sources.

MARKET TO CUSTOMER

4. Addressing customer challenges sustainably

In 2018, Functional Minerals helped solve some specific customer challenges and launched, for example, the innovative solution Opazil™ FFR. Opazil™ FFR is an active adsorbent that avoids the penetration of mineral oils from recycled paper into packaged food. Due to the specific absorption properties of the active adsorbent, this product enables food-packaging manufacturers to reduce potential health risks by adjusting and streamlining their production process without jeopardizing food safety standards. Another product example is Toxisorb™ Premium, an additive that binds toxins and neutralizes harmful substances in animal feed. Both products were awarded Clariant's EcoTain® label in 2018. → PAGE 122

Oil & Mining Services successfully launched a series of products in 2018, including newly developed paraffin inhibitors: WAXTREAT DF, which prevent blockages of flow lines in deepwater oil production operations; a water-based paraffin dispersant LIBERATE®, which remediates existing paraffin deposits where inhibitors cannot be applied; and Hostaflot™ xanthate replacement products, which facilitate the efficient and sustainable collection of sulfide minerals.

Intensive customer interaction around sustainability challenges revealed an unmet customer need to eliminate hazardous compounds from copper and molybdenum collectors. In response, Clariant developed non-hazardous collectors for enhanced copper and molybdenum recovery, which customers in Chile and North America embraced for their improved performance and sustainability benefits.

The progress in sustainable product development is further exemplified by the successful commercialization of **Flotigam™ 7500**, an EcoTain®-awarded collector to recuperate iron ore by flotation.

As shown by the results of the 2018 customer satisfaction survey, the customers of Natural Resources place high value on the »Technical Services« offering, which they ranked as the most important buying criteria ahead of »Products and Packaging«. Since the last customer survey in 2016, Natural Resources increased their competitive performance as well as overall customer satisfaction and loyalty, which improved to 80 points (2016: 79) and 85 points (2016: 82), respectively. The Net Promoter Score leaped to 45 % (2016: 37 %).

5. Building on Leading Marketing Organizations to turn value propositions into profitable growth

In 2018, the Leading Marketing Organizations (LMO) initiative was implemented within Natural Resources. By the end of the year, most of the new key functions were filled. In addition, the businesses aligned innovation strategies with Clariant's overall growth strategy and refined customer segmentation, exploring synergies across regions, coupling offerings with digital support and improving pricing excellence. To support the latter, Functional Minerals launched a value-based pricing initiative to ensure that products are priced according to the value they create for customers. Oil & Mining Services established a Pricing Council, which focuses on developing regional strategies to improve procurement negotiations and position the right value of Clariant's products in the market.

»Sustainability has become a part of the diagnostic conversations our sales professionals hold with customers. As a result, large copper producers have embraced Clariant's sustainable xanthate replacement products, aiming to eliminate xanthate use in all their operations.«

JORGE ARIAS
Global Head of Mining Solutions

CUSTOMER TO CASH

6. Balancing cost efficiency, risks, and sustainability standards in the supply chain
Natural Resources relies on strong relationships with suppliers to create sustainable value for Clariant, customers, and suppliers. Functional Minerals implemented a series of initiatives in 2018 to increase reliability in the supply chain. For example, it initiated preferred partnerships with logistics providers to ensure access to transport capacities and reformulated certain product recipes to reduce supply chain-related risks. To mitigate the impact of rising energy and transportation costs, Functional Minerals also optimized its value stream from mine to market by sourcing the clays closer to operations and intensifying the sun-drying of bentonite (for example, in Sardinia and Spain) to reduce energy and logistics costs.

Oil & Mining Services uses an individualized review process to assess the performance of its suppliers. To evaluate additional factors specifically related to the product line of Oil & Mining Services that are not covered in the standard performance review or the Together for Sustainability initiative (TfS), → PAGE 148 a lean questionnaire is distributed. As Oil & Mining Services prioritizes active supplier communication, it shares an updated standard information package regularly and participates in Clariant's yearly procurement events, which are attended by more than 300 suppliers and offer an excellent opportunity to raise awareness for Clariant's safety and sustainability requirements.

7. Enhancing research and production capacities through global investments
In 2018, Natural Resources expanded its research and production capacity in several locations. For Functional Minerals, the most important expansion took place in Indonesia, where the Business Unit eliminated specific bottlenecks in the bleaching earth production at different production sites that serve the Southeastern Asian market, thereby supporting Clariant's strategic growth and profitability targets in that region. Another expansion occurred in South China, where Clariant increased its production of bentonite desiccant clay to meet increasing demand.

Together with Business Unit Industrial & Consumer Specialties, Oil & Mining Services benefited from the completed expansion of the industrial facility in Coatzacoalcos, Mexico, increasing the production capacity of ethoxylates, particularly demulsifiers, by several thousand tons per annum. In addition, it opened a cutting-edge laboratory facility in Clinton, Oklahoma, and announced the inauguration of a similar technical laboratory in its facility in Midland, Texas. In 2018, Oil & Mining Services terminated production activities of the Business Lines Mining and Emulsions in Morocco and started servicing customers in the region with supplies from Europe.

36.75

Shifting from bulk to intermodal deliveries reduces the yearly greenhouse gas emissions of BU OMS by 36.75 t CO_2 equivalents.

8. Improving profitability through optimized operations

Continually optimizing the operational chain is critical to ensure customer satisfaction and profitability. In 2018, Functional Minerals began implementing a system for web-based slot management with trucking companies to ensure just-in-time arrival of trucks to retrieve finished goods at Clariant's production sites. Furthermore, it took steps to better integrate the commercial and the operational chain by testing a system for linking customers' silo levels to Clariant's planning system.

Oil & Mining Services was able to transition from bulk deliveries to **intermodal deliveries** across the United States, resulting in net savings of approximately CHF 37 000 per year and a reduction of 36.75 t CO_2 equivalents (– 65 %).

9. Ensuring safety at the workplace and on the road

To increase the occupational health, safety, and well-being of employees, Functional Minerals started the Safety Teams initiative in 2018 to involve workers in continuously improving safety at the workplace. Oil & Mining Services focused its efforts on increasing road safety, as employees drive over 36 000 000 kilometers each year to deliver products or provide services to customers. In 2018, it introduced a driver training program for all employees in North America and installed camera systems with an incorporated event recorder in over 200 vehicles in the United States. The training will be rolled out in Latin America in 2019 and will be available as an e-learning course as well.

»Under the new motto ›Customers are our passion, excellence is our way,‹ Functional Minerals engages in a close dialog with its customers. Starting with the question ›what is precious to you?‹ we co-develop new products or solutions with and for our customers.«

SVEN SCHULTHEIS
Head of Business Unit Functional Minerals

Targets 2021

6 – 7 %
Growth potential per year

16 – 17 %
EBITDA target margin

Performance

INPUT

2.1 %
R&D spend of sales

463
Raw material procured in CHF m

> 90
Active innovation projects

36
Production sites

2 713
Number of raw materials procured

OUTPUT

1394
Sales in CHF m

8 %
Growth in local currencies

12.8 %
EBITDA margin before exceptional items

2.9[1]
Production volume in m t

People

INPUT

30 232
Training hours

1680
Raw material suppliers

OUTPUT

3 276
Staff in FTE at year end (2016: 3 235)

Planet

INPUT

857[2]
Energy consumption in m kWh

OUTPUT

109[2]
Waste in thousand t

94[2]
Greenhouse gas emissions in kg/t production

Financial capital · Intellectual capital · Manufactured capital · Human capital · Relationship capital · Natural capital

[1] For 2018, the production volume is based on a reduced reporting scope, which includes sites that are responsible for 95 % of total production.

[2] Every three years, Clariant validates environmental data from all production sites. The last full reporting campaign was in 2017. In interim years, including 2018, the reduced reporting scope comprises the larger sites responsible for 95 % of production.

Where
Why
When
Who
What

Occupational Health, Safety, and Well-being

Where Can We Improve Safety Even Further?

Accidents in the chemical industry are few and far between. That's undoubtedly a good thing. But it also means that there is less left to learn from mistakes. Managing ever more complex systems and further increasing safety will require a new way of thinking about risks.

Paul Lieck

As Corporate Safety Director North America at Clariant, Paul works to highlight and control everyday risks in the workplace and uphold safety as a core company value.

Martin Clausen

As Senior Risk Engineer at Zurich Insurance, Martin visits Clariant's chemical sites all over the world to assess risks and further improve safety.

Paul, you're coming up on 37 years of working in environmental safety and health. What's your recipe for safety?
There's not one simple answer to that. I always talk about all the different things that go into it – what we call the elements of safety. You have policies and guidelines at a Group level and then specific procedures at the sites. You need proper training and the appropriate resources. Of course it's about designing our plants so they can be operated safely. But safety also involves ensuring people have the right skills and attitude towards safety, as well as focusing on safe behaviors. All of these elements are critical to our success.

How important is the right attitude in general?
Awareness among employees and commitment from management are crucial elements of safety. I see that with Clariant. And the commitment goes to the very top. Our former CEO has clearly supported safety, and our incoming CEO made it a key part of his message when he introduced himself to us. To me, that's fantastic!

So it's about making safety a priority throughout the company?
I'd go further than that. I see safety as one of our core values. It's okay to talk about safety being a priority, but it has to go beyond being a priority. A rush order that comes in or other factors may momentarily shift your priorities, but not your core values.

What about you personally?
If you asked my wife and my daughters, they would tell you that safety has been a constant theme around our house for many years. Safety at home was already important to me, but became even more important as our daughters grew, especially when they started driving.

Is driver safety an issue for Clariant too?
Absolutely. Our Business Unit Oil & Mining Services (OMS), for instance, places special emphasis on driver safety. OMS employs a significant number of trucks and drivers to deliver our products to customers, even in very remote places. It not only puts our drivers on the road but often on our customers' property. So OMS has implemented a program called »SmartDrive« where driving habits are continually evaluated and improved. Additionally, they've introduced an effort called »Check 6« to focus attention on checking the condition of each vehicle before use.

Let's talk numbers! How many accidents have you seen in 2018?
In 2018, the Lost Time Accident Rate or LTAR is 0.16 for Clariant North America.

What does that mean in absolute numbers?
It means that, with over 2 300 employees working well over 5 million hours annually, we've so far seen a total of four accidents where people had to miss at least a day at work. LTAR is a common indicator by which the industry measures work safety.

Are there others?
We track so-called OSHA reportable incidents where a person might need to get treatment but won't have to miss work. Then there are first-aid incidents – starting with even just a band-aid. And we track near misses or »safety deviations« as we call them, where employees report a potentially hazardous situation they've witnessed. All this gives us data to work with.

What are the data telling you?
What we see is that we've come a very long way in process and work safety. But we have to stay aware of everyday risks. As an example, in 2017, a third of our more significant injuries in North America resulted from slips, trips, and falls. That's nothing specific to the kind of work we do. But it led us to take action, and already we've seen a significant drop in those types of accidents in 2018. Numbers aren't everything, but they help us focus our attention and raise awareness.

What are some of the more creative ways you've seen used to raise awareness?
Our site in Chicago has a great program providing materials that people can take home and even use with their kids. That encourages you to think about safety more broadly. At our site in Phoenix, Arizona, they've named the aisle ways in the plant using street signs like »Safety Way«, »Proper Lifting Lane«, or »No-Lost-Time Boulevard«. That's a new and really innovative way to focus on safety. Awareness is extremely important. Combining this with the other elements of safety is what we have to do to ensure our success in keeping our workplaces safe.

What helps us keep employees healthy and safe?



PAUL LIECK
Corporate Safety Director North America, Clariant

Where should we look to improve safety even further?



MARTIN CLAUSEN
Senior Risk Engineer, Zurich Insurance

Martin, you've just come back from Asia.
What were you doing there?
I visited two of Clariant's large production sites for a risk assessment, one in China and one in Indonesia. Zurich Insurance Group is Clariant's main global insurer for property and supply chain risks. As a risk engineer for Zurich, I personally visit about ten Clariant sites every year. It's important to us that we understand the specific risks our client deals with and help find ways to reduce them.

What kind of risks do you assess and how?
I focus on risks to Clariant's assets as well as their plants and facilities. Risks may involve accidents, fires, natural hazards, and so on that could spell massive losses and potentially interrupt Clariant's supply chain for days or even months. That's why my visits are usually to larger sites that play a critical role in Clariant's supply chain. But occasionally Clariant might specifically ask us to analyze smaller sites, say, if they're taking on assets from someone else.

Is the chemical industry a risky business?
The industry handles substances that can be very dangerous to humans and the environment. And chemical processes can involve large amounts of energy. All this combined can pose huge risks. It's paramount that those risks are mitigated effectively and the industry as a whole does this very well. Tight regulation and oversight also do their part.

Are there regional differences?
Not so much. Particularly with a global company like Clariant, which has very high safety standards and a working safety culture, because they establish the same policies and expectations all over the world. That being said, in my job, I find it especially interesting to see how different cultures go about meeting the same goal. And I think it's important to give teams a certain degree of freedom to do so.

Speaking of goals, the industry as a whole has a record of reducing accident rates further and further. Clariant works towards »zero accidents«. What do you make of that?
Personally, I'm skeptical. A world without accidents is a nice goal to have. A strong focus on ever lower accident rates does help to improve, and we have to learn from what went wrong. But things are more complex from my point of view.

You'll have to explain.
Think of it this way: Do we really understand new risks we're dealing with if we mainly learn from past failures? Systems are becoming ever more complex and interconnected. We need to understand and work on what I call »system resilience«. Rather than focussing on what went wrong, we should be asking why things go right. What makes the system in question stable and safe? I believe in looking at the bigger picture rather than chasing numbers.

Are different aspects of safety connected?
Absolutely. A lapse in process safety can have immediate and drastic consequences on all aspects of safety. A healthy safety culture can't have any blind spots, and laxness in one area usually seeps into others.

What are warning signs when visiting a site?
It literally starts right at the gate. If security is lax, for example, I'm already alert. If the people I'm talking to aren't prepared, I know there's trouble.

You say safety is becoming more complex, but is there still a simple golden rule to safety?
I think there are a few life-saving rules in the working environment that we need to enforce with zero tolerance. I'm thinking also about those little shortcuts we're all attempted to take: Walking a red light, using the phone while driving. That's the kind of unnecessary risk-taking we need to eliminate. I know of cases where people have been fired on the spot because they called into meetings from their phone while driving.

How Plastics & Coatings Creates Value

Through continuous innovation, Plastics & Coatings satisfies the increasing demand for sustainable products while also meeting stricter regulations. By tracking megatrends and engaging with customers, the Business Area develops solutions tailored to each market. Continuous improvements to the supply chain ensure a reliable, steady supply of raw materials, which support the On-Time, In-Full deliveries of finished products that are critical to Clariant's profitability.

1. Creating promising business opportunities from demand for sustainable products and stricter regulations

Plastics & Coatings is increasingly challenged by rising environmental awareness. Customers ask for products that are free of hazardous substances or feature renewable raw materials. In addition, new regulations and toxicological reclassifications regarding ingredients such as biocides and impurities such as heavy metals, amines, and polychlorinated biphenyls (PCBs) are necessitating the development of alternative products. In food packaging, products free of allergens or genetically modified organisms (GMOs) are also being requested. To proactively adapt or develop solutions, Clariant closely monitors legislative developments that could ban or impact the use of critical substances.

Fueled by increasing awareness of the persistence of plastics in the environment, particularly in the oceans, the circular economy is poised to have the largest impact on the plastics industry in recent history. → PAGE 164 In response, bio-based and bio-compostable products are gaining in popularity as potential solutions. Clariant is addressing the persistence of plastics by promoting improved recyclability and usage of biomaterials in its product development cycle. In 2018, Clariant also joined the Plastics Recyclers Europe Association (PRE) as well as the Responsible Packaging Coalition in South East Asia.

Together, increased environmental awareness and the trending circular economy are driving demand for sustainable products and creating opportunities to accelerate product-related innovation and sustainable growth.

001 **PLASTICS & COATINGS**

OVERVIEW

Business Area Plastics & Coatings is comprised of Business Units Additives, Masterbatches, and Pigments. Plastics & Coatings serves markets ranging from packaging, electrical and electronics, consumer goods, medical, textile, transportation, building and construction, as well as agriculture. It delivers to local and regional customers as well as multinationals.

MAIN APPLICATIONS

Business Unit Additives

- Flame Retardants: Patented halogen-free flame retardants provide environmentally compatible protection and pass or comply with demanding fire safety standards
- Performance Additives: Performance additive solutions prevent oxidation, dissipate electric charge accumulation and improve heat, light and weather resistance
- Advanced Surface Solutions: Protect and enhance surfaces in Plastics, Coatings and Inks, Adhesives, Agro and Care sector

Business Unit Masterbatches

- Color and additive concentrate solutions for plastics processing
- Concentrates for functional packaging, medical devices and pharma packaging
- Protection against moisture and oxygen in drug packaging
- Small lot color plastic compounds for the use in automotive, electrical and electronics markets

Business Unit Pigments

- Decorative, industrial, and automotive coatings
- Coloration of plastic applications
- Applications for conventional printing inks, inkjet inks, and electrophotographic toners
- Special applications for e.g., home and personal care, aluminum, seed coatings, stationery, viscose, latex and leather

In addition, a globally growing middle class and the advance of the Internet of Things further support sales growth. For example, as demand for electronic devices for smarter homes and smarter cars rises, so does demand for safe flame retardants.

IDEA TO MARKET

2. Innovating for a sustainable future

In 2018, Business Unit Additives made strong progress in transforming to a more market-driven organization by advancing innovation and sustainability collaborations with its customers. This was supported by intense technical consultation and development to address new technical requirements in markets affected by digitalization, such as solutions for smarter homes, smarter cars, and mobility. Additives increased its offering of EcoTain® products to 32 → **PAGE 122** and expanded partnerships for more sustainable value chains. One example is the introduction of Licocare® RBW, a high-performing lubricant, which is based on a renewable and non-food-competing by-product of the rice oil production. Another example is the partnership with Neste, which will result in further possibilities to produce additives based on renewable materials. The Business Unit also engaged in the development of new additives to substitute for persistent, bio-accumulating, and toxic substances (PBT). Clariant's flame retardant product portfolio, already known for being halogen-free, was further strengthened by improving processability, durability, and electrical properties. Future developments will enable highly efficient recycling processes that align with goals of the circular economy.

In 2018, Business Unit Masterbatches placed sustainability at the core of its innovation activities and entered a collaboration with »We are Spindye«, a company that colors textiles by dyeing yarn prior to weaving rather than bathing finished products in color dye. Its innovative process greatly reduces water usage, water contamination, and energy consumption, making it an effective alternative to conventional dyeing and a promising pathway for the textile industry to reduce its environmental footprint. Another major innovation project for this Business Unit was the development of oxygen barrier technologies for polyethylene terephthalate (PET) and polyolefins, both of which are used in food packaging. The technology is expected to prolong shelf life of packaged products and reduce food waste.

Business Unit Pigments focused its innovation activities on increasing product safety and adapting to regulatory changes. In addition, to improve the cost structure of the product portfolio, the Business Unit investigated process innovation and examined technologies such as micro reactors and process automation. This supports growth targets, while simultaneously increasing sustainability of products and production processes.

MARKET TO CUSTOMER

3. Launching products successfully

In 2018, Business Unit Additives launched the flame retardant Exolit® OP 945, a micronized version suited for adhesive layers used, for example, in the electronics sector. Due to miniaturization of electronic equipment, these layers have become ever thinner requiring that flame retardants adapt in size as well. Another launch was the 100 % polymer adhesive Licocene® PP

2502 for mattress construction, which enabled the production of the first EcoTain®-labeled mattresses. Licocene® PP 2502 is purer, less energy-consuming, and can be based on renewable monomers – clear advantages when comparing the product with conventional alternatives. Several new solutions were launched under the AddWorks® brand, for example, AddWorks® PKG 906, which enhances post-manufacturing waste recycling in polyolefin films for packaging.

In order to increase and simplify plastics recycling, Business Unit Masterbatches successfully developed a **near-infrared (NIR)** transparent black color, which enhances sorting of black plastic articles in recycling plants. Black-colored articles typically blind the NIR detectors, potentially contaminating waste streams. This breakthrough solution helps to solve this problem.

Near-infrared (NIR)

NIR spectroscopy is used in plastics recycling. Typically, black colored plastic blocks NIR and thus hinders the recycling process. Clariant developed a NIR-transparent black color to avoid this problem.

Business Unit Pigments worked on reformulating pigment preparation ranges. Tangible outcomes include future-oriented formulations of Colanyl® 500, Hostatint™ 500, and Hostafine® pigment preparations for decorative and wood coatings, meeting the latest and upcoming environmental and application requirements. In Latin America, new tailor-made Agrocer preparations for seed coloration were launched to fulfill the unmet customer need regarding technical performance and batch-to-batch quality consistency.

4. Engaging with customers

Gaining insights into customer demands and expectations is paramount to business success. To acknowledge the importance of marketing and customer relations, the new Leading Marketing Organization (LMO) has been implemented within Business Area Plastics & Coatings. The LMO strengthens business segment focus with commercial and technical marketing. → PAGE 49

In 2018, Business Unit Additives further strengthened its go-to-market organization by widening its portfolio as well as its technical and marketing capabilities. This resulted in several customer collaborations for joint innovation or sustainability projects. Particularly through collaborations with specifiers along distinctive value chains, new insights were shared and initiatives started in order to find answers to future challenges.

In 2018, Business Unit Masterbatches attended several industry-specific fairs in order to strengthen customer relationships and enable experience of new products, and hosted customer days in various countries. Customer feedback solicited through the Clariant 2018 customer survey will also help to continuously improve and tailor solutions to customer needs.

Business Unit Pigments focused on the introduction of the LMO and strategic key account management process in 2018. Both will lead to a better understanding of market trends and demands, resulting in more collaborative projects with customers. In addition, Business Unit Pigments offered technical training to its customers' new staff, for which demand was high.

The 2018 customer satisfaction survey underscored the importance of »Technical Services«, which were rated as the second most important buying criterion, right after »Products and Packaging«. For the latter, Plastics & Coatings maintained its high **satisfaction score** of 83 points (2016: 83), while the score for »Technical Services« decreased slightly to 75 points (2016: 77). Overall customer satisfaction reached 76 points (2016: 78), while the Customer Loyalty Index scored 80 points (2016: 84).

CUSTOMER TO CASH

5. Securing raw material availability

Having a safe and reliable supply chain is crucial for a seamless Customer to Cash process. → PAGE 51 In 2018, a supplier dashboard that collects and updates relevant information was introduced, enabling rapid screening of factors such as price, lead time, environmental performance indicators, and, if existing, possible connections to indicators of child labor and conflict minerals.

»We increased our market insight and customer intimacy with strong value propositions along sustainability and innovation as well as intense value chain collaborations.«

WOLFGANG WANZKE
Sustainability Manager Business Unit Additives

Availability of raw materials and intermediate products posed a challenge to Plastics & Coatings in 2018. Stricter environmental regulations in producing countries, such as China and India, as well as several forces majeures led to supply shortages, impacting Clariant's ability to ensure supply security to customers. In order to increase flexibility, Plastics & Coatings implemented several countermeasures. For example, sourcing strategies were expanded to include multiple suppliers for the most important raw materials and de-specification of raw materials was advanced, enabling Plastics & Coatings to use alternative feedstock for some products and reduce dependence on other raw materials.

6. Increasing reliability of the operational chain
Market dynamics require continuous improvement of the operational chain as well as reductions in delivery time. Plastics & Coatings worked on several measures in 2018 to advance these topics.

Business Unit Additives invested in expansions of existing plants as well as the commissioning of two new plants in China. Supply chain upgrades included capability building and process enhancements regarding planning, logistics, and communication. In addition, new digital tools were evaluated to improve processing and information flow.

Business Unit Masterbatches started a project to evaluate the possibility for customers to place and track orders online, which will enable customers to receive regular, real-time updates on the order status.

Business Unit Pigments initiated project »Clockwork« in order to improve effectiveness and efficiency of the end-to-end supply chain, which will lead to optimized transparency, reliability, and predictability as well as improved inventory levels and lead times.

7. Ensuring safe operations
Plastics & Coatings is committed to protecting employee safety, health, and well-being and aspires to the company-wide goal of zero accidents. Within the Avoiding Accidents program, managers and employees are trained to optimize safety behavior and culture to reduce accidents that cannot be eliminated technically. → PAGE 140

83

Plastics & Coatings maintained a high satisfaction score of 83 points in the category »Products and Packaging« of the customer satisfaction survey 2018.

»The key challenge is that the industry needs to connect along the value chain to develop tangible solutions adressing various circular economy topics.«

JOCHEN AHRENS
Head of Global Marketing & Innovation Business Unit Masterbatches

Business Unit Additives has intensified its awareness program with behavioral training, safety checks, and accident avoidance projects. By implementing and providing management support for a stringent safety focus in all plants, Business Unit Masterbatches significantly improved safety performance in recent years, which shows in the stark decline of the Lost Time Accident Rate (LTAR) of 4.6 in 2008 to 0.11 in 2018. In the future, local, regional, and global standards will be harmonized in order to apply the strictest safety regulations across all operations. Business Unit Pigments implemented site-specific programs to improve overall accident and incident rates, e.g., physical exercises to improve overall fitness and body awareness in Suzano, Brazil, and Shizuoka, Japan, or awareness trainings regarding walking, ascending and descending stairs, stumbling in Höchst, Germany, near miss recording, analysis and deduction of specific measures in all sites. Additional refresher training such as the Clariant Safe Behavior Training (CSBT) as well as Safety Moments at the beginning of each meeting and the Avoiding Accidents at Clariant Program further raise awareness among employees.

8. Improving environmental performance
Plastics & Coatings is focused on achieving Clariant's Environmental, Safety and Health (ESH) targets.
→ **PAGE 160** Production processes and workflows are constantly reviewed and optimized for improved environmental performance.

All European facilities of Business Unit Additives are certified with the Energy Management system ISO 50001. Plants to be commissioned and built outside of Europe will be certified in due course. Specially trained energy managers drive energy efficiency enhancement projects, waste avoidance, closed-loop manufacturing, and carbon footprint reduction.

Business Unit Masterbatches applies three layers of environmental protection. First, strict compliance with all local regulations, laws, and permits of the production sites is ensured. Second, Clariant's ESHA guidelines, which typically go beyond local regulations, are followed at all sites. Third, all production sites operate along ISO 9001/14001 standards.

Within Business Unit Pigments, numerous projects to save energy, reduce waste, and use chemicals in a more efficient and sustainable way are being conducted. These projects are part of Clariant's long-term oriented excellence programs such as the Production System Yield, Energy, Environment (YEE) and Clariant Production System (CPS).

Targets 2021

≙ global GDP

Growth potential per year

steered for absolute EBITDA and cash flow generation

Performance

INPUT

1.4 %
R&D spend of sales

1149
Raw material procured in CHF m

>105
Active innovation projects

62
Production sites

15 305
Number of raw materials procured

OUTPUT

2 703
Sales in CHF m

1 %
Growth in local currencies

15.2 %
EBITDA margin before exceptional items

0.36[1]
Production volume in m t

People

INPUT

28 459
Training hours

4 746
Raw material suppliers

OUTPUT

6 793
Staff in FTE at year end (2017: 6 759)

Planet

INPUT

952[2]
Energy consumption in m kWh

OUTPUT

48[2]
Waste in thousand t

774[2]
Greenhouse gas emissions in kg/t production

Financial capital · Intellectual capital · Manufactured capital · Human capital · Relationship capital · Natural capital

[1] For 2018, the production volume is based on a reduced reporting scope, which includes sites that are responsible for 95 % of total production.

[2] Every three years, Clariant validates environmental data from all production sites. The last full reporting campaign was in 2017. In interim years, including 2018, the reduced reporting scope comprises the larger sites responsible for 95 % of production.

Where

Why

When

Who

What

Product Stewardship/Sustainable Chemistry

Why Does It Pay to Focus on Sustainability?

Sustainability is a pillar of Clariant's business strategy. Substantiating and quantifying claims about how a certain product helps customers perform more sustainably is a key. It's not always straighforward, however. With EcoTain®, Clariant has taken out the guess work. Not only about the environmental and social benefits of products, but also their economic impact and the shift in customer demand.

Lynette Chung

As Head of Corporate Sustainability Strategy & Advocacy at Clariant, Lynette helps businesses better promote and market sustainable products.

Isolde Bachert

As Head of Research & Development at Follmann, Isolde works on ways to measure and promote sustainability benefits across Follmann’s portfolio.

Lynette, how would you describe EcoTain® to the uninitiated?
The short answer: It's Clariant's brand for products and solutions that have outstanding sustainability advantages, don't compromise on performance, and benefit customers, the value chain, and society as a whole.

What's the long answer?
EcoTain® is a way to distinguish our sustainability offering from the mainstream. It sets an ambitious benchmark for our aspirations. Each product carrying the EcoTain® label has undergone a systematic, in-depth screening process using 36 criteria, which consider the overall product life cycle and value chain. The criteria are forward looking, developed and tested with customers, NGOs and other stakeholder groups, establishing a solid approach. Only exceptional products that significantly exceed market standards, with a best-in-class performance in one or several of the 36 criteria, are awarded the EcoTain® label by the corporate EcoTain® panel that scrutinizes each application.

EcoTain® as a company-wide label was born in 2015. Why does it make sense to have a universal set of criteria across so many different products and markets?
It helps to have a common understanding of what sustainability really means at the product level in the company. There are always broad claims in every market about what is a sustainable solution and what isn't. Using the same criteria across the board lets us validate and quantify our claims. This is very important in order to have a strong, credible brand that customers but also we ourselves can relate to. That's something our Business Units appreciate.

Has this common understanding changed the discussion about sustainability within the company?
It has. Our Business Units and their markets face different requirements and challenges. But lately, we've seen an overall shift that's not just due to our corporate focus on sustainability – it is more business- and market-driven. Having a sustainability brand, ensures visibility of our efforts in the market place. Internally, it drives progress as it also creates internal competition. Our Business Units take pride in having an EcoTain® portfolio and growing it. We now also systematically use our sustainability criteria in screening major Research & Development projects.

How many products carry the EcoTain® label?
As we speak, we have 193 EcoTain® products. EcoTain® products exist in all of our Business Units.

Do you track how well EcoTain® products are doing economically?
Absolutely! That's one of the big questions. What kind of value are they adding – apart from, of course, the environmental and societal contribution?

And what are you seeing?
Sales in our EcoTain® products overall are growing significantly faster than the rest of our portfolio, at a double-digit growth rate, which is excellent. In addition, margins for EcoTain® products are typically stronger. The higher growth rates and profitability clearly demonstrate the business case for sustainability.

What does that tell you?
It tells us that markets really are shifting towards more sustainable solutions. And we have an opportunity to use sustainability as a driver for innovation and in marketing.

Were there doubts about that?
Maybe not doubts. We all believe that markets are shifting and are increasingly sensitive to sustainability, but having done this exercise and having actual proof of how it's affecting our bottom line is very rewarding and convincing.

Have you seen other kinds of recognition?
We've received a few awards and great feedback on our approach from stakeholders, such as NGOs, policy-makers, and peers. The greatest and most recent recognition comes from some customers that have asked to highlight the EcoTain® ingredients in their own products with the EcoTain® label. This is tremendous! But I think we're still not quite where we want to be. There's still some way to go in promoting EcoTain®, advocating change, policy and market shifts to bring more customers and markets with us on our sustainability journey.

Who benefits from labeling sustainable products?



LYNETTE CHUNG
Head of Sustainability Strategy & Advocacy, Clariant

What helps to market sustainability?



ISOLDE BACHERT
Director Research & Development, Follmann

Isolde, you manage Research & Development at Follmann. What's your relationship to Clariant as a supplier?
They supply some of our most essential materials, but not only that. We've come to value them for their innovative products and the way we work together on a technical level. It's a great partnership – one that we're expanding.

You're talking about plans to jointly promote the Clariant EcoTain® label. What's the idea behind that?
Sustainability has been a defining trend for us and our industry for some time. But recently, what our customers ask from us has become a lot more specific. Delivering quantifiable benefits in terms of sustainability now is a big selling point for us. That's something the EcoTain® label helps us with.

Who is driving this trend?
Consumers are the driving force. Follmann specializes in printing inks, coatings, and adhesives. So while consumers aren't our direct customers, we deal with consumer goods companies, the packaging industry, and furniture manufacturers. Printing and bookbinding are also big markets for our inks and adhesives. All these industries face a certain amount of consumer pressure in terms of sustainability. Initially, that was all about energy consumption and CO_2 emissions, but companies are increasingly taking other factors into account. Many companies made big commitments to using only renewable materials.

How big is that impact though, when there's just so little ink on a piece of packaging?
It might be small in comparison, but it adds up. Take our water-based inks. They replace the need for organic solvents. That way the drying process doesn't emit organic compounds that you'd have to collect and burn off. There were times when nobody cared too much whether that added a little to the overall carbon footprint. Those times are over.

EcoTain® uses a methodology to quantify these kinds of benefits. What's special about that?
Clariant was the first supplier to come to us with the idea. I like that they use a wide range of criteria that are near and dear to our customers. Also, EcoTain® doesn't just look at a product by itself. Instead, it analyzes the specific application and how that measures up to common alternatives. That helps make a convincing argument for our solution. Additionally, applying that same methodology across our whole portfolio helps us see which products are set to do well and which might face problems when regulations or customer demands intensify.

What are some of your products that carry the EcoTain® label?
One is a glue that's used in book binding. Its main ingredient is an EcoTain® product that's based on renewable materials. Another product like this goes into glues for cardboard packaging.

And does Follmann plan to further apply the EcoTain® methodology?
The first step is to look for products that rely or could rely on EcoTain® materials. But then we expand this view and look to apply the same criteria to other products and ingredients. In the end, we'll want to quantify how well our products address what is most important to our customers – be it renewable materials, CO_2 reduction, energy savings, water use, or whatever. That goes for our current portfolio as well as innovation, whenever we're evaluating if an R&D project is worth pursuing.

Will you be making use of the EcoTain® methodology with other suppliers?
Absolutely. But that's along the lines of what we're seeing already. Our customers ask more and more detailed questions about what goes into our products. A supplier that can't or won't help us answer those questions won't be a supplier for long.

Multicapital

Review

Organized along Clariant’s brand values Performance, People, and Planet, the »Multi-capital review« presents Clariant’s progress during the reporting year on the topics deemed material for the company’s long-term business success. Key performance indicators covering economic, social, and environmental topics are explained and discussed.

106 Performance
128 Two Perspectives: Who Shapes New Digital Business Models?
134 People
152 Two Perspectives: What Will Our Customers Expect from Us Tomorrow?
158 Planet
166 Two Perspectives: Where Can Chemistry Help Close the Plastics Loop?

By drawing on a multitude of tangible and intangible, financial and non-financial resources, Clariant creates value for all its stakeholders. Six different capitals – financial, intellectual, manufactured, human, relationship, and natural – are all considered in balancing business performance, social interests, and environmental stewardship. Clariant categorizes the six capitals under the brand values Performance, People, and Planet.

Performance

Within Performance, Clariant combines financial, intellectual, and manufactured capital. In addition to financial performance, progress is outlined on the topics of innovation and technological advances, digitalization, product stewardship and sustainable chemistry, procurement, and production.

People

Within People, Clariant combines human and relationship capital. Employee-related topics such as talent attraction and development, employee engagement, and occupational health, safety, and well-being are grouped under human capital. The topics regarding customers, policy-makers, suppliers, and society at large are discussed within relationship capital.

Planet

Within Planet, Clariant reports on natural capital. This includes the progress Clariant made on its ambitious environmental targets and on topics related to environmental stewardship, such as safeguarding resources, mitigating climate change, and promoting the transition to a circular economy.

Performance

Performance – Clariant's first brand value – encompasses value creation regarding financial, intellectual, and manufactured capital. By reporting achievements in the fields of innovation and technological advances, digitalization, product stewardship and sustainable chemistry, procurement, and production, Clariant broadens its review of results beyond financial performance, underscoring its holistic understanding of value creation.

1. Financial Capital

In 2018, Clariant increased its sales, profitability, and operating cash flow, thus achieving higher sales and profitability levels, in line with the Group's positive outlook.

GRI

GRI Online Report

Management Approach
Growth and Profitability
reports.clariant.com/2018/gri

1.1. Business performance summary for 2018

Clariant reported Group sales of CHF 6 623 million in 2018 compared to CHF 6 377 million in 2017. This corresponds to 5 % growth in local currency and 4 % growth in Swiss francs, which was supported by both higher volumes and pricing. The 5 % organic growth in local currency was supported by positive contributions from all Business Areas.

All regions contributed to the sales growth in local currency. The expansion was most pronounced in Latin America. Sales in Asia also increased, bolstered by a particularly positive development in China and India. Sales in North America continued to grow despite the strong expansion during the same time period in 2017. In Europe and the Middle East & Africa, sales advanced in single digits. A slowdown was observed in some markets in the last quarter.

The EBITDA before exceptional items rose by 5 % in Swiss francs and reached CHF 1 018 million, compared to CHF 974 million in the previous year. The corresponding EBITDA margin before exceptional items advanced to 15.4 %. The profitability improvement was attributable to the positive growth in Care Chemicals and Catalysis.

In 2018, operating cash flow increased significantly by 24 % to CHF 530 million from CHF 428 million in the prior year. This increase is due to the improved absolute EBITDA and net working capital management.

1.2. Profit and financial situation

KEY FIGURES in CHF m

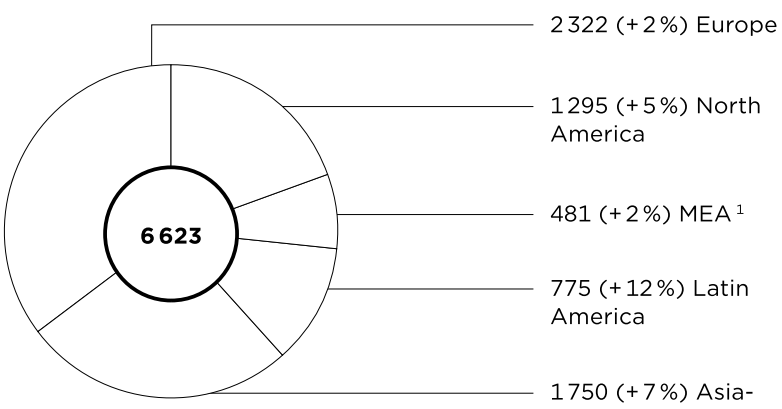
	2018	2017	Change in %
Sales	**6 623**	6 377	4
Gross profit on sales	**1 933**	1 902	2
EBITDA [1]	**1 018**	974	5
EBITDA margin [1] (%)	**15.4**	15.3	–
EBITDA [2]	**871**	813	7
EBITDA margin [2] (%)	**13.2**	12.7	–
EBIT [1]	**693**	673	3
EBIT Margin [1] (%)	**10.5**	10.6	–
EBIT	**546**	496	10
Income before taxes	**465**	437	6
Net income	**356**	302	18
Basic earnings per share (CHF/share)	**1.02**	0.84	21
Adjusted earnings per share	**1.50**	1.47	2

[1] before exceptional items
[2] after exceptional items

1.2.1. Continued sales growth attributable to all Business Areas

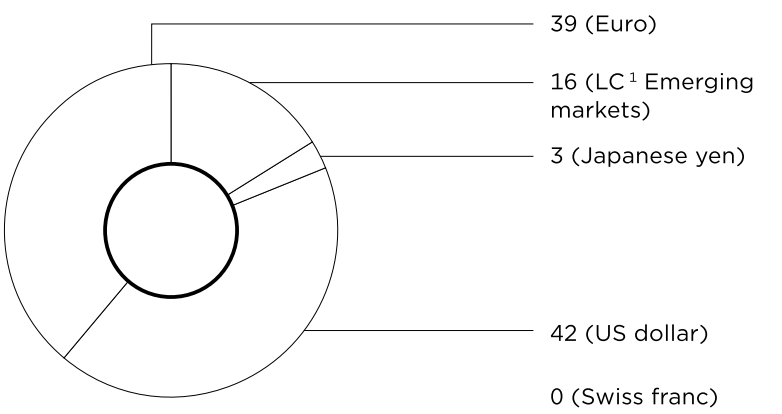
In 2018, Group sales rose by 5 % in local currency and 4 % in Swiss francs against the previous year to CHF 6 623 million (2017: CHF 6 377 million). The impact of the full consolidation of the joint venture in India as of 1 April 2017 only had an impact in the first quarter of 2018. The organic sales growth persisted at a high level throughout the entire year driven by increases in all Business Areas. Sales were driven by 2 % volume growth and by a 3 % price increase. Organic sales increased by a strong 5 % in local currency for the year.

001 **SALES BY REGION** in CHF m



1 Middle East & Africa

002 **COST STRUCTURE BY CURRENCIES 2018** in %



1 LC = Local currency

SALES BY BUSINESS AREA in CHF m

	2018	2017	Change in %	Change in LC 1 in %
Care Chemicals	**1 665**	1 575	6	7
Catalysis	**861**	767	12	11
Natural Resources	**1 394**	1 357	3	8
Plastics & Coatings	**2 703**	2 678	1	1
Group Total	**6 623**	**6 377**	**4**	**5**

1 LC = Local currency

1.2.1.1. Sales progression driven by all Business Areas

Sales in the Business Area Care Chemicals improved by 7 % in local currency (6 % in Swiss francs). The notable sales development was supported by both the Consumer Care and the Industrial Applications businesses. In Catalysis, sales grew by 11 % in local currency (12 % in Swiss francs), with an excellent organic sales expansion of 8 % in local currency. This improvement was driven, in particular, by higher Syngas demand. Natural Resources sales advanced by 8 % in local currency (3 % in Swiss francs). The Oil & Mining Services business exhibited double-digit sales growth in local currency, despite the continuingly challenging market trend in the oil business. Sales in Functional Minerals continued to grow solidly at a single-digit rate in local currency. In Plastics & Coatings, sales expanded by 1 % in local currency (1 % in Swiss francs), against a very strong comparable base.

15.4

Clariant's EBITDA margin before exceptional items rose to 15.4 %.

1.2.1.2. Positive absolute EBITDA momentum continues in 2018

Clariant's gross margin softened slightly from 29.8 % in 2017 to 29.2 % in 2018. This development is largely the result of a less favorable product mix.

The EBITDA before exceptional items rose by 5 % in Swiss francs and reached CHF 1 018 million compared to CHF 974 million in the previous year. The corresponding **EBITDA margin** before exceptional items rose by 10 basis points from 15.3 % to 15.4 %.

The increase in absolute EBITDA before exceptional items reflects the enhanced profitability in most Business Areas, with the most pronounced improvement in Care Chemicals at 9 % in Swiss francs and 6 % in Plastics & Coatings. In Catalysis, EBITDA before exceptional items increased by 1 % in Swiss francs while in Natural Resources the absolute profitability was 14 % lower.

EBITDA[1] BY BUSINESS AREA in CHF m

	2018	2017	Change in %
Care Chemicals	**316**	290	9
Catalysis	**199**	198	1
Natural Resources	**179**	207	– 14
Plastics & Coatings	**412**	388	6
Group Total[2]	**1 018**	**974**	**5**

[1] before exceptional items
[2] includes corporate costs of CHF 88 m in 2018 and CHF 109 m in 2017

The improvement in the EBITDA margin before exceptional items was primarily attributable to higher profitability in Care Chemicals, reflecting the top-line sales improvement, operating leverage, and an improved product mix. In Plastics & Coatings, the favorable progression was mainly attributable to Additives and Masterbatches and some income from Stahl. As anticipated, the slightly lower EBITDA margin before exceptional items in Catalysis was due to the change in product mix. The EBITDA margin decline in Natural Resources largely resulted from the unabated price consciousness of the oil market throughout the year as well as a lower contribution from Functional Minerals' Purification business compared to the previous year.

EBITDA[1] MARGIN BY BUSINESS AREA in %

	2018	2017
Care Chemicals	**19.0**	18.4
Catalysis	**23.1**	25.8
Natural Resources	**12.8**	15.3
Plastics & Coatings	**15.2**	14.5
Group Total	**15.4**	**15.3**

[1] before exceptional items

Clariant's exceptional items in 2018 amounted to CHF 147 million (2017: CHF 161 million). Restructuring, impairment, and transaction related costs (CHF 93 million) include costs for efficiency programs that were initiated to further streamline business processes (CHF 14 million), and transaction related costs (CHF 79 million). Exceptional items also include a loss from the disposal of activities (CHF 54 million).

In 2018, the operating income (EBIT) increased to CHF 546 million (2017: CHF 496 million) as a result of the Group's improved profitability but also due to lower exceptional items.

Income before taxes increased to CHF 465 million (2017: CHF 437 million) and the net income after taxes rose by 18 % to CHF 356 million (2017: CHF 302 million), supported by the continued expansion in absolute EBITDA as well as lower one-off costs and a lower effective tax rate.

With regard to the performance in 2018, Clariant's Board of Directors has decided to propose an increased distribution of CHF 0.55 per share for 2018 to the general assembly. The corresponding proposal will be presented at the 24th Annual General Meeting on 1 April 2019.

1.2.1.3. Continued solid balance sheet

As of 31 December 2018, total assets decreased to CHF 7 981 million from CHF 8 229 million at the end of 2017 mainly due to the decrease in current assets driven by lower trade receivables.

Net debt decreased to CHF 1 374 million at the end of December 2018, compared to CHF 1 539 million at the end of 2017. This figure includes current and non-current financial debts, cash and cash equivalents, short-term deposits, and financial instruments with positive fair values reported under other current assets.

1.2.1.4. Long-term structured maturity profile secures solid liquidity structure

In the year 2018, Clariant's financing structure persisted at a very sound level. The Group maintains a broadly diversified maturity structure of financial liabilities with a long-term focus reaching until 2028. This funding has been secured at favorable terms.

Current financial debts decreased to CHF 529 million at the end of December 2018 from CHF 567 million at the end of December 2017.

On 25 September 2018, four certificates of indebtedness were issued with a total amount of EUR 265 million (CHF 300 million).

1.2.1.5. Operating cash flow boosted by working capital development and lower one-off costs

Cash flow before changes in net working capital rose to CHF 802 million from CHF 759 million in the previous year.

Changes in net working capital, including provisions, amounted to CHF – 55 million in 2018 (2017: CHF – 230 million). The ratio of net working capital to sales decreased from 20.1 % to 17.3 %.

Cash flow from operating activities increased to CHF 530 million compared to CHF 428 million in the previous year due to the improved absolute EBITDA and net working capital management.

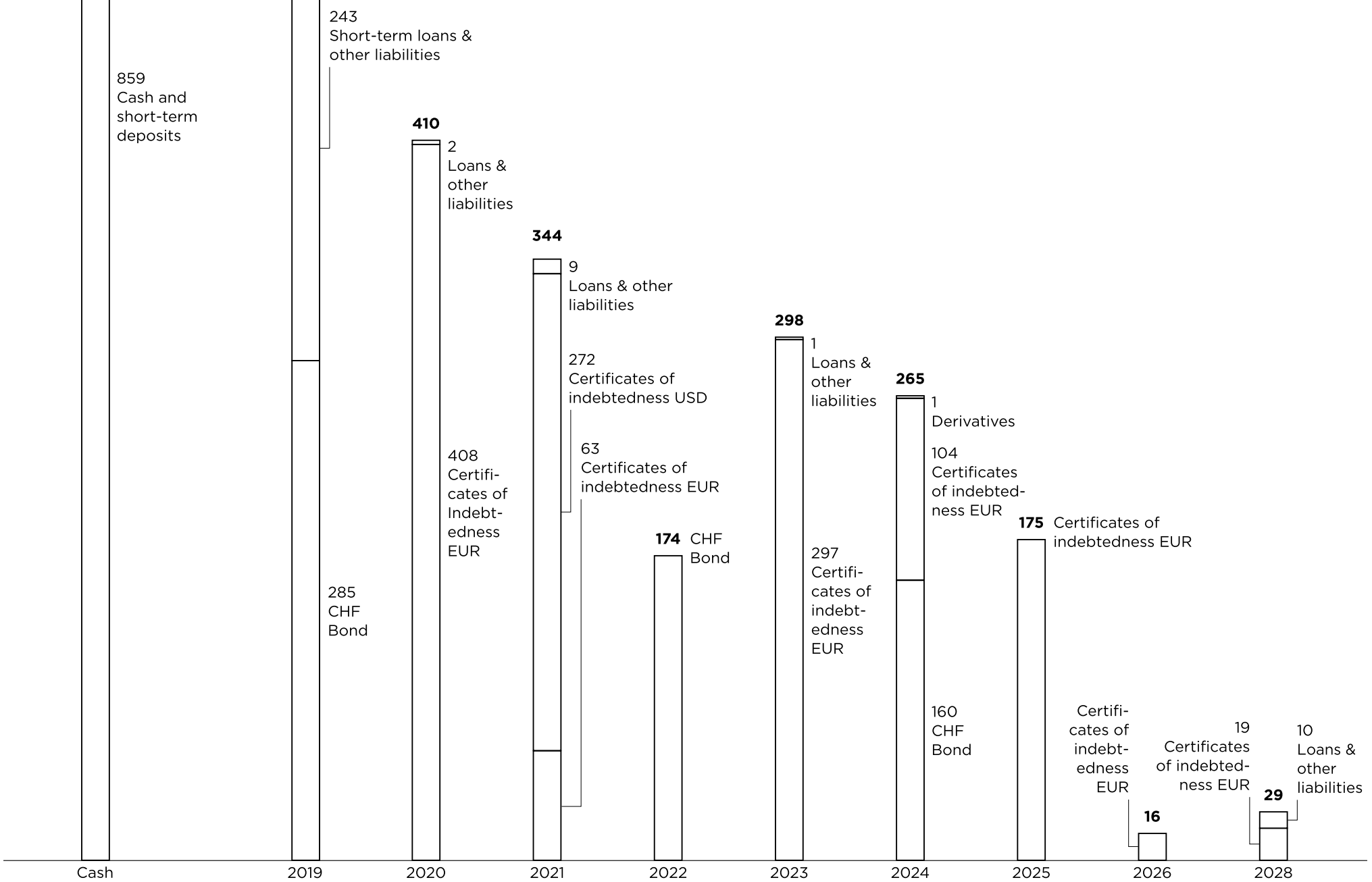
Operating cash flow

Cash flow from operating activities increased to CHF 530 million.

003 **DEBT MATURITY PROFILE PER 31 DECEMBER 2018** in CHF m

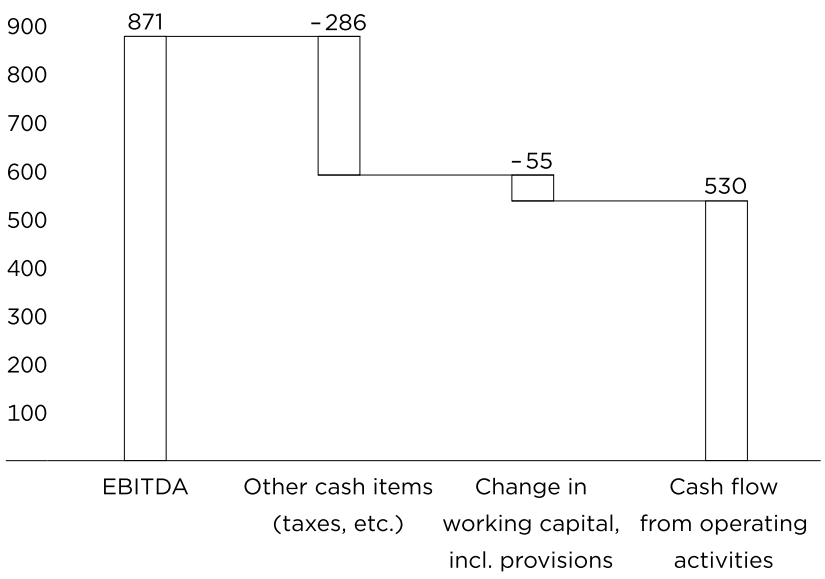
Liquidity Headroom

Maturities of Financial Debt



[1] Financial instruments with positive fair values reported under other current assets

004 **CASH FLOW 2018** in CHF m



Cash flow from investing activities declined to CHF – 132 million (2017: CHF 65 million). There were no notable acquisitions in 2018 or 2017 and capital expenditures decreased to CHF 237 million (2017: CHF 248 million). Free cash flow, which equates to operating cash flow after capital expenditures and investments in intangible assets, increased to CHF 273 million (2017: CHF 149 million).

Net cash flow after investing and financing activities was positive by CHF 132 million (2017: CHF – 342 million). This allowed to further reduce the net debt of the Group.

EXTRACT OF CASH FLOW STATEMENT in CHF m

	31.12.2018	31.12.2017
Net Income	**356**	**302**
Reversals of non-cash items	**438**	452
Cash flow before changes in net working capital and provisions	**802**	759
Operating cash flow	**530**	**428**
Cash flow from investing activities	**– 132**	65
Cash flow from financing activities	**– 246**	– 826
Net change in cash and cash equivalents	**132**	**– 342**
Cash and cash equivalents at the beginning of the period	**701**	**1 043**
Cash and cash equivalents at the end of the period	**833**	**701**

1.2.2. Business Areas

1.2.2.1. Care Chemicals

CARE CHEMICALS KEY FIGURES in CHF m

	2018	2017
Sales	**1 665**	1 575
EBITDA before exceptional items	**316**	290
Margin (%)	**19.0**	18.4
EBIT before exceptional items	**253**	230
Margin (%)	**15.2**	14.6
Full time equivalent (FTE)	**2 541**	2 582

Care Chemicals sales grew by 7 % in local currency and 6 % in Swiss francs. Both Consumer Care and Industrial Applications delivered solid growth, which was supported by positive contributions from all three Consumer Care Business Lines and most Industrial Applications businesses.

Most regions achieved good sales growth in local currency with North America and Asia advancing at double-digit rates, Latin America and Europe in single digits. Sales in the Middle East & Africa, the smallest region, reflected a negative growth.

The EBITDA margin before exceptional items increased to 19.0 % from 18.4 % in 2017 primarily as a result of the good top-line growth, operational leverage, and an improved favorable product mix.

Consumers are increasingly looking for personalized products based on natural ingredients. Clariant's Genadvance® range of forward-looking hair care technologies consists of three silicon-free hair conditioning ingredients each targeting different hair issues: Genadvance® Life – for thin hair, Genadvance® Repair – for damaged hair, and Genadvance® Hydra – for dry hair. Genadvance® Hydra, e.g., is based on an entirely naturally derived, ethically sourced ingredient, that is biodegradable 2 – 3 times faster than traditional products. This product thus not only meets the market's rising focus on naturality as well as safety and health, but also the demand for more recyclable, sustainable application formats and products made from renewable sources, while not compromising, and in some cases even improving, the performance.

1.2.2.2. Catalysis

CATALYSIS KEY FIGURES in CHF m

	2018	2017
Sales	**861**	767
EBITDA before exceptional items	**199**	198
Margin (%)	**23.1**	25.8
EBIT before exceptional items	**125**	135
Margin (%)	**14.5**	17.6
Full time equivalent (FTE)	**2 061**	1 970

In 2018, sales in Catalysis rose by 11 % in local currency and 12 % in Swiss francs. The strong organic sales expansion of 8 % in local currency was primarily attributable to Syngas but also due to good progression in Specialty Catalysts.

The solid sales development benefited from good demand in Asia, the Middle East & Africa, and Latin America while sales in Europe and North America remained comparatively volatile throughout the year.

The EBITDA margin before exceptional items decreased to 23.1 % from 25.8 % in 2017 mainly as a reflection of the product mix, which remained largely unchanged throughout the year. The proportionally higher sales from Syngas compared to last year and the ramp-up in Biofuels & Derivatives had a dampening effect on the margin.

Clariant offers a process to remove high levels of NO_x from the air with its EnviCat® NO_x SCR catalyst. NO_x is the product of fossil fuel combustion and industrial processes. It also contributes to the formation of smog, ground level ozone, acid rain, and other hazards. Air purification catalysts such as EnviCat® therefore meet the market's rising focus on safety and health. Furthermore, Clariant's emphasis on resource efficiency and sustainability in tandem with future regulations is reflected in the progress made on the construction of the first large-scale commercial sunliquid® plant in Romania for the production of cellulosic ethanol.

1.2.2.3. Natural Resources

NATURAL RESOURCES KEY FIGURES in CHF m

	2018	2017
Sales	**1 394**	1 357
EBITDA before exceptional items	**179**	207
Margin (%)	**12.8**	15.3
EBIT before exceptional items	**118**	148
Margin (%)	**8.5**	10.9
Full time equivalent (FTE)	**3 276**	3 454

Sales in Natural Resources increased by 8 % in local currency and by 3 % in Swiss francs.

The Oil & Mining Services business exhibited double-digit sales growth in local currency in a slowly improving environment. Sales in Functional Minerals grew at a single-digit rate in local currency, primarily driven by the Foundry business.

In 2018, the EBITDA margin before exceptional items declined to 12.8 % year-on-year. This largely resulted from the persistent price consciousness of the oil market as well as a lower contribution from Functional Minerals' Purification business compared to the previous year.

The Oil & Mining Services activities address the increasing requirement for intelligent electronics with the VERITRAX™ real-time chemical management system. VERITRAX™ turns data into actionable information that is key to maintaining production and improving operational efficiency and reliability. Functional Minerals' Purification business for edible oils addresses the nutritional demand linked to the growing population and higher standards of living, while the low emissions technology for the foundry industry focuses on and anticipates the intensification of regulations and sustainability.

1.2.2.4. Plastics & Coatings

PLASTICS & COATINGS KEY FIGURES in CHF m

	2018	2017
Sales	**2 703**	2 678
EBITDA before exceptional items	**412**	388
Margin (%)	**15.2**	14.5
EBIT before exceptional items	**332**	310
Margin (%)	**12.3**	11.6
Full time equivalent (FTE)	**6 793**	6 759

The Plastics & Coatings Business Area increased sales by 1 % in local currency and in Swiss francs in 2018.

In Masterbatches, the sales growth in local currency was underpinned by increased demand in Latin America and Asia. Sales increased mainly in Consumer Goods and Automotive. Moreover, Healthcare Packaging also reported an attractive sales development in 2018. Sales in Pigments remained flat, but still grew in Latin America and Asia driven by China and Japan. On a Business Line level, Coatings and Plastics reported continued sales growth. Additives sales remained very strong, supported by all Business Lines and also by solid demand in almost all regions, North America, China, and Europe in particular.

412

EBITDA before exceptional items in the Business Area Plastics & Coatings rose by 6 % to CHF 412 million.

The **EBITDA** before exceptional items in absolute value rose by 6 % in Swiss francs to CHF 412 million despite a strong previous year. The profitability improvement was primarily attributable to Additives and Masterbatches and some income from Stahl.

Additives develops products such as halogen-free flame retardants, which are patented and provide environmentally compatible protection compliant with the demanding fire safety standards. In addition, Healthcare Packaging offerings include desiccant canisters that contain sorbent components that help maintain drug stability and prolong shelf life inside Healthcare Packaging containers.

1.3. Outlook 2021

1.3.1. Above market growth, higher profitability, and stronger cash generation

Clariant is a focused and innovative specialty chemical company. We aim to provide more than just customer-oriented products. We strive to provide the best customer experience and fast, reliable customer fulfillment in the industry by setting the right priorities.

Our aim is to make our customers more successful. We therefore constantly focus on timely and rewarding innovations, products that are difficult to imitate, sustainability, agility, and ethical practices. We will only be satisfied with the highest level of excellence in every function within the Group. Our success will be realized through the execution of our strategy.

By 2021, Clariant intends to achieve above market growth, higher profitability, and stronger cash generation.

1.4. Stock market 2018

1.4.1. Clariant share price development 2018

After a strong increase in 2017, the share price development in 2018 generally followed the market trends and was impacted by corporate announcements and changes in the shareholder structure.

At the beginning of January 2018, the share price traded in the range of CHF 26.07 to CHF 29.38 amid break-up speculations along with White Tale's request for a strategic review of Clariant. On 25 January 2018, SABIC purchased the 24.99 % stake from White Tale, which prompted some analysts to adjust their valuation to a stand-alone basis (no M&A or break-up premium) and to reflect the fact that White Tale considerations were no longer relevant. On the announcement day of the change in main shareholder, the share price dropped from CHF 28.38 to CHF 26.07.

On 13 February 2019, Clariant released the full year 2018 results and the guidance for 2021. The results were in line with market expectations and analyst recommendations remained largely unchanged, so that the Clariant share price remained largely stable.

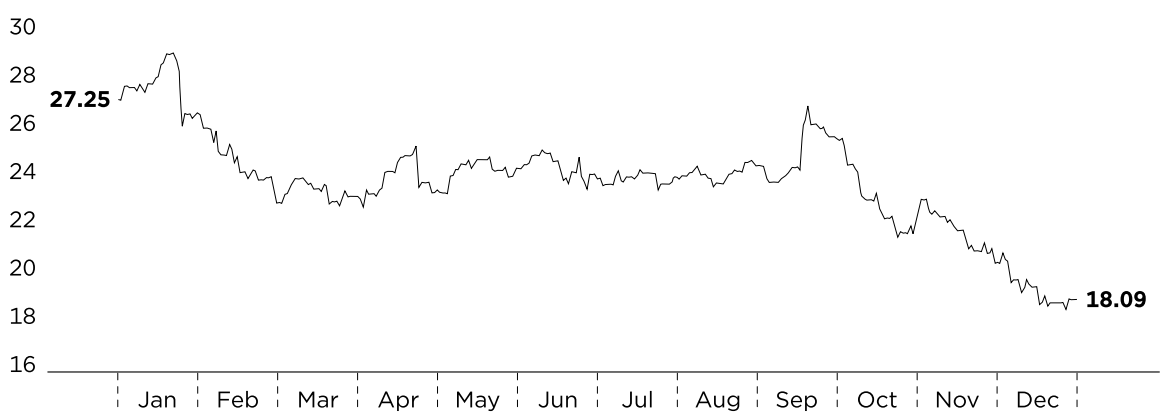
In March and at the beginning of April 2018, the global stock markets vacillated between gains and losses based upon the debate between the U.S. and China on the potential introduction of tariffs. The Clariant share price decreased during this period to a low point of CHF 22.33, in line with the chemical sector. The price recovered amid an improved market sentiment as investors focused on the start of the first quarter reporting season. Some analysts reduced their target prices based on expectations of a slower EBITDA development in 2018. The Clariant share price declined due to the slight EBITDA margin miss (20 bps versus consensus) in the first quarter results. This weakness was in line with global stock markets and the chemical sector, which was impacted by the oil price trend and the continued trade tensions between China and U.S.

On 25 July 2018, the first half year 2018 results came in slightly below consensus, which was somewhat disappointed by the further margin decline in the Natural Resources Business Area and lower than expected cash flow generation. The share price declined from CHF 23.82 to CHF 23.10 on the reporting day; however, it began to recover again the following day.

The Clariant share price, along with the market in general, was weighed down by the dampened market sentiment amid concerns over a Turkish currency crisis in August.

On 18 September 2018, the financial market initially reacted positively to the announcement of Clariant's strategy update and the Governance Agreement, with the share price increasing from CHF 24.04 to CHF 25.93.

005 **CLARIANT SHARE PRICE DEVELOPMENT 1 JANUARY – 31 DECEMBER 2018** in CHF



During October 2018, the Clariant share price dropped due to general market concerns on the global economy, tariffs, supply chain issues, and raw material prices, which lead to a sell-off in the market.

The overall perception of Clariant remained positive despite slightly lower than anticipated third quarter sales and a somewhat softer economic outlook for 2018, published on 31 October 2018. The share price increased from CHF 21.09 to CHF 21.71 on the reporting day. Clariant's results were broadly in line with the trend seen in the chemical sector.

In November 2018, the disappointing earnings season and other geopolitical risks put pressure on markets, which also had a negative impact on the Clariant share price development.

The Clariant share price came under pressure in December 2018 in tandem with the chemical market and the Swiss stock indexes and closed the year at CHF 18.09.

Clariant has also been included in a number of notable indexes such as the MSCI Equity Switzerland Index. Clariant has also been part of the Swiss Performance Index Select Dividend 20 Index basket since 2017. This basket consists of the top dividend delivering Swiss stocks. Both these achievements are confirmation of the success of Clariant's strategy and its positive performance result.

Dow Jones Sustainability Index

For the sixth consecutive year, Clariant was included in the renowned Dow Jones Sustainability Index. The company also received a Silver distinction in the RobecoSAM yearbook.

The inclusion of Clariant in the **Dow Jones Sustainability Index**, SXI Switzerland Sustainability 25®, FTSE-4Good Index Series, Euronext Vigeo Eiris Indices, and Ethibel Sustainability Indices (ESI) also reflects the continued progress made in various fields of sustainability as well as the outstanding, solid performance that has been achieved in economic, environmental, and social dimensions.

GRI

GRI Online Report

Management Approach Innovation and Technological Advances
reports.clariant.com/2018/gri

1.4.2. Dividend payment

Clariant aims to increase or at least maintain dividends. Since 2013, Clariant increased the dividend by an average of 9 % per annum. The continued improvement in performance allows the Board of Directors of Clariant Ltd to propose a dividend distribution of CHF 0.55 per share for the 2018 financial year at the Annual General Meeting on 1 April 2019. This proposal reflects an increase of 10 % compared to the previous year. The distribution is proposed to be made from the capital contribution reserve that is exempt from Swiss withholding tax.

IDEA TO MARKET

2. Intellectual Capital

With a strong focus on innovation and digital transformation, Clariant successfully expanded its intellectual capital in 2018. While managing its patents and trademarks, active innovation projects, and promising scientific collaborations, Clariant developed new digital products and services and implemented projects to improve operational efficiency via digitalization.

OVERVIEW INTELLECTUAL CAPITAL

	2018	2017	Change in %
Patents (year end)	**6 700**	6 600	1.5
Trademarks (year end)	**8 900**	8 300	7.2
Active innovation projects	**> 375**	> 370	–
Of which Class 1 Projects with double-digit million sales potential or of strategic relevance	**> 70**	> 65	–
Scientific collaborations	**> 125**	> 125	–

2.1. Innovation and Technological Advances

Clariant achieves its growth targets by developing innovative and sustainable products based on state-of-the-art technologies. In 2018, Clariant **grew over 3 %** through innovation projects, surpassing its 2 – 3 % target and realizing 1 – 2 % sales growth from Top Line Innovation alone. This increase can mainly be attributed to a heightened focus on innovations with high value propositions.

Research & Development spending in 2018 was CHF 209 million, compared to CHF 211 million in 2017. As a share of sales, R&D spending was 3.2 %, a decrease from 3.3 % in 2017. The higher growth through innovation at slightly reduced R&D expenditures was likely a result of a more efficient and focused R&D organization, which was launched in 2017.

The number of active projects in the innovation pipeline increased from over 370 in 2017 to more than 375 in 2018. This was mainly due to the newly introduced innovation formats iEngine and iGarage, and continuous and stringent innovation portfolio management.

3

Clariant achieved more than 3% growth through innovation.

INNOVATION AND TECHNOLOGICAL ADVANCES

	2018	2017	Change in %
Growth through innovation (%)[1]	**>3.0**	2.5	>20
Research & Development expenditures (CHF m)	**209**	211	–0.9
Research & Development expenditures as share of sales (%)	**3.2**	3.3	–

[1] Includes Top Line Innovation and Life Cycle Innovation. Potential cannibalization of existing sales caused by Life Cycle Innovation is not excluded from the calculation.

State-of-the-art equipment and infrastructure in eight R&D centers and over fifty Technical Centers formed the basis for successful innovation. In addition, Clariant increased the number of trained innovation belts from 272 in 2017 to over 290 in 2018 – a key factor in improving the project pipeline and increasing the number of Class 1 projects (those with a double-digit million sales potential) from more than 65 in 2017 to over 70 in 2018.

After Clariant revised its Intellectual Property strategy in 2015 and 2016, it abandoned patents that were no longer of strategic relevance, leading to an overall drop in the number of patents. After this strategy adjustment, the number of patents started growing again in 2017. In 2018, Clariant registered another 100 patents, leading to a total number of 6 700 patents at year end. The number of trademarks increased from 8 300 in 2017 to 8 900 in 2018. This was mainly due to the strong portfolio growth of Business Unit Industrial & Consumer Specialties as well as the enhancement of existing trademarks with non-Latin transcript trademarks to improve trademark protection in Asia.

2.1.1. Accelerate innovation by using High Throughput Experimentation (HTE)

In 2018, Clariant mainly aimed to accelerate the innovation process by exploiting the potential of digitalization. By applying the High Throughput Experimentation (HTE) method, which uses automation, miniaturization, and parallelization for intelligent planning and execution of experiments, the time needed to plan, prepare, and screen large numbers of formulations is reduced significantly compared to traditional methods. Since the experimental sequences are operated on small scales, the approach also helps increase resource efficiency. By using intelligent design tactics, the HTE team can maximize analytical data through proper planning and execution in line with the Business Units' needs and project requests. The analyzed data allows Clariant to find correlations that would not have been detectable with traditional methods. It can also help develop prediction tools that find new digital business models beyond chemical products and thus enable Clariant to become a fully integrated solutions provider. Given the effectiveness of the method, project requests from Business Units to the existing HTE laboratory in Frankfurt, Germany, increased beyond available capacity. To meet demand, Clariant is further expanding its capacity by opening an additional laboratory in the United States, which will be operational in early 2019. Further expansion to Asia is planned for 2020.

4

Clariant launched four iEngine innovation workshop series in 2018.

2.1.2. Lab Excellence Program

To increase the speed and impact of innovation and decrease time to market, Clariant initiated the Lab Excellence (LabX) program in 2017, which focuses on Clariant's entire R&D community. The goal of the initiative is to streamline work flows within and across laboratories along the entire Idea to Market value chain, in order to transform the entire R&D system into a lean and agile organization, increase the quality of the research, and boost innovation for Clariant's customers. In 2018, the first pilots in the Technology Platforms were completed, leading to an acceleration of the examined processes by up to 50 %. The identified improvement measures will be rolled out within the R&D community. Together with the consequent introduction of lean principles in the R&D system, this will lead to increased speed in innovation, as sample cycles are synchronized across application and analytical laboratories, and administrative tasks are reduced. Moreover, the implementation of an Electronic Lab Notebook across the company will significantly enhance efficiency by digitizing work flows. In 2019 and beyond, Clariant plans to further expand LabX throughout the organization in order to strengthen the lean innovation culture and the consequent innovation performance management. The achieved efficiency improvements are expected to materialize in reduced time to market, higher innovation contribution margins (COMA), and hence a higher overall contribution to Clariant's EBIT.

2.1.3. New innovation formats spur disruptive innovation

Finding solutions to unresolved challenges in the industry and exploring strategic growth fields beyond the core business also require collaboration and leveraging the potential of Clariant's workforce. Therefore, the company launched two new innovation formats in 2018, the **iEngine** and the iGarage.

iEngine brings together a cross-functional, cross-business team in a series of virtual and face-to-face workshops to collect, prioritize, and refine potential high-quality technology solutions for unmet customer needs. The most promising ideas are selected and pursued in an innovation project. After a 2017 pilot, four additional iEngines were launched in 2018, running on topics across four Business Units and resulting in new Class 1 projects and first feasibility trials at production scale.

iGarage develops strategic innovation growth options at the discovery and early incubation stages by applying agile, design thinking, and lean start-up methodologies to manage uncertainty and drive the development of customer-centric, macro-trend-derived breakthrough innovations outside the current solution space. On behalf of Business Units, a team consisting of dedicated cross-functional talent and supported by external experts and coaches convenes off-site over three to six months to explore an opportunity domain and develop business concepts through constant interaction with prospective customers and other partners. With agility and speed, the teams aim to design corre-

sponding business models, differentiating value propositions, viable technical concepts, and build a compelling financial plan. The ultimate objective is to develop a validated innovation to the point where continuous staffing and funding from the sponsoring Business Unit is secured. In 2018, two pilots of the iGarage were conducted, one with Business Unit Industrial & Consumer Specialties → PAGE 57 and one on plastics recycling. Moreover, Business Unit Oil & Mining Services conducted the iGarage to develop new business concepts for their innovative pour point depressants used in oil production.
→ PAGE 81, → PAGE 116

2.1.4. Scientific collaborations

In addition to internal collaboration, partnerships with external parties are vital to stimulate innovation. In 2018, Clariant engaged in more than 125 scientific partnerships, which is comparable to the number in the previous year.

An example of such a partnership is the collaboration with the Excellence Cluster of the Friedrich-Alexander-University in Erlangen-Nuremberg. The goal of the collaboration is to explore new ways to achieve highly tolerant and flexible production processes that can deal with various internal and external impacts on plant operation, such as variations in feedstock composition or energy fluctuations over the asset life cycle. Modular plants, multifunctional equipment, and unit operations with enlarged operational windows are examples of technical solutions that can be systematically designed and optimized with the tolerant processes approach. To drive the development of tolerant processes further, the research partners are also initiating a public funding platform via ProcessNet, the German platform for process technology, chemical engineering, and technical chemistry.

In collaboration with the China Petroleum Chemical Industry Federation (CPCIF), Clariant organized the first Clariant Chemistry Day in China in 2018. It facilitated in-depth discussions on innovation and sustainability and fostered the exchange between the industrial and academic research sectors. During the event, five young researchers were awarded the CPCIF-Clariant CleanTech Award, recognizing their achievements in the field of sustainable chemical technologies.

2.1.5. Open Innovation initiative

The Open Innovation initiative, managed by New Business Development, identifies collaboration partners ranging from large corporations to start-ups, universities, and other research institutions, thus supporting the Business Units in connecting with external partners around the world. Open Innovation is increasingly focusing on Asia, as local technologies present attractive market-specific growth opportunities with sustainability as a dominant theme. In 2018, more than 300 technology proposals were introduced to the Business Units for consideration.

To further build on regional needs regarding sustainability, the 2018 Sustainability Trend Meeting was held in Shanghai. Multiple Business Units, as well as New Business Development and Corporate Sustainability and Regulatory Affairs (CSRA), gathered to identify innovative business opportunities that address significant sustainability challenges through innovation. The technology challenges relating to these new opportunities will be sourced via the Open Innovation initiative.

In 2018, Open Innovation launched the »Chinese Innovation for China Market« program, encouraging Clariant's Business Units to explore technologies that help meet local market needs in China. The Business Units are supported by external technology scouts, which use big data analytics and artificial intelligence to find the most promising local innovations.

Under the umbrella of the Open Innovation initiative, Clariant also introduced a »Pitch Day« to provide selected technology providers an opportunity to pitch their technology directly to Business Units. Business Unit Industrial & Consumer Specialties was Clariant's first business to embrace this new format and conducted a two-day pitching program for the Personal Care and the Industrial & Home Care segments. More than 15 startups participated in the »Pitch Day« and seven of them were selected for further evaluation.

GRI

GRI Online Report

Management Approach Digitalization
reports.clariant.com/2018/gri

2.1.6. Sustainability screenings

Sustainability is an integral part of the innovation process and a fundamental prerequisite for all new major product developments. Corporate Sustainability Assessments, as defined under Clariant's Portfolio Value Program (PVP), known as PVP screenings, are thus systematically carried out not only for the entire product portfolio but also for Clariant's innovation project pipeline → **PAGE 122**

2.2. Digitalization

2.2.1. A two-way approach

Clariant considers digitalization an opportunity that is best tackled in two ways. First, Clariant includes all existing Business and Services Units – including IT – in a continuous effort to transition its business into the digital age. In 2018, all organizational units assessed and realized opportunities to digitally upgrade processes and products in their area of expertise and, where necessary, recruited digitally skilled talents. In addition, the implementation of the »Leading Marketing Organizations« initiative supported the commercialization of products and services with well-designed marketing strategies that covered digital aspects. The use of data-driven predictive tools in procurement for risk management and the use of automated e-auctions are also important steps to speed up purchasing and allow Clariant to buy in a more competitive way, since offers from a large number of suppliers can be easily compared.

Second, Clariant runs a dedicated cross-functional digital program, Digital4Clariant. In 2018, Digital4Clariant further evolved along its three core workstreams »New Business Models«, »Digital@Operations«, and »Big Data and Advanced Analytics«.

2.2.2. Generating new business models

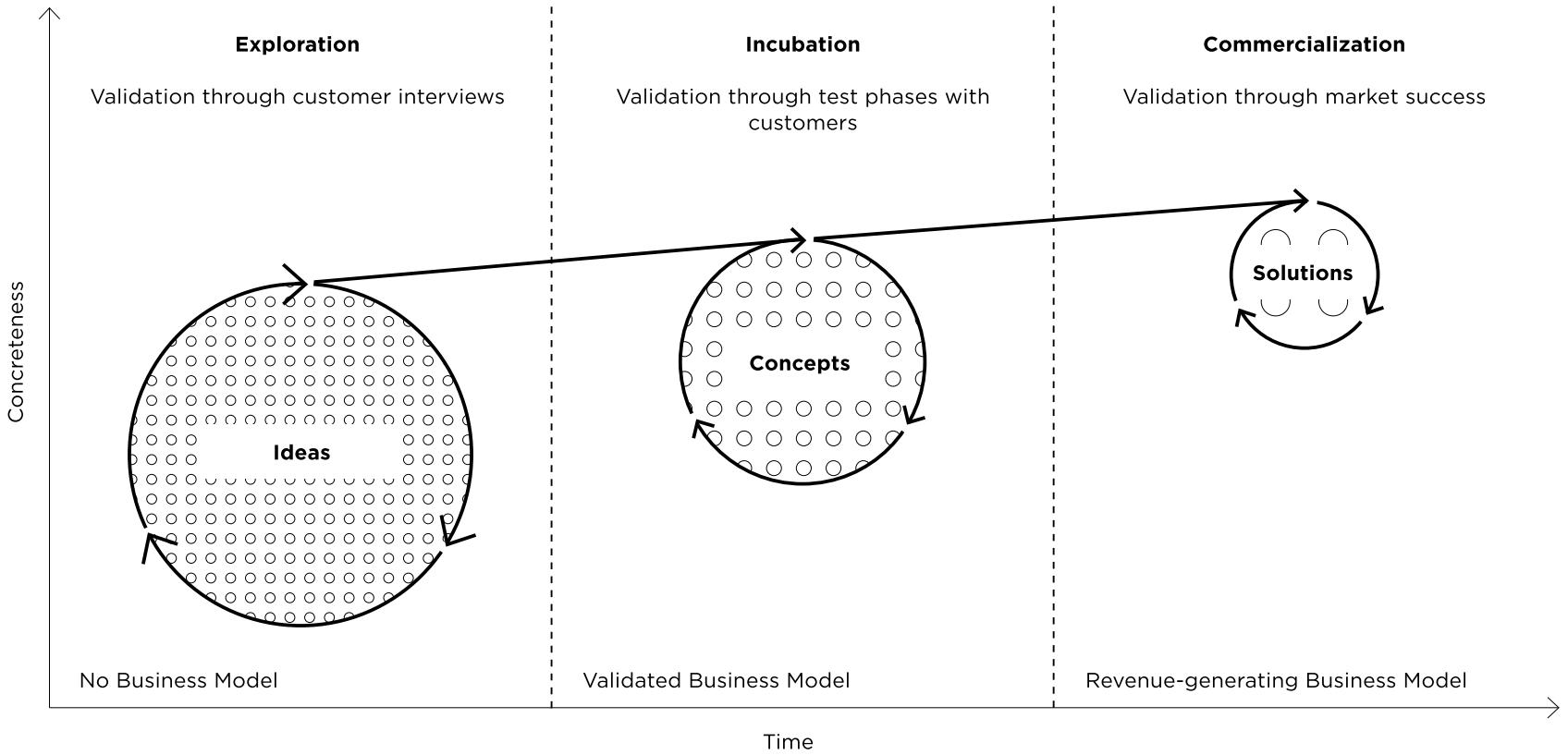
The workstream »New Business Models« incubated several minimally viable products and soft-launched new services in the market for testing. One notable example is **Chemberry™**, an internet platform that enables customers to easily find chemical ingredients using intelligent search engines. Chemberry™ includes products from all relevant chemical suppliers free of charge, automatically extracting and organizing product information from supplier websites. This platform, which is operated independently to ensure confidentiality and neutrality, currently features ingredients for the personal care industry, but is positioned to be the most comprehensive tool for ingredient-sourcing across all sectors.

2.2.3. Optimizing operations through six clusters

The workstream »Digital@Operations« ran several projects along six digital clusters identified as particularly relevant for Clariant. Clusters deemed to have the biggest impact in terms of cost saving and efficiency improvements are predictive process and quality control, predictive maintenance, digital material flow, connected workforce, retrofitting, and robotics. Clariant also strengthened its collaborations, for

Chemberry™

The platform simplifies the interaction between chemical buyers and suppliers by providing a comprehensive and up-to-date directory of chemical ingredients. chemberry.com/ourSolution



example, with universities and technology providers, to better understand and make use of relevant digital process technology developments.

2.2.4. Increasing speed and quality of innovation with big data analytics

The workstream »Big Data and Advanced Analytics« identified data science as a method that complements Clariant's chemical competencies and bears great process improvement potential. As a result, Clariant's demand for data scientists grew considerably. To meet this growing demand, a new Competence Center for Data Science focusing on data intelligence and process simulations was established at Group Technology and Innovation. While the data intelligence team will primarily support the Digital4Clariant initiatives by focusing on data analytics projects and automated analytics platforms, the process simulations team will focus on process development. Together with Clariant's high throughput experimentation team, this new organizational set-up is expected to increase the speed and quality of both digital and non-digital products and services development, as well as the improvement of processes.

2.2.5. Attracting and developing digital talents

Lastly, Clariant emphasizes attracting and recruiting candidates with the capabilities relevant in a digital context. It has reviewed hiring processes and educated specific groups in the company with new skills. Examples include training and education measures such as design thinking training for IT, data science training, and events like digital law days.

GRI

GRI Online Report

Management Approach
Product Stewardship/
Sustainable Chemistry
reports.clariant.com/
2018/gri

MARKET TO CUSTOMER

3. Manufactured capital

In 2018, Clariant took further steps to improve the sustainability of the product portfolio. It awarded 24 products the **EcoTain® label**, increasing the total number of products with proven sustainability excellence to 193. By piloting the first EcoTain® Partnerships, the company also underscored its commitment to solving sustainability challenges along the value chain in a collaborative way. In addition, production and research capacities were expanded considerably in 2018, with significant investments in high-growth regions, such as China and North America.

OVERVIEW OF MANUFACTURED CAPITAL

	2018	2017	Change in %
EcoTain®-awarded products	**24**	18	33.3
Research & Development Centers	**8**	8	0
Technical Centers	**>50**	>50	0
Countries with production facilities	**39**	39	0
Production sites	**125**	125	0
Raw materials procured (in m t)	**3.57**	3.14	13.7
Production (in m t)	**4.34**[1]	4.60	–

[1] For 2018, the production volume is based on a reduced reporting scope, which includes sites that are responsible for 95% of total production.

3.1. Product Stewardship/Sustainable Chemistry

Protecting customers, consumers, and the environment by providing safer and more sustainable solutions is one of Clariant's top priorities. In 2018, it took further steps to comply with the EU REACH regulation and promote the EcoTain® label, which designates products with outstanding sustainability properties.

193

Clariant awarded a total number of 193 products with the EcoTain® label.

3.1.1. EU REACH

In 2018, Clariant successfully completed Phase 3 of **EU REACH** by submitting 100 % of the necessary dossiers to the European Chemicals Agency (ECHA). Clariant continues to register newly manufactured or imported chemicals in accordance with the REACH regulation.

Since the adoption of EU REACH regulation ten years ago, Clariant has submitted more than 1 200 dossiers for chemical substances that need to be kept up to date. Currently, the focus under the EU REACH regulation is shifting toward assessing the safe handling of substances, which requires Clariant to respond to requests for additional information and react to assessments of the registered substances. This also includes demonstrating efforts taken to communicate information on safe handling of products throughout their entire life cycle along Clariant's value chain. In 2018, Clariant launched its REACH 2018+ project, which fosters awareness for the REACH requirements in all relevant Business and Service Units to ensure future compliance.

Clariant is also active in promoting the safe use and management of chemicals across the entire value chain and ensuring compliance with REACH obligations. In addition, Clariant is represented in various trade associations, such as the European Chemical Industry Council (Cefic) and the German Chemicals Industry Association (VCI), and has taken leadership roles in workstreams relating to chemical management. As an example, the memorandum of understanding between Cefic and the European Chemical Agency (ECHA) was signed in 2018 during the tenure of Hariolf Kottmann as Cefic president.

3.1.2. Portfolio Value Program

In 2018, Clariant continued to screen innovative products before commercialization and revise existing product screenings to ensure high screening coverage.

PRODUCT STEWARDSHIP/SUSTAINABLE CHEMISTRY[1]

	2018	2017	Change in %
EcoTain®-awarded products	**24**	18	33.3
Cumulative number of EcoTain® products	**193**	169	14.2
Sales-based share of product portfolio screened for sustainability performance (since 2012) (%)	**80**	80	0
Sales-based share of screened products not meeting internal sustainability definition (%)	**9.0**	9.4	–4.3

[1] The displayed data excludes Business Unit Masterbatches.

In 2018, the screening coverage of the portfolio was maintained at 80 %, reflecting Clariant's efforts to assess new products. Likewise, the increase in total number of EcoTain® products showcased how innovation fuels sustainability excellence and vice versa. Innovation also helps to capture the sustainability improvement opportunities uncovered in the portfolio screening.

EU REACH

REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) is a regulation of the European Union, adopted in 2007 to protect human health and the environment from potential risks posed by chemicals, while enhancing the competitiveness of the European chemicals industry. echa.europa.eu/regulations/reach/understanding-reach

Among other objectives, roadmaps for these improvement opportunities focus on reducing the use of certain hazardous substances in Clariant's product portfolio. The roadmaps typically promote alternatives that go beyond relevant regulations, which is particularly important in regions where regulatory action is lagging.

As part of such a roadmap, Clariant supports the substitution of heavy metal pigments and, given the strong portfolio and expertise of Business Unit Pigments, is in an excellent position to promote alternatives. As a result of these roadmap activities, the share of products that do not meet Clariant's internal sustainability definition further declined in 2018.

Clariant also strengthened its reporting capabilities to link the financial performance of products with their sustainability performance. The results of the PVP Financial Reporting complement the traditional financial reporting and support decision-making toward increased sustainability and financial performance.

3.1.3. EcoTain®

During 2018, the EcoTain® label was further promoted through additional EcoTain® licensing discussions, a concept that had been launched in 2017. In a joint effort to bring more sustainable products to the market, customers purchasing EcoTain® products piloted the use of an EcoTain® label on their own products. For example, an Indonesian mattress producer used Clariant's EcoTain®-awarded hot melt adhesive Licocene® to reduce volatile hydrocarbons and odor emissions in their mattress core. As these emissions occur during the production and use phases, the new solution benefits the health of employees and consumers alike. Additionally, using Licocene® reduced the carbon footprint of the mattress production. Given this strong sustainability performance, after a strict evaluation process, this customer received the license to use the EcoTain® label on its own products and in its marketing materials. By highlighting EcoTain® as a sustainable ingredient in their offerings, Clariant's customers not only promote the safety of their own products, but also support the recognition of the EcoTain® brand as a safer and more sustainable product.



THE PORTFOLIO VALUE PROGRAM (PVP) AND THE ECOTAIN® LABEL

In 2012, Clariant developed the Portfolio Value Program (PVP) in cooperation with the Collaborating Centre on Sustainable Consumption and Production (CSCP), founded by the United Nations Environment Program (UNEP) and the Wuppertal Institute. The program is based on a thorough analysis of sustainability trends and needs, as well as on the input and views of external stakeholders. The PVP provides the overarching framework to develop Clariant's product and innovation project portfolio toward more innovative and sustainable products. At the heart of the PVP lies Clariant's ambition to steer the product portfolio toward solutions that add value through sustainability for customers and society, while also ensuring long-term profitable growth. Clariant continues to be inspired by the opportunities to raise the bar in sustainability that are brought about by societal changes, market trends, existing and future regulations, customer preferences, and stakeholder expectations.

Clariant uses the comprehensive screening of the PVP to further clarify the sustainability performance of its product portfolio with its distinguishing EcoTain® label. Products awarded the EcoTain® label must have best-in-class sustainability performance in at least one of the 36 criteria, offer benefits in several product life cycle phases, and not have any significant adverse environmental or social impacts. A corporate panel of experts reviews all products in Clariant's portfolio and awards flagship products with the EcoTain® label. At the end of 2018, 80 % of the product portfolio was screened for its sustainability portfolio and 193 products were awarded the distinguishing label.

SUSTAINABILITY CRITERIA

36 criteria grouped into six categories are considered in the Portfolio Value Program (PVP) to screen the product portfolio for sustainability.

Performance

- Integrated sustainable business
- Performance

People

- Safe use, transparency, and information
- Addressing megatrends and societal needs

Planet

- Resource efficiency and environmental protection
- Raw materials and sustainable sourcing

4.3

Clariant spent CHF 4.3 billion on goods and services.

To further rollout its initiative to promote sustainability in the market and society in general, Clariant is also piloting EcoTain® Partnerships—a standard for establishing value chain collaborations on sustainability that highlights the importance of partnerships to solve sustainability challenges. It also draws attention to outstanding collaborations on sustainability and shows appreciation to the employees who go the extra mile to deliver sustainable value. In 2018, Clariant advanced the development of possible EcoTain® Partnerships across its markets and value chains and further refined the concept. For an example of model elements, please see the **SPOTS** project.

CUSTOMER TO CASH

3.2. Production volume

Clariant's production volume is comprised of finished goods that leave production sites and are sold to customers. In 2018, the reported production volume decreased to 4.34 million t. This is mainly due to a different reporting scope, in 2018 only the 79 largest sites of a total of 125 sites were considered. Business Area Natural Resources continues to provide the largest share, with 2.9 million t of produced goods, representing a decrease of 0.2 million t over 2017. Business Area Care Chemicals increased production volume by 0.02 million t to 0.98 million t. Business Area Plastics & Coatings reduced its production volume by 0.1 million t to 0.36 million t, while the volume of Business Area Catalysis remained stable at 0.06 million t. Overall, more than 40 % of the production volume is manufactured in plants with a certified ISO 50001 energy management system.

3.3. Raw material procurement

Due to growing demand from customers and consumers, an evolving regulatory environment, and increasing interest in the circular economy, renewable raw materials are gaining importance. Clariant prioritizes responsible procurement of raw materials and promotes innovation using biofuels and bio-based chemicals and feedstock to solidify its role as a sustainability leader in the chemical industry. → PAGE 68

Clariant spent about CHF 4.3 billion on **goods and services** in 2018. Roughly CHF 3 billion were disbursed for raw materials from approximately 7 000 suppliers. Across all Business Areas, more than 34 000 different raw materials were procured, although 92 % of the purchase volume was made up of around 200 raw materials. In 2018, around 23 % of purchased raw materials stemmed directly or indirectly from crude oil, about 19 % were derived from natural raw materials such as bentonite, and 5 % were made of renewable raw materials. The remaining materials were either base or specialty chemicals or non-chemicals.

In addition to promoting renewable raw materials, Clariant prefers to procure goods and services from local suppliers in order to support the economic development of the respective regions. That said, in order to opt for local raw materials, impeccable quality as well as technical and economic feasibility must be guaranteed.

SPOTS

The Sustainable Palm Oil and Traceability in Sabah (SPOTS) aims to support small Malaysian palm oil producers on sustainability, certification, and supply chain traceability, and to increase productivity by 20 % until 2020. clariant.com/en/Sustainability/Value-Chain-Collaboration/The-SPOTS-Initiative

RAW MATERIAL PROCUREMENT ACCORDING TO REGION
in CHF m

	2018	2017
Asia-Pacific	**672**	**627**
Of which with local suppliers[1]	641	591
Number of local suppliers[2]	2527	2800
Europe	**1340**	**1237**
Of which with local suppliers[1]	1228	1122
Number of local suppliers[2]	1514	1690
Latin America	**320**	**307**
Of which with local suppliers[1]	213	209
Number of local suppliers[2]	1085	1092
Middle East & Africa	**106**	**109**
Of which with local suppliers[1]	57	56
Number of local suppliers[2]	378	407
North America	**510**	**395**
Of which with local suppliers[1]	464	359
Number of local suppliers[2]	930	1002
Grand Total	**2948**	**2674**
Of which with local suppliers[1]	2603	2337
Number of suppliers[2]	6434	6991

[1] Raw material spending of Clariant production sites in this region
[2] Regional suppliers that supplied Clariant (production) sites

3.4. Production sites and innovation facilities

3.4.1. Developments in the production site network

By the end of 2018, Clariant operated 125 production sites in 39 countries around the world.

— Care Chemicals: Business Unit Industrial & Consumer Specialties integrated a new production plant for squalene and associated downstream products in Tarragona, Spain, which became operative in the last quarter of 2018. In addition, the Business Unit expanded several production facilities: in Coatzacoalcos, Mexico, ethylene oxide and propylene oxide (EO/PO) derivatives production was initiated; in Gendorf, Germany, an additional ethoxylation reactor began operating and a new polyethylene glycol (PEG) flake milling line was built; and capacity of the PEG-producing Clear Lake site in the United States was expanded. In Gebze, Turkey, production was halted and Clariant began selling the site's land and equipment.
— Natural Resources: In Cileungsi and Cimapag, Indonesia, Business Unit Functional Minerals reduced bottlenecks of existing bleaching earth production. In Casablanca, Morocco, Business Unit Oil & Mining Services closed its production facility, without affecting other Clariant businesses operating in Morocco.
— Plastics & Coatings: Business Unit Additives successfully began operating the newly built production line of Hostavin® NOW in Muttenz, Switzerland. In Germany, debottlenecking projects focused on the expansion of plants for Exolit® halogen-free flame retardants and Licocene® high-performance polymers. Business Unit Masterbatches opened a new production facility for white masterbatches in Yanbu, Saudi Arabia. Additionally, a compounding line serving the medical industry was installed in Lewiston in the United States.

3.4.2. Continued investments in China

Clariant has remained committed to its China strategy and harvested further growth opportunities in 2018. In Zhenjiang, Business Unit Industrial & Consumer Specialties expanded production capacity. Business Unit Functional Minerals increased desiccant production capacity, upholding China's status as one of the largest desiccant markets in the world. Business Unit Additives invested in three new production facilities: In Zhenjiang, two plants were commissioned in the second half of 2018. The new facilities are dedicated to the production of AddWorks® synergistic additive solutions and Ceridust® micronized waxes, both of which are used in various applications across the plastics, coatings, and ink industries. Within the joint venture between Clariant and Tiangang Auxiliary Co. Ltd., construction of a plant for high-end process and light stabilizers, including the state-of-the-art Nylostab® S-EED® chemistry, began in the Cangzhou National Coastal-Port Economy and Technology Development Zone. Located about 200 km south of Beijing, the plant will eventually serve various industries, but will initially focus on the textile and automotive markets.

In 2018, Business Unit Oil & Mining Services opened a state-of-the-art laboratory in Midland, Texas, in the United States, with unique capabilities to support its customers in the oil and gas industry. The latest instrumentation enables the laboratory specialists to rapidly analyze samples and assess them for risk factors such as flow assurance, asset integrity, and oil/water quality. This strongly supports customers in lowering their operational costs for shale oil and gas extraction. Combined with other facilities in Midland, the laboratory augments Clariant's service offerings to customers in the fastest-growing oil basin in the United States.

Prior to the opening in Midland, Business Unit Oil & Mining Services inaugurated another state-of-the-art laboratory in Clinton, Oklahoma, in the United States. This strategic investment will enable oil production companies to increase production efficiency and reduce operating expenses. Situated in proximity to customers, fast turnaround times of laboratory analyses and new solutions to be developed are ensured. Clariant is the fastest growing specialty oilfield production chemical supplier in North America, and its investments in technical facilities demonstrate its commitment to remain a key contributor in the production of oil and gas.

IDEA TO MARKET

3.4.3. Research & Development and Technical Centers

Clariant's strong innovation infrastructure consists of eight Research & Development Centers and more than fifty Technical Centers. The centers are distributed around the world, with locations in Europe, North and Latin America, China, and India.

Where

Why

When

Who

What

Digitalization

Who Shapes New Digital Business Models?

The digital transformation is changing our daily lives and reshaping entire industries. Its impact on the chemical industry so far might have seemed limited. But that's rapidly changing. Both start-ups and corporations are trying out new ways of reaching out to customers. New platforms and disruptive business models are taking hold. By moving early, Clariant is staking its territory and shaping its future.

Sibylle Mutschler

As Head of Digital4Clariant, Sibylle works on Clariant's digital transformation and rethinks business models for the chemical industry.

Jian Min Sim

As CEO and Co-founder of SourceSage, Jian uses market data and modern communication technology to revolutionize the global trade in specialty chemicals.

Sibylle, is it true that the chemical industry is a bit of a latecomer in the digital transformation?
That's certainly a prevailing stereotype. But it's wrong. If you're comparing our industry with, say, banking, publishing or music, then obviously our way of dealing with customers hasn't changed as much. But if you look at the underlying processes, the picture is quite different. Here it's banks and publishers that struggle to transform, while we've been dealing with automation, sensors, data, and digital tools for decades. To use some software terminology, their front end looks modern, but our back end is a lot more digitally advanced.

So the chemical industry primarily needs to digitalize how it deals with customers?
Don't get me wrong! There's a lot to benefit from new hardware and data science in our operations, too. Things like predictive maintenance, digital material flows, and robotics will help us improve efficiency, and we're very much looking into these things. But when we at Clariant talk about digitalization, we make sure it's not just about the next software or hardware update. We want to see what actual transformation looks like.

Who's looking?
My team has six workstreams reflecting major digital opportunities we see – from big data to digital operations to new digital business models. And Clariant as a whole is building knowledge and infrastructure. One example is the new Data Science Center we recently set up in Frankfurt, Germany.

What is it you do there?
We're combining our unique chemistry know-how with new ways of using data. Mind you, we've been hiring data scientists for years. We just never called them that. But these people have been improving processes and building knowledge that's extremely valuable. What we're now doing is applying new tools and new ideas under one roof. All to add more value and sell new services.

Speaking of selling, Clariant deals in physical materials, not ones and zeros like the music or banking industry you mentioned. Will that change?
Every Clariant product comes with information, and lots of it. Selling specialty chemicals means providing solutions to very specific problems. So our business was never only about materials. Our customers rely on our know-how. I'm sure our business models will include ones and zeros in the future as well.

What could that look like?
One of the ways we're exploring is to develop specialized software-based services that our customers can use to leverage our vast chemical know-how.

On the other hand, Clariant recently started selling products via Alibaba in China. Doesn't that detract from your customer relationships?
Alibaba is a way to reach customers. But it's only one way. And Clariant is actively looking for other ways to reach its customers.

Is that the reason you started Chemberry™?
Very much so, yes.

What is Chemberry™?
It's essentially a search engine to look up suppliers of specialty chemicals, today in the area of personal care. It lets you conveniently browse information you wouldn't easily find using Google.

Why on earth would you set up a platform that makes it easier for buyers to find Clariant's competitors?
That's exactly what some of our detractors said. My response is that we believe in fair competition and we are not afraid to compete. Isn't it a lot better then to help customers to find what they want and thereby learn a lot about how they want to interact with us?

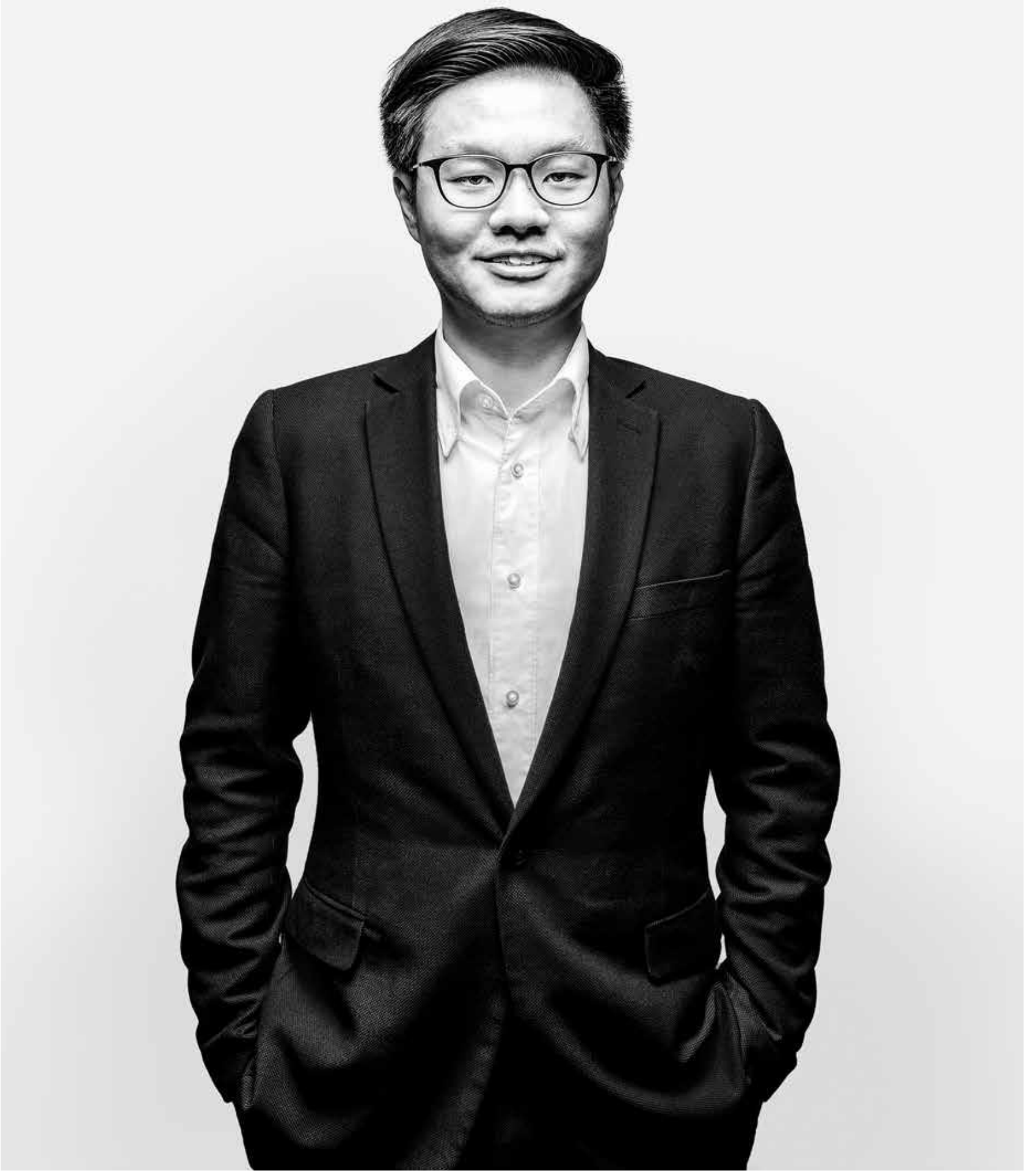
What role does big data play for your business?
We're looking at a future where more and more jobs will deal with at least certain aspects of data science. Chemberry™ is only the latest data source we added. We are by nature a »data-rich« company and there will be more data in the future. We expect a new generation of sensors to track almost every single aspect of our production processes. The actual technical maturity of sensors is still a challenge, however. We also learn from data in Research & Development, in logistics, in customer relationships management, and in human resources. The list goes on and on. The key is to find ever more ways of using data and the digital transformation to our advantage.

How can we shape the digital future of our industry?



SIBYLLE MUTSCHLER
Head of Digital4Clariant, Clariant

What makes chemicals trading more efficient?



JIAN MIN SIM
CEO & Co-founder, SourceSage

Jian Min, around 2014 you and your father started an app called SourceSage that has gotten a lot of attention. What is the idea behind it?
In short, SourceSage provides real-time market intelligence for chemical commodities and connects buyers and sellers. I like to call us the Amazon for market information.

What kind of products would I find on SourceSage?
We have about 400 products on our platform. Most of them are niche chemicals, downstream commodities, and specialties you wouldn't find with Google, for instance.

How did you come up with the idea?
My parents were running a chemicals trading company when I came back from studying at Oxford. As a computer scientist, I realized that there was a lot of inefficiency in this market. Gathering market intelligence and prices was all about getting people on the phone. What we set out to do was to digitize this whole process. In a way, I wanted to digitize my father's brain and his decades of experience. So initially, we set up a platform that provides market data and combined it with a chat functionality.

What's so great about looking up suppliers on your smartphone?
We bring our data to the devices that people use anyway, be they smartphones, tablets, or desktop computers. That lowers the barrier. Also, this business is global, but most people in it aren't native English speakers. So having a way to browse for information and then text someone rather than talk on the phone helps people become more comfortable. We see customers becoming more ambitious in venturing beyond their established network of suppliers, especially with global uncertainties like the trade wars that disrupt existing supply chains.

What's your business model?
Registration to SourceSage is free, and you're free to browse general market information and offers. For long-term access to individual pricing data you need to subscribe. We also offer official channels to suppliers who want to promote their products and to third-party market intelligence firms. And on top of that, we have a growing range of customers that use our platform as a white-label solution to set up their own marketplace.

How many subscribers do you have?
Right now we have 1 057 individual subscribers from a few hundred companies. Over 10 000 users use the basic features, and we learn a lot from them.

It's said that inefficient markets make for higher prices. Do you make it harder for middlemen to make a profit?
First of all, especially with niche chemical products, buyers tend to value familiarity and reliability. So price isn't everything. You need to provide customized services for customers. And I believe we offer opportunities to all stakeholders, including middlemen. These middlemen add value, for example by providing trade financing and logistical support.

How open are companies about their prices?
Initially, we saw that companies were very reluctant to share specific prices. What we could provide, however, was aggregated market reference prices as well as historical prices. Both help determine when to buy or sell. Today you'll find product offers by companies that state, for example, their price range, available packaging, and treatment options as well as the port they ship from. Once you then click on the »buy« button, you'll enter a private inquiry mode. That way both buyers and sellers can feel comfortable dealing via our platform.

Why don't chemical companies just sell their commodities via a site like Alibaba?
Some do. But the types of transactions in this market aren't really compatible with the payment mode of Alibaba. We're dealing with transactions worth millions of dollars, where companies almost never pay 100 percent in advance and may even pay 30 to 45 days after receiving the goods at their port. That's where middlemen, and especially banks, come in.

What's the next step for SourceSage?
We have recently partnered with a bank in Singapore to build a B2B payments gateway for transactions via escrow accounts and even complete with trade financing solutions. That's something that's becoming more relevant in 2019.

People

People – Clariant's second brand value – represents value creation that stems from human and relationship capital. Human capital encompasses all employee-related value creation processes, from talent attraction and development to employee engagement and occupational health, safety, and well-being programs. Achievements regarding value created for customers, policy-makers, suppliers, and society at large are reported in the relationship capital chapter.

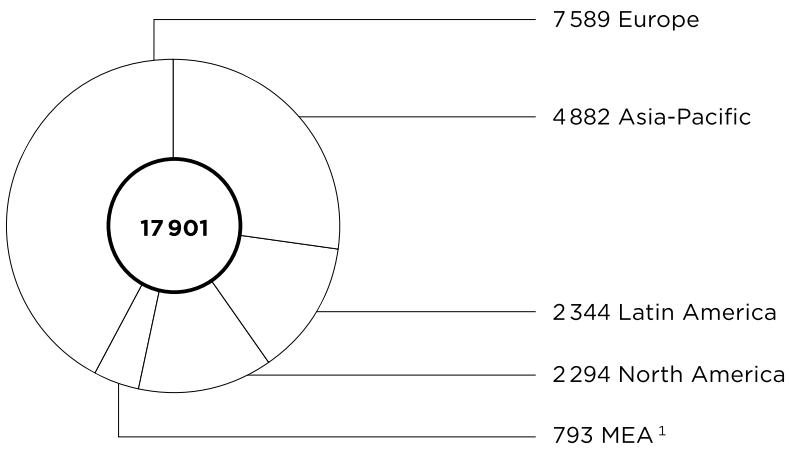
1. Human Capital

In 2018, the number of full time equivalents declined by 1.3 % to 17 901. Through targeted employer branding activities and training programs, Clariant continued to secure the skills and capabilities it needs to remain a high-performing organization over the long run. Its efforts to create an inspiring and motivating work environment for a diverse workforce resulted in very positive feedback from employees, as captured by the company-wide engagement survey. The continuous focus on ensuring the health, safety, and well-being of its employees is reflected in the lowest Lost Time Accident Rate since the beginning of the monitoring.

Compared to 2017, the distribution of the workforce between regions remained almost unchanged, with slight increases in Asia-Pacific (+ 0.8 percentage points) and Europe (+ 0.2 percentage points) and decreases of the same magnitude in North America (– 0.3 percentage points), Latin America (– 0.5 percentage points), and Middle East & Africa (– 0.2 percentage points).

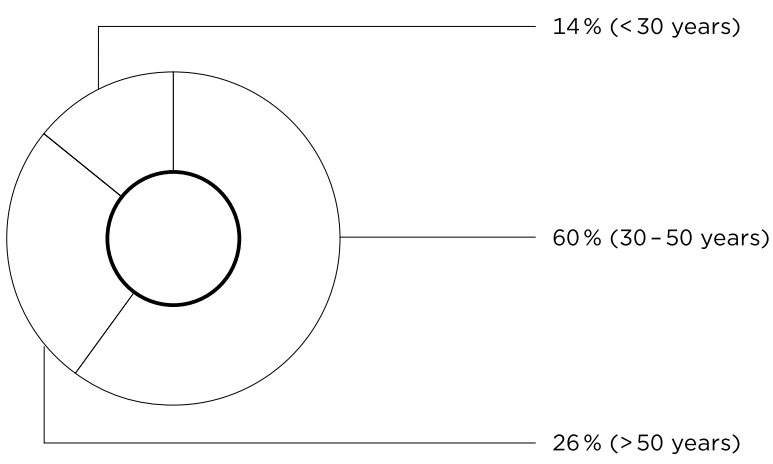
The age and gender structure of Clariant employees also remained constant. In 2018, 14 % of employees were younger than 30 years, 60 % were 30 – 50 years old, and 26 % were older than 50 years. The total workforce consisted of 78 % men and 22 % women.

001 **FTE BY REGION**



[1] Middle East & Africa

002 **AGE DIVERSITY**



GRI

KEY FIGURES WORKFORCE

	2018	2017	Change in %
Total staff (in FTE)	**17 901**	18 135	– 1.3
Employees (in FTE)	**10 405**	10 482	– 0.7
Male	**7 115**	7 264	– 2.1
Female	**3 290**	3 218	2.2
Workers (in FTE)	**7 496**	7 653	– 2.1
Male	**6 890**	7 066	– 2.5
Female	**606**	587	3.2
Number of people hired	**2 142**	1 983	8
Male	**1 453**	1 412	2.9
Female	**689**	571	20.7
Number of people who left the company	**2 047**	1 991	2.8
Male	**1 515**	1 448	4.6
Female	**532**	543	– 2
Turnover rate (%)	**11.1**	10.7	–
Number of employees in the local, regional, and global talent pools	**> 1 000**	> 1 000	–
Global management positions (ML 1 – 5) filled with internal candidates (%)	**84**	80	–
Total training hours	**234 240**	192 435	21.7
Number of training participants	**15 791**	9 720	62.5
Training hours (Ø per participant)	**15**	20	– 25
Number of employees with standardized performance management process	**10 350**	10 300	0.5
Staff in Research & Development	**> 1 100**	> 1 100	–
Lost Time Accident Rate (LTAR; accidents with at least 1 day lost/200 000 work hours)	**0.15**	0.20	– 25

1.1. Talent attraction and development

For Clariant and its stakeholders, talent attraction and development is a central factor for future business success, as shown by the comprehensive materiality assessment conducted in 2017. Clariant follows an integrated approach to talent management, aligning all related processes through its MySuccess platform. This fully integrated tool covers all people processes from recruitment and onboarding to learning, talent, and performance management. In 2018, Clariant implemented a broad range of projects along the entire employee journey to realize the full potential of its workforce.

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TALENT ATTRACTION AND DEVELOPMENT

	2018	2017	Change in %
Number of people hired	**2142**	1983	8
Male	**1453**	1412	2.9
Female	**689**	571	20.7
Number of people who left the company	**2047**	1991	2.8
Male	**1515**	1448	4.6
Female	**532**	543	–2
Number of employees in the local, regional, and global talent pools	**>1000**	>1000	–
Global management positions (ML 1-5) filled with internal candidates (%)	**84**	80	–
Total training hours	**234240**	192435	21.7
Number of training participants	**15791**	9720	62.5
Average training hours per participant	**15**	20	–25
Number of employees with standardized performance management process	**10350**	10300	0.5

Clariant aims to attract people who fit with its values and meet the defined role requirements. In 2018, Clariant hired 2142 new employees (689 women and 1453 men) to support its profitable growth strategy. With 35.1 % of new hires, Europe accounted for the largest share of new employees, followed by the Asia-Pacific region, which accounted for 23.5 % of new hires.

Clariant's performance management process ensures that strategic business objectives are translated into the employee's day-to-day activities. In 2018, 10350 employees followed a standardized performance management process.

WeChat

The Chinese messaging, social media, and mobile payment app has more than 1 billion active users per month.

Overall, 15791 employees participated in a training recorded in the central learning management system, for a total of 234240 training hours. The sharp increase of training participants compared to 2017 is due to the global data privacy training conducted in 2018 and the increased usage of e-learning by the Business Units. The average hours per employee that engaged in training decreased by 25 % to 15 hours per employee.

More than 1500 talents were discussed in 60 **talent reviews** across the organization and concrete development steps and career measures were defined and will be implemented in 2019. The reward for Clariant's systematic talent management activities is a very high talent retention rate of 95 % in 2018, which is only 3 percentage points lower than in 2017. Clariant promoted internal candidates into 84 % of senior management positions, and filled 77 % of openings overall with the internal population.

1.1.1. Employer branding and recruiting

In 2018, a core focus of Clariant's employer branding and recruiting activities was to recruit highly skilled people that can support Clariant on its way into the digital future. It rolled out a targeted digital campaign via the Asian social network **WeChat**, developing specific brand content to attract digitally skilled candidates in China. The follower base of Clariant's profile grew consistently over 2018 and the first results of the campaign will be measured in 2019. Clariant also hired a Digital and IT Talent Acquisition Specialist, whose primary mission is to support the company in the business-critical hunt for digital talents. This focus underscores Clariant's commitment to exploit the full potential of digitalization as a growth lever. → **PAGE 120**

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In 60 talent review sessions more than 1500 talents were discussed.

Another important development was the launch of a digital interviewing platform, making it easier for candidates from around the world to apply to open positions. They can record and upload their video interview anytime and from anywhere, saving time and travel expenses. For Clariant, the new process facilitates an improved assessment of body language and communication skills, while increasing flexibility and saving costs.

In order to set up the Leading Marketing Organization, 320 marketing and sales positions were filled in 2018. → **PAGE 51** Clariant supported recruiting with a targeted digital campaign running on social media and its own corporate channels. The campaign further positioned Clariant as a preferred employer and enabled the creation of new talent pools, which were a valuable source in filling open marketing positions across regions.

1.1.2. Strengthening commercial competencies

Adding to the broad range of in-person trainings and e-learning modules that are accessible via the MySuccess platform, Clariant developed several new learning programs in 2018 to strengthen commercial competencies within the organization. As part of the implementation of the Leading Marketing Organization, an advanced marketing e-learning module was developed that will be launched in 2019. This was complemented by the roll-out of »Manage for Growth«, a three-day program targeted at senior sales managers and that aims to strengthen their competencies for driving growth within their teams. In 2018, several sessions were conducted in Europe, Latin America, and North America.

1.1.3. Key position placement and succession planning

Clariant maintains a resilient talent pipeline and has a robust succession planning system in order to fill key roles according to a transparent set of criteria. In 2018, Clariant conducted 60 talent review sessions across all countries, regions, and global units and discussed more than 1 500 talents. As part of these reviews, individual development measures and career steps were defined. The results are translated into the global succession plans.

Clariant's assessment center and capability development program provide aspiring leaders with clarity on competence requirements for various job levels and offer an assessment to identify development opportunities at organizational and individual levels. Every year, around 50 employees participate in this development program. In 2018, around 80 employees from innovation functions, Global Business Services, and procurement attended a competency assessment.

With Innovation and Research & Development as the first pillar of its Group strategy, Clariant launched the Innovation Talent Management Review (ITMR) initiative, which ensures succession for core roles within innovation job families. As part of the implementation of ITMR, career paths in the innovation field were defined, candidates were identified, and a learning curriculum focusing on innovation-specific topics was developed.

1.1.4. Training and development programs

To support key position placement and succession planning, Clariant offers a range of formal and informal programs for younger high-potential employees. The Pioneer Program enhances organizational understanding as well as leadership and communication skills of aspiring leaders by exposing them to short-term assignments outside of their area of responsibility. In 2018, the second group of participants completed the program. One key achievement of all participants was the successful launch of a business project, which will be executed in 2019.

In the Mentoring Program, younger professionals get the opportunity to team up with experienced leaders to strengthen **leadership skills** and to encourage knowledge transfer across functions and age-groups. In 2018, more than 40 new mentees started their internal mentorship program.

Leadership skills

There are a variety of internal and external offerings available for executive training.

These informal development initiatives are complemented by formal learning programs delivered by business schools, specialized training companies, and Clariant's internal experts. These efforts contribute to the continuous development of Clariant's leadership population.

Clariant also offers various leadership trainings. These include, for example, the »License to Hire« trainings, which provide a toolkit for efficient recruiting and support line managers in making the right hiring decisions. The program is offered to all hiring managers. In 2018, more than 200 employees involved in the recruitment process participated in one of the ten »License to Hire« trainings offered. After the training, participants receive online materials that summarize the main learnings and best practices. Clariant plans to make the training mandatory for all hiring managers across all levels in 2019.

Launched in 2017, the »Frontline Leadership Training« – designed for Production Managers and Shift Leaders – covers basic leadership instruments that enable managers to effectively lead and motivate teams and manage change. The interactive training is facilitated by a dedicated Learning Manager and repeatedly receives outstanding reviews from participants. In 2018, the learning content was refined to better fit the needs of the target group. More practical exercises, for example on how to provide effective feedback, were included in order to allow participants to apply learnings in practice. Over the course of the year, 105 shift leaders participated in this training across all regions.

With the »Authentic Leadership Training«, Clariant offers a new intensive course that focuses on pivotal communication skills necessary to be perceived as a successful and inspiring leader. The participants either attend the Executive Performance Training, which is designed for cross-functional groups of six people, or the Inspirational Leadership Creative Communication Program, which is open to larger groups. In 2018, 31 senior leaders participated in the two-month training.

In addition, Clariant continued the implementation of the team effectiveness program across leadership teams in various locations and management levels. As part of the program, teams apply measures to enhance trust within the team, improve the quality of decision-mak-

ing, and strengthen the execution of commitments. The program was specifically designed to help leaders build high-performing teams. More than 80 % of Clariant's global and regional leadership teams attended the program during the past two years.

1.2. Employee engagement

Clariant's people are its most valuable asset to stay ahead of the curve in contested markets. By developing, improving, protecting, and delivering Clariant's products and services, they are the core of Clariant's sustainable value creation. Therefore, Clariant pays close attention to engaging with its employees on all levels, focusing on its core value of appreciation.

Clariant is driven by the belief that diverse perspectives enable the company to capture market opportunities faster and foster a corporate culture that is conducive to innovation and growth. Thus, cultivating an inclusive work environment that values differences in experience, culture, nationality, ethnicity, age, gender, sexual orientation, and physical ability is vital for Clariant's business success. It also contributes to keeping the turnover rate at a stable level.

EMPLOYEE ENGAGEMENT

	2018	2017	Change in %
Turnover rate (%)	**11.1**	10.7	–
Employee engagement score	**85** [1]	n.a. [2]	–

[1] Due to a change in the methodology, the engagement index 2018 cannot be compared with previous engagement scores.

[2] Surveys are conducted every two years

1.2.1. Engaging with a diverse workforce in times of change

In times of change, providing the support and resources that employees need to achieve their goals, and showing appreciation for their efforts, is particularly important. Following the updated corporate strategy and business portfolio upgrade announced in 2018, Clariant's global workforce will adapt and encompass even more diversity. To facilitate the ongoing change process, Clariant's Group Human Resources ensures that the company stays open to new ways of working, offers a global workplace based on common values, and creates a sense of purpose for all employees across regions and age clusters.

The development of a more global, diverse, and flexible workforce requires adherence to standards that uphold Clariant's approach to equal treatment and diversity. Clariant thus adopted a new globally applicable Employment Policy in 2018. The policy, which is accessible to all employees and is part of the onboarding curriculum, describes what fair working conditions mean in daily practice, underlining the importance of employee collaboration. It clearly commits to equal development and promotion of all people across every organizational level and age group.

1.2.2. The »Pulse Survey« as a strategic instrument

In 2018, Clariant broke new ground in assessing employee engagement. By implementing the »Pulse Survey«, which is considered the starting point for using a company-wide survey as a strategic instrument to drive organizational development, more Clariant-specific, strategic, and timely issues were covered than with previous surveys. A representative and randomly selected sample group of almost 2 500 employees was surveyed

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on topics such as change, strategy, and vision. The survey results showed a positive perception of the work environment. With an engagement index of 85, Clariant ranked above the industry benchmark and achieved high scores on strategy endorsement, innovation culture, and collaboration within and across teams. In future years, customized Pulse Surveys will be carried out upon Business and Service Units' requirements. A global survey will be conducted biennially.

1.2.3. Recognizing extra efforts and leveraging employee recommendations in recruitment

In 2018, Clariant further developed its »Recognition Program« to enhance employee engagement through appreciation. As part of the program, special recognition awards were further promoted. These monetary awards honor outstanding contributions and motivate employees to »go the extra mile«. Beyond financial rewards, Clariant also started the rollout of local appreciation awards that acknowledge great achievements of peers or supervisors in form of presents or vouchers.

In addition, Clariant further developed its referral program, which encourages employees to recruit new candidates. Employees are invited to refer people from their professional networks for advertised jobs and are granted a cash reward if their referred candidate is successfully hired. In 2018, the referral program was rolled out to Clariant's Shared Services Center in Poland, focused on recruiting external candidates, and in India, where the objective was to refer internal candidates for open positions.

1.2.4. Streamlining global benefits

Furthermore, in 2018, Clariant conducted a global benefit survey to establish consistent benefit programs across the organization. Building on the results of the survey, the Global Benefits Policy was developed. The policy does not stipulate a one-size-fits-all benefit program, but acknowledges country-specific circumstances. It sets binding key elements regarding flexible work arrangements, healthcare, travel, well-being, retirement, accidents and death. These elements will be reflected within each local benefit program to foster consistency and create an attractive workplace for everyone.

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Management Approach Occupational Health, Safety, and Well-being
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CUSTOMER TO CASH

1.3. Occupational Health, Safety, and Well-being

Clariant's zero-accidents goal underscores its commitment to protect and promote the health, safety, and well-being of all employees. In addition to multifaceted health and safety programs, such as AvoidingAccidents@Clariant, Clariant took further steps in 2018 to maintain a safety-oriented leadership culture, enhance health and safety precautions at its sites, and learn from past incidents through improved reporting.

26

The number of lost-time accidents decreased by 26 %.

OCCUPATIONAL HEALTH, SAFETY, AND WELL-BEING

	2018	2017	Change in %
Lost time accidents [1]	**28**	38	– 26.3
Lost time accident rate (LTAR) [2]	**0.15**	0.2	– 25
Number of recognized occupational diseases	**1**	0	–
Number of work-related fatal accidents	**0**	2 [3]	–
Lost workdays (LWD) caused by occupational accidents	**988**	1 135 [4]	– 13
Lost workday rate (LWDR) [5]	**5.23**	5.95 [4]	– 12.1
Process safety event rate [6]	**0.46**	0.35	31.4

[1] Number of occupational accidents with at least one day's work lost

[2] Lost Time Accident Rate = ratio of the number of occupational accidents where at least one day's work was lost in relation to 200 000 hours of work

[3] Fatalities disclosure includes employees and contractors.

[4] Including 221 LWDs carried over from 2016

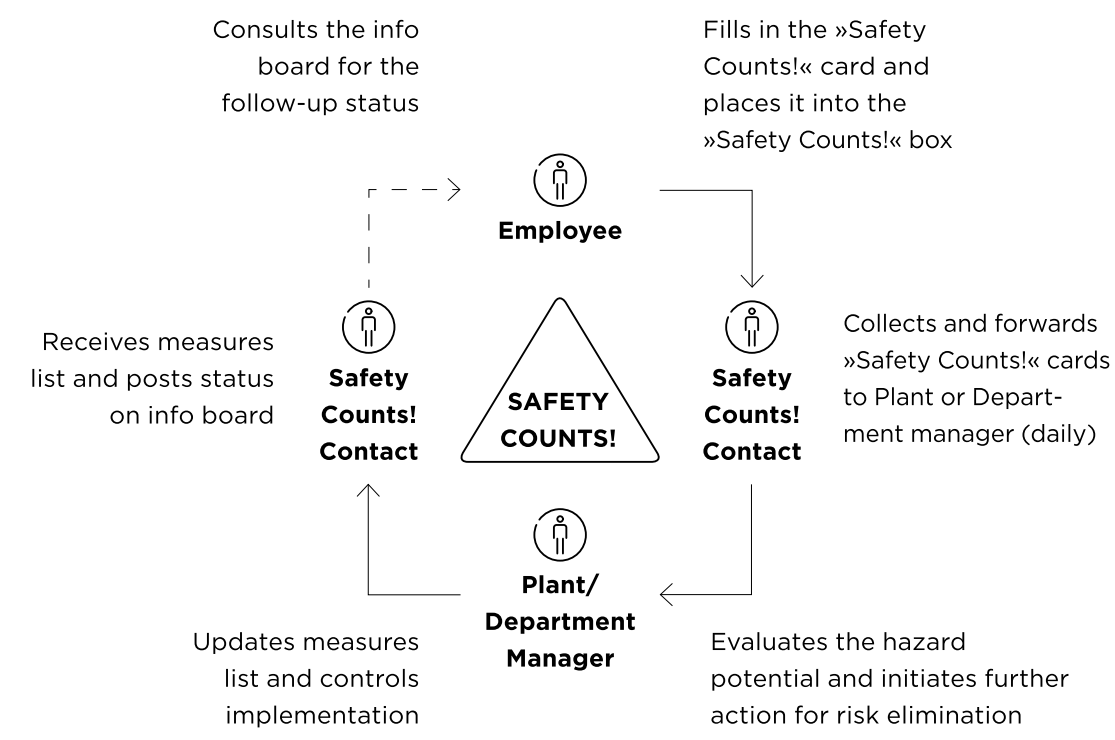
[5] Lost Workday Rate = loss of workdays caused by occupational accidents in relation to 200 000 hours of work

[6] Process Safety Event = Number of Process Safety Events in relation to 200 000 hours of work. In 2018, Clariant changed the reporting criteria from Cefic to ICCA. If Clariant had used the Cefic criteria for 2018, the process safety event rate would have been 0.35.

In 2018, the overall health and safety performance at Clariant's sites further improved, as illustrated by the key performance indicators. The number of **lost time accidents** decreased by 26 %, from 38 in 2017 to 28 in 2018, with six cases concerning supervised (non-Clariant) workers. In addition, ten lost time accidents involved contractors, which is a slight increase of two cases compared to 2017. 83 % of all recorded injuries required first aid measures, 12 % needed medical treatment, and 5 % of recorded injuries were restricted work cases. The most frequent injury types in 2018 were bone fractures (29 %), sprains, bruises and contusions (25 %), and open wounds (14 %).

AVOIDINGACCIDENTS@CLARIANT

Occupational Health, Safety, and Well-being at Clariant means much more than wearing necessary safety gear. It is a commitment to tackle safety in a comprehensive way and ensure that every employee returns home after work as healthy as they arrived. The most effective way to prevent occupational accidents and achieve the goal of zero accidents is by implementing a set of cohesive management programs and leadership measures. AvoidingAccidents@Clariant is a global program that creates safe working environments, raises awareness of safety, and illustrates Clariant's focus on prevention. Since the start of the program in 2007, the lost time accident rate (LTAR) has declined from 0.92 to 0.15. Clariant's »Safety Counts!« cards also play an important role in ensuring health and safety, helping employees record critical safety situations and the circumstances that led to them. Improvement measures taken are shared locally, enabling the production teams to build best practices and promote a preventive mindset throughout the entire company.



Chemical burns, and internal injuries each accounted for 11 %. In 7 % of the cases, a limb was lost, and in 4 % of the cases the injury was due to a foreign body. No work-related fatal accident was recorded in 2018. The number of recognized occupational illnesses increased to 1, compared to 0 in 2018.

Clariant managed to further reduce the lost time accident rate (LTAR) to 0.15 accidents per 200 000 hours of work, as compared to 0.2 in 2017, representing the lowest level since the beginning of the monitoring. The total number of lost workdays decreased significantly from 1 135 in 2017 to 988 in 2018, representing an improvement of 13 %. This reduction indicates that job-related injuries were less severe in 2018. Clariant also managed to reduce the lost workday rate to 5.23 workdays lost per 200 000 hours of work. Compared to 2017, this is a 12 % reduction.

One key factor that contributed to the good results was the Leadership Improvement Initiative. This includes measures such as site tours conducted by members of the Business Units' management committees to respond to safety-related questions and deepen awareness, »Safety Moments« discussed at the beginning of meetings, and the mandatory involvement of site managers and their next level managers in Incident Investigation Reviews.

1.3.1. Raising awareness of safety challenges

The »Safety Moments« initiative, launched in 2017 to strengthen Clariant's safety-oriented leadership culture, was further developed in 2018. Held at the beginning of each meeting, »Safety Moments« raise awareness of safety-related challenges at the workplace and offer ideas for how to avoid or resolve these issues. To support managers with implementation across regions, an internal platform was launched to share customized handouts with relevant information for each employee group.

1.3.2. Improving safety reporting

Another priority area in 2018 was improving occupational health and safety-related reporting, building on steps first taken in 2017. Clariant refined reporting of restricted work cases – incidents that keep the affected employees from performing routine functions of their job or from working at least one full workday – by requiring all sites to issue a report immediately after an incident occurs and to make investigation reports mandatory for all cases. The number of cases decreased from 95 in 2017 to 61 in 2018.

In addition, Clariant started reporting Process Safety Events (PSEs) according to the criteria of the International Council of Chemical Associations (ICCA). Given the improved reporting culture, the number of reported Process Safety Events increased to 86 in 2018, compared to 66 cases in 2017. The Process Safety Event rate increased from 0.35 in 2017 to 0.46 in 2018. However, if Clariant had still used the Cefic reporting criteria, the rate for 2018 would have been 0.35. In order to comply with the reporting requirements of the European Chemical Industry Council (Cefic),

Clariant will also record process safety events according to Cefic criteria until 2020. From 2021 onward, only ICCA criteria will be applicable.

1.3.3. Enhancing employee well-being

The promotion of workplace health and well-being is a local responsibility that each Clariant region addresses with tailored programs. In many countries, Clariant offers free psychological counseling and stress management trainings, and runs employee assistance programs that analyze and evaluate mental strain, educate employees on mental health risks, and develop relief strategies with affected employees.

To protect its employees from work-related hazards, every workplace at Clariant is subject to a systematic, multi-step assessment that includes workplace ergonomics, illumination, noise, indoor air quality, humidity, and temperature. Clear minimum requirements are defined for each factor and measures to redesign the workplace are taken if these requirements are not met. In addition, Clariant offers a range of benefits designed to enhance the work-life balance of its employees. These include the provision of fitness facilities and contributions to external fitness programs, flexible working hours and working from home arrangements, childcare facilities and contributions to external childcare, as well as support for employees who care for elderly family members.

2. Relationship capital

In 2018, Clariant successfully expanded its relationship capital. It increased the number of interactions along the customer journey and received positive feedback through its biennial global **customer satisfaction survey**, deepening its understanding of value chains and unmet customer needs. It also maintained strong contacts with chemical industry trade associations and policy makers.

Customer satisfaction survey

Clariant's global customer satisfaction survey 2018 was made available to customers in nine languages.

OVERVIEW OF RELATIONSHIP CAPITAL

	2018	2017	Change in %
Survey responses obtained from customer contacts	**2 791**	n.a. [1]	–
Customer interviews	**538**	515	4.5
Net Promoter Score (NPS) (%)	**29**	n.a. [1]	–
Raw material suppliers	**7 000**	7 000	0
Raw material supply base by spend covered by sustainability evaluations (%)	**74**	65	–

[1] Surveys are conducted every two years.

MARKET TO CUSTOMER

2.1. Customer Relationships

Customer engagement, a key to profitable growth, lies at the core of Clariant's commercial strategy. After taking significant steps in recent years to turn Clariant from a product-driven to a customer-centric organization, in 2018 Clariant refocused on strengthening the customer experience – a crucial shift to gain a better understanding of the customers' needs and develop tailor-made value propositions.

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CUSTOMER RELATIONSHIPS

	2018	2017	Change in %
Survey responses obtained from customer contacts	**2 791**	n.a. [1]	–
Net Promoter Score (NPS) (%)	**29**	n.a. [1]	–
Customers who want to continue doing business with Clariant (%)	**90**	n.a. [1]	–
Customers who plan to intensify the business relationship (%)	**77**	n.a. [1]	–
Customer interviews as part of marketing and strategy initiatives	**538**	515	4.5
Interviews with industry experts as part of marketing and strategy initiatives	**150**	59	154.2
Number of Marketing Excellence projects	**37**	34	8.8
Commercial margin (CHF m)	**12.8**	12.3	6.2

[1] Surveys are conducted every two years.

2.1.1. Leveraging customer feedback for continuous development

The large number of customer interactions throughout the year reflects the increased focus on customers. In 2018, Clariant conducted 538 customer interviews (2017: 515) and 150 industry-expert interviews (2017: 59) as part of marketing and strategy projects, yielding valuable feedback on how to further improve its product and solutions offerings and the entire customer journey.

The most important source of customer feedback in 2018 was the biennial comprehensive customer satisfaction survey. Customers of all Business Units in all regions were surveyed, with the total number of respondents increasing to 2 791, almost 100 more than in 2016. Compared to the previous survey, the participants were also more diverse, with a growing share of responding stakeholders from R&D and production functions.

The overall results show that the high level of customer satisfaction remained stable, with the Customer Satisfaction Index at 77 points (2016: 78). In total, more than three-quarters of participants stated that Clariant is a reliable business partner and solutions provider and 73 % highlighted Clariant's excellent customer-oriented approach. Respondents ranked »Technical Service« and »Products and Packaging« as the two most important buying criteria. In »Products and Packaging«, Clariant increased its competitive edge, with a larger share of respondents rating Clariant's products higher than those of the competitors. The competitive performance of the »Technical Service« decreased slightly compared to 2016 but remained at a high level. Sustainability was introduced as a new assessment criterion in the 2018 survey and showed a strong competitive performance. Sustainability was ranked as the 7th highest buying criteria, with 92 % of the respondents stating sustainability was important for their operations and/or markets.

Customer loyalty was also found to be very high in 2018. The Customer Loyalty Index reached 81 points (2016: 84), while the Net Promoter Score (NPS) decreased from 37 % to 29 %. In the chemicals indus-

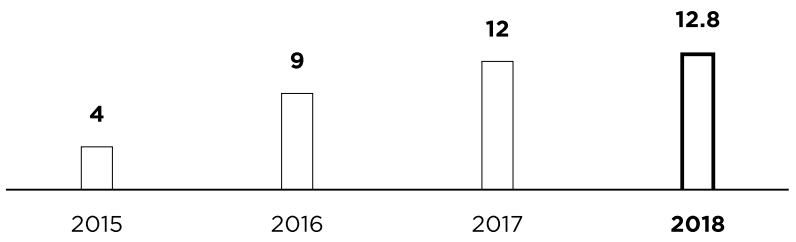
try, an NPS of 30 % is considered the benchmark. 90 % of respondents are likely to continue doing business with Clariant in the future (2016: 91 %) and 77 % stated they are likely to increase business with Clariant (2016: 81 %). The results also revealed several areas with room for improvement, including complaint management and logistics. Since survey results differ considerably between regions and Business Units, future improvement efforts will target business-specific and regional challenges in order to further increase customer satisfaction and loyalty. → **PAGE 54**

2.1.2. Advancing the Leading Marketing Organizations

Good customer and market research creates transparency at all touchpoints along the customer journey, delivers customer insights that create unique value propositions, and identifies market opportunities that can be addressed with innovative solutions. In 2017, Clariant launched the Leading Marketing Organization to rethink its approach to marketing and further integrate marketing within the Business Units. Setting up dedicated marketing functions within each Business Unit was a first step. In 2018, Clariant filled all key positions and established a Marketing Advisory Board that serves as a platform to share best practices between the Business Units' Marketing Heads and the Head of Marketing Excellence. The Marketing Advisory Board plays a key role in the continuous development and delivery of the marketing programs within and across the Business Units. Other key aspects of implementing the Leading Marketing Organization were the launch of marketing essentials training and the development of an advanced strategic marketing training program. The latter is being co-developed by the Business Units' marketing departments and an industry-leading partner. In 2019, the Marketing Excellence team will work with the Marketing and Innovation Heads to develop additional programs that satisfy the evolving needs of Clariant's marketing community and customers. → **PAGE 135**

In 2018, Clariant carried out 37 Marketing Excellence projects, with the additional commercial margin from these efforts increasing from CHF 12.3 million to CHF 12.8 million in 2018. → **FIGURE 003**

003 **COMMERCIAL MARGIN** in CHF m



104

Through the anonymous Integrity Line, 104 questions and allegations were issued.

GRI

GRI Online Report

Management Approach Ethics and Compliance
reports.clariant.com/2018/gri

2.2. Ethics and compliance

In 2018, Clariant continued implementing the measures outlined in its Strategic Integrity Roadmap. Structured around the company's five pillars of leadership engagement, communication and training, risk assessment, standards and controls, and monitoring, this roadmap anchors an ethical mindset and behavior in the workforce and continues the ongoing process of transforming Clariant from a rules- and principles-based organization to a value-based organization.

ETHICS AND COMPLIANCE

	2018	2017	Change in %
Questions and allegations issued via the anonymous Integrity Line	**104**	80	30
Fully or partially substantiated	**29**	16	81.3
Closed during the year	**72**	46	56.5
Percentage of Board members that received training on anti-corruption (in %)	**50**	45	11
Percentage of employees that received training on anti-corruption (in %)	**30**	60	–50

Clariant uses a comprehensive set of key performance indicators to measure effective progress toward the objectives of the roadmap.

2.2.1. Excellence through Integrity

In 2018, Clariant continued the rollout of its »Excellence through Integrity« campaign, which was launched in 2017. As part of the campaign, members of the Executive Committee and regional heads articulated what ethics and integrity mean to them personally in order to further raise awareness for ethical behavior. These statements were printed on posters and displayed at all sites to increase the visibility of the campaign.

2.2.2. Improving compliance through leadership and training

To underscore its commitment to ethical business practice, Clariant launched »Leader-led Compliance Sessions«, which were held by roughly 1 000 leaders with their direct reports in 2018. These sessions provided a forum to discuss ethical dilemmas that emerge in daily business practices and share lessons learned and best practices. The dilemmas were all build around the commitments of the Code of Conduct related to the Anti-Bribery, Antitrust, Data Privacy, Conflict of Interest and absence of discrimination and harassment. With this effort, roughly 5 000 employees received Code of Conduct training. The »Leader-led Compliance Sessions« resulted in more request for guidance from the Ethics & Integrity functions and an increase of reports through the Integrity Line by 30 %.

Clariant continued to conduct its mandatory compliance trainings for all employees, via e-learning and in-person, to prevent violations of the Code of Conduct. 50 % of the Board members and 30 % of employees received training on anti-corruption, while approximately 5 000 employees successfully completed the relaunched e-learning on antitrust law. Furthermore, an anti-brib-

ery e-learning program was rolled out in 2018 that specifically targeted sales, marketing, and procurement professionals. In 2019, the anti-bribery e-learning will be rolled out to the remaining units of the organization.

2.2.3. Internal communication increases sensitivity for compliance issues

Clariant also strengthened communication regarding ethics and compliance by publishing regularly articles around business ethics and shared results from internal investigations in its ethics journal. Each example illustrated a real case from Clariant's businesses and discussed how it was resolved. The articles caught considerable attention from employees, as indicated by above-average click rates.

2.2.4. Reducing risk exposure across regions

As Clariant's businesses operate in a large number of countries with diverging risk profiles, an ongoing risk assessment is conducted to identify gaps in the ethics and compliance framework in different markets. In 2018, a compliance risk assessment was initiated for the most exposed Business Units. This process revealed gaps, which were closed by taking steps to reduce the risk exposure.

2.2.5. Launch of the Data Privacy Program

In response to the new General Data Protection Regulation (GDPR) of the European Union, Clariant started a Data Privacy Program in 2018. The program consists of a policy framework, consisting of a Data Privacy Policy, a general Directive on how to process personal data and SOP's on the subject of Data Breach and execution of privacy rights and a basic Data Privacy e-learning course, to familiarize all employees with the principles of the data privacy policy as well as dedicated deep dive sessions for the more exposed functions like Human Resources, Marketing, Sales. In addition, a Data Privacy Organization was set up and internally certified after extensive training, covering the main topics for a certified Privacy Professionals from the International Association of Privacy Professionals (iapp.org). The members of the Data Privacy Organization are responsible for creating awareness and build up the relevant knowledge throughout the organization with the »train the trainer« approach.

2.2.6. Providing clear grievance mechanisms

A key instrument to track Clariant's performance on ethics and compliance is the Integrity Line, which is used to report workplace-related issues. To strengthen this channel, Clariant rolled out the »Speak-up« campaign. As part of this campaign the Integrity Line, was promoted on Clariant's website and made accessible to external stakeholders to anonymously report any alleged violations of the Code of Conduct. In 2018, 104 questions and allegations were issued via the Integrity Line (2017: 80), of which 29 were fully or partially substantiated (2017: 16). The substantiation rate is low, and we will focus in the coming year on more transparency related to the process and what should be reported.

2.3. Policy and stakeholder relations

Clariant believes that maintaining an open and trustworthy dialogue with all stakeholders and participating in relevant public policy developments are important aspects of its corporate responsibility. As a responsible corporate actor that values transparency, Clariant publicly discloses its contributions to trade and business associations. → **CLARIANT.COM/EN/COMPANY/CORPORATE-GOVERNANCE/PUBLIC-POLICY-DIALOG**

GRI

GRI Online Report

Management Approach
Policy and Stakeholder Relations
reports.clariant.com/2018/gri

The engagement of Clariant representatives in trade associations and other platforms supports strategic alignment across the industry, provides an opportunity for exchange on industry perspectives and best practices, and brings forward Clariant's views and positions on various policy areas.

Clariant is a member of numerous interest groups and trade associations. At the international and regional level, these include, among others, the International Council of Chemical Associations (ICCA) and the European Chemical Industry Council (Cefic). At the local level, Clariant is part of national business federations and chemical industry associations, such as ABIQUIM in Brazil, CPCIF in China, the Verband der Chemischen Industrie (VCI) in Germany, and the American Chemistry Council (ACC) in the United States.

Clariant is also active in sectorial associations, for example in the bio-economy field, and supports scientific and research associations, such as SusChem, the European Technology Platform for Sustainable Chemistry.

The top three contributions in 2018 were all made to Europe-based associations. Together, they represented more than 50 % of Clariant's total membership costs:

1. Verband der Chemischen Industrie e.V. – VCI, the German national association of chemical producers;
2. Handelskammer beider Basel, the Basel Chamber of Commerce; and
3. Scienceindustries, the Swiss business association for the chemical, pharmaceutical, and biotech indutries.

In 2018, Clariant decided to step up its support of the transition to a circular economy in the European Union. It joined associations such as the «Plastics Recyclers Europe» and «Petcore», the association representing the complete Polyethylene terephthalate (PET) value chain in Europe.

Active engagement in these bodies helps Clariant maintain a continuous stakeholder dialogue in strategically important fields. In 2018, dossiers related to sustainable chemistry, circular economy, bio-economy, and innovation policy frameworks were a particular focus.

GRI

GRI Online Report

Management Approach Sustainability Performance in the Supply Chain
reports.clariant.com/2018/gri

CUSTOMER TO CASH

2.4. Sustainability performance in the supply chain

Clariant sources over 34 000 types of raw materials from approximately 7 000 suppliers. In 2018, CHF 2.9 billion was spent on raw materials, representing the largest portion of Clariant's total expenditure. Suppliers are critically important to Clariant's value creation and substantially impact the company's overall sustainability performance. Clariant uses a comprehensive set of criteria to select and manage suppliers, outsourcing partners, and service providers. Apart from economic and product-specific performance, these criteria include sustainability considerations such as environmental and safety standards, social and governance aspects, complaint management, working conditions, and respect for human rights.

1491

In 2018, the members of the »Together for Sustainability« initiative have assessed 1491 suppliers.

SUSTAINABLE VALUE CHAIN

	2018	2017
Number of new Sustainability Assessments shared [1]	**1491**	2309
Percentage of direct spend (raw materials) on suppliers covered by shared Sustainability Assessments	**74**	65
Number of new Sustainability Audits shared [2]	**358**	441

[1] »Together for Sustainability« Supplier assessments

[2] »Together for Sustainability« Supplier audits

2.4.1. Supplier Code of Conduct

In its Supplier Code of Conduct, Clariant outlines the strategy, scope, and expectations regarding the sustainability engagement and performance of suppliers. The Code is part of Clariant's General Terms and Conditions of Purchase, which are incorporated into every purchase order issued by procurement. Suppliers and their subsidiaries are required to agree and fully comply with the Code. → **CLARIANT.COM/EN/COMPANY/CORPORATE-GOVERNANCE/CODES-OF-CONDUCT**

2.4.2. Assessing and steering sustainability in the supply chain

In order to ensure compliance with the Supplier Code of Conduct, Clariant relies on assessments and audits conducted by »**Together for Sustainability**« (TfS). In 2018, TfS members assessed 1491 suppliers for the first time, compared to 2309 assessments in 2017. In total, more than 10 000 suppliers have been assessed since the inception of TfS. To identify which portion

TOGETHER FOR SUSTAINABILITY (TFS)

TfS was founded in 2012 and currently lists 21 major chemical companies as members, representing a combined yearly spend of more than CHF 230 billion. Clariant joined TfS in 2014 in order to assess and steer sustainability in its supply chain, alongside other members. As an active member, Clariant contributes to the initiative by providing sustainability performance assessments and audits of its own suppliers. In turn, it gains access to assessments generated and shared by other TfS members.

To ensure independence and consistency of results, TfS supplier assessments are conducted according to a standard approach by best-in-class service providers. The sustainability assessments consist of scorecards providing an overall score as well as a sub-score for performance in Environment, Labor Practices, Fair Business Practices, and Sustainable Procurement. The on-site sustainability audits are carried out by globally renowned and specialized service providers.

of its total spend is covered by TfS assessments, Clariant maps completed assessments against its supplier base. In 2018, coverage was 74 %, an increase of 9 % compared to 2017. With this, Clariant managed to reach its goal of a direct spend coverage of 70 % by 2019 one year early. The number of new audits amounted to 358 in 2018, compared with 441 in 2017, adding up to a total of more than 1 500 audits conducted since 2012. As such, TfS achieved its goal of 1 400 audits one year early.

Based on TfS sustainability assessments, Clariant initiates Corrective Action Plans (CAPs) to reduce identified sustainability risks. About 200 supplier CAPs were completed in 2017. The reassessment of these suppliers in 2018 showed positive results: 75 % improved their score and the average score improved by 6 %.

In 2018, Clariant formalized TfS assessments in order to use them for screening customer eligibility for EcoTain® licensing. Suppliers need to have a solid sustainability performance and reach a minimum score of 45 points in the online assessment conducted by third-party service provider EcoVadis to become eligible for the use of the EcoTain® label on their own products and marketing material. The assessment tool thus not only helps Clariant evaluate the sustainability performance of its suppliers but also contributes to the growth of the EcoTain® brand. → PAGE 122

2.4.3. Goals and challenges in sustainable supply chain management

In 2018, Clariant established supply chain sustainability targets for each Business Unit individually. The targets address increasing customer requests and proactively support Clariant's reputation as a sustainability leader. Clariant also organizes internal trainings every year to increase awareness and enhance its capability to evaluate sustainability performance in the supply chain. The trainings mainly target employees in Global Procurement Services (GPS) and associates in the Business Units. A particular focus of the trainings provided to GPS is put on the toolbox Clariant uses to further deploy sustainability with the company's suppliers. The trainings for the Business Units serve to provide updates on GPS' activities and inform them about sustainable procurement initiatives in other businesses.

While Clariant is committed to motivating its suppliers to participate in the »Together for Sustainability« program, a major remaining challenge is the systematic extension of Clariant's supply chain management to tier 2 suppliers and beyond. As Clariant does not have a direct business relationship with these companies and in many cases does not know them, the company launches pilot projects that will facilitate an exchange with tier 2 suppliers on the issue of sustainability.

2.4.4. Strong engagement leads to outside recognition

Over the last few years, Clariant's supply chain sustainability performance has consistently received external recognition. In December 2017, the European Institute for Purchasing Management (EIPM) honored Clariant with its prestigious »Sustainability Leadership in the Supply Chain« award. With a score of 80 points, it also received one of the highest EcoVadis assessment scores of more than 30 000 assessed companies in 2018. The assessment focuses on 21 sustainability criteria grouped into the four categories »Environment«, »Social«, »Ethics«, and »Supply Chain«. In 2018, Clariant reached 80 points in all four categories. In the supply chain category, this represents an improvement by 23 points since 2011.

2.5. Human rights

Clariant is firmly committed to protecting human rights during all phases of value creation within all business units. This obligation applies not only to Clariant's own business operations, but also to its entire supply chain and contracted workers. As a prerequisite for sound business governance and license-to-operate, Clariant expects its business partners to uphold the same high standards regarding human rights.

Clariant crafted a comprehensive framework of policies, guidelines, and processes to ensure the implementation of its human rights commitments. Over the last two years, deep-dive investigations were performed in areas that were identified as high-risk during our 2016 human rights due diligence review. A specific focus was on contracted labor in order to assess that all corporate policies were well implemented and that the same requirements were applied to Clariant's own employees as to temporary workers and contractors. These efforts concentrated particularly in high-risk geographies, such as India.

In order to reinforce its commitment to workplace rights and globally ensure the same high standards regarding working conditions, Clariant developed a new employment policy in 2018. The policy fosters sustainable employee relations and addresses fair working conditions, discrimination, freedom of association, occupational health and safety, as well as child and forced labor. The policy applies equally to permanent and temporary employees and workers, and is applicable to all employment agencies and contractors that collaborate with or engage on behalf of Clariant. The new policy was communicated to all employees across all countries.

Finally, via the Together for Sustainability (TfS) platform and in cooperation with other companies, Clariant assesses its suppliers in relation to child and forced labor, among other social, governance, and environmental topics. → PAGE 148

GRI

GRI Online Report

Management Approach
Human Rights
reports.clariant.com/
2018/gri

Where
Why
When
Who
What

Customer Relationships

What Will Our Customers Expect from Us Tomorrow?

Trends and tastes shape what consumers buy. Knowing what people want is hard. Knowing what they'll want tomorrow or next year is even harder. With innovation cycles shortening and global trends moving faster than ever, it's crucial for consumer goods companies and their suppliers to know which way to innovate. That's why Clariant helps its customers predict trends and keeps its finger on the pulse.

Judith van Vliet

As Designer for ColorWorks™ at Clariant, Judith helps companies figure out which colors consumers will favor in coming years.

Janis Ambrose Shard

As Senior Manager for Cross Car Line at Toyota, Janis works on trends that may change what cars will look like and how we use them.

Judith, what's the color for 2020?
There's not one color. That's a misconception people have, that a single color will work in every context. With ColorForward®, we outline trends and a range of colors that interpret and translate those trends. For 2020, we see consumers gravitating to cooler blues and greens – away from the warmer tones of recent years.

Okay, I feel we've jumped right into your work, which is rather unique.
Yes, we are one of a kind within the company – and the industry. I'm a conceptual designer at ColorWorks™, which is the global network of Design & Technology Centers within the Business Unit Masterbatches.
In short, ColorWorks™ helps Clariant customers choose the right aesthetic for their product.

Who are those customers?
They come from a wide range of industries – from packaging and automotive, to consumer goods and textiles, to food and interiors. We work directly with these customers. So I would work mostly with a designer or marketeer at a brand to pick the color and finish for a new product.

What goes into these decisions and how can you help?
There's a lot that comes into play. Obviously their brand and their demographic target, but also societal trends and regional tastes. Clariant has developed its own forecasting guide called ColorForward®. We've just finished working on its 14th edition for trends, their respective colors, and associated aesthetics in 2020.

How do you forecast trends?
Our team goes to shows, conferences, and exhibitions all over the world. We talk to other trend watchers, to designers, artists, and customers. And even when we're just walking down the street, we always have our antennas out. We try to see what is happening and what is different. It's about all the small signs that might signal change.

Where are those teams you mentioned?
Our teams are located in Italy, Singapore, Chicago, and São Paolo.

What's in it for Clariant?
It's to positively distinguish ourselves from the competition. Clariant sells masterbatches that give plastics their unique visual appearance and functionality. The masterbatches market is a crowded one, with many dozens of competitors in Europe alone – from small family businesses to other multinationals. Customers understand, though, that we know their markets better than anybody else. We know societal trends that will shape consumer decisions and we speak the language of their designers.

Why is that important?
Designers don't talk in color codes. They try to evoke feelings or replicate things they've seen in the world. Translating that into something a chemist or an engineer can work with is a big and beautiful part of what we do. And vice versa, we inspire designers by introducing them to things our chemists come up with.

Don't your customers have people for that?
It depends. Some multinationals have entire buildings populated by color, material, and finish designers – basically people like myself. Yet the most creative companies will always invite different perspectives. Beiersdorf is a good example. The makers of NIVEA™ certainly aren't looking for new shades of blue and white for their flagship product. Still, they're usually the first to invite us each year to talk about trends.

How accurate are your predictions?
You never get it completely right. We compile four stories and usually 20 directional colors. Each year, 15 to 17 of those are confirmed, making us 75 to 85 percent accurate. What is most important is that the overarching stories are almost always confirmed.

Have there been forecasts you were particularly fond of?
I was personally very touched by a story we dubbed »Umswenko«. That's a Zulu word describing the style and attitude of African millennials. It's part of ColorForward® 2019 and tells the story of the creative and confident startup culture we see flourishing across the African continent, which is inspiring on so many levels. Not surprising, considering Africa is the next big thing

Why do we predict trends for our customers?



JUDITH VAN VLIET
Designer ColorWorks®, Clariant

What shapes consumer tastes and trends in cars?



JANIS AMBROSE SHARD
Senior Manager Product Planning & Strategy, Toyota North America

Janis, Henry Ford famously said that his customers could have their cars any color they wanted as long as it was black. Why are we still buying mostly black cars a century later?
Well, we're not. Actually pearl white has overtaken black, especially in Asian markets. And more to the point, when Henry Ford said that, black was the easiest color to paint. Today's colors and today's blacks are not easy to paint. But it is true that black, white, gray, and silver cars tend to hold their resale value a little better. So people play it safe. You don't just throw out your old car the way you do with a carpet or an iPod. If it weren't for that, I think consumers would be more open. My team and I are always trying to infuse more colors.

You help set the global color palette for Toyota and Lexus. Was there ever a favorite for you?
I remember a bright orange called »Inferno« that we eventually chose for the launch of our TRD Pro trucks in 2015. I had to fight tooth and nail to get that color. Orange is technically challenging and parts were being painted at different locations so I had to make sure that each factory was able to get it right. But the color made a huge splash at the Chicago Motor Show.

Do societal trends affect which color people buy?
Yes, definitely! In my experience, when the economy is booming, colors go a little bit darker, people turn to black and dark grey. When there is a downturn, we start seeing fluorescence and bright colors because people need optimism.

Besides colors, your team oversees technologies to be rolled out across the entire model range. What are you seeing and how far ahead of the curve are you?
The next big thing will be electrification and the necessary infrastructure – along with, eventually, autonomous driving. Toyota is not always at the forefront of everything, even though we brought hybrids to the mainstream long before anybody else. We tend to be later to the party, but better dressed.

Speaking of appearance, how might autonomous driving change the way cars look?
We're starting to see how the interior can be packaged differently, because suddenly you'll have all this free time on your hands as the vehicle whizzes you from A to B.

You've been with Toyota for twenty years now. How have tastes changed?
With things like Pinterest and Instagram, everyone's a designer now. Tastes and expectations are a lot more sophisticated.

How are materials changing?
We're seeing a lot more natural materials for interiors – organic fabrics for example or bamboo. The European market is leading the way here.

What role do suppliers play in addressing or even setting new trends?
Our reliance on suppliers is huge. They're the ones bringing in, say, a new technology for a seat material. I'm not the expert in leather or paint technology. So we rely on suppliers competing on new technologies. And they come with some pretty wild ideas.

Are trends the same for every car company?
They can affect our buyers differently than those of other brands. You buy a Toyota for specific reasons and those might be different than the ones for choosing a Honda or a Mercedes.

How important is it that a supplier understands your industry?
It's one thing if they've got a beautiful product. But it has to meet our standards, which are a lot higher than for other industries, not least from a regulatory standpoint. I've had suppliers come to me with seat materials they've developed for boats. But what might look amazing on a yacht won't necessarily hold up as a car seat in Louisiana humidity or in Texas heat. Another thing is how you deal with suppliers. For mass production, you want to make sure that it's a smooth process, whether it's purchasing or the engineering side. So when we try out a new material, for a concept car for example, we're also testing what it's like dealing with that particular supplier.

Planet

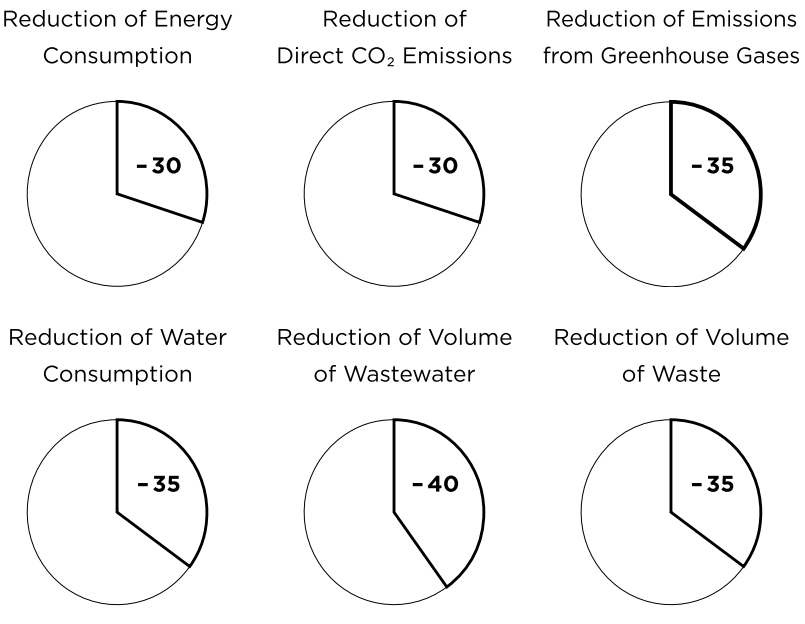
Planet – Clariant's third brand value – encompasses the value creation processes that benefit the environment. To meet its ambitious environmental targets, Clariant takes measures to ensure the responsible use of natural capital. This includes programs to protect the environment, safeguard natural resources, mitigate climate change, and promote the transition to a circular economy.

1. Natural Capital

Clariant remains committed to continuously improve operational efficiency by tackling environmental challenges. Stewardship of natural resources is paramount, as Clariant's production depends on reliable access to a multitude of raw materials. To monitor environmental impacts from its production sites in a meaningful and efficient manner, Clariant regularly validates and reports environmental data from its largest production sites. Collectively, these cover around 95 % of production volume. To keep track of the smaller sites as well, Clariant collects environmental data for all production sites every three years. Due to this schedule, 125 production sites were included in the 2017 reporting and 79 in the 2018 reporting. In addition, five administrative sites are included in the reporting as well. This promotes comparisons of relative numbers (per ton of production), rather than absolute ones. Thus, in the following tables and discussions, year-on-year comparisons of relative numbers are highlighted.

In 2018, total sales increased, while production volume decreased – a finding that also remains valid when considering the effect of the reduced reporting scope. Overall, the lower production volume led to increased relative figures, since resource consumption, emissions, and waste can only partially be related to production volume. Despite these challenges, Clariant remains committed to its 2025 environmental targets and is well on track to achieve them. → FIGURE 002

001 **ENVIRONMENTAL TARGETS 2025** in % (per t produced goods)



CUSTOMER TO CASH

1.1. Progress toward environmental targets 2025

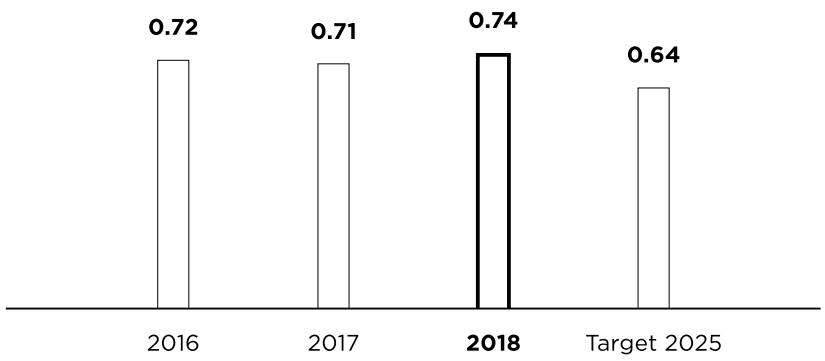
Clariant has set goals to achieve significant impact reductions in six crucial areas by 2025, as compared to 2013. In relation to produced goods (per ton), Clariant aims to reduce energy consumption and direct CO_2 emissions by 30 %, greenhouse gas emissions, water consumption, and waste volume by 35 %, and wastewater volume by 40 %.

In 2018, energy consumption per ton of produced goods rose by 4.6 %, from 706 kWh to 739 kWh. Direct CO_2 emissions (Scope 1) and greenhouse gas emissions, including from the production of electricity (Scope 1 & 2), followed this development, with increases from 95 to 97.5 kg (2.7 %), and 211 to 215 kg (1.9 %) per ton of production, respectively. The lower increase in emissions indicates Clariant's shift to cleaner energy sources, such as natural gas.

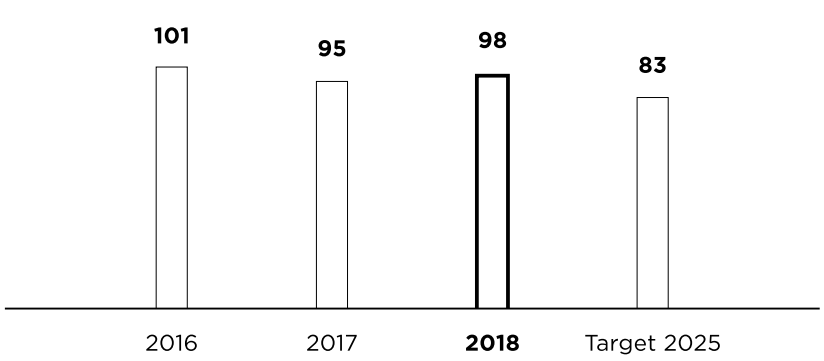
eWATCH™

eWATCH™ oversees all forms and usages of energy at Clariant – electricity, heating and cooling, steam, natural gas, nitrogen, and the production of deionized water – by taking into account the design and setup of equipment and processes across Clariant's facilities. It also records and analyzes Clariant's energy consumption, including information on energy flows, prices, and usage optimization. It maintains information on total energy usage patterns and requirements and will increasingly consider maintenance activities, changeovers, cleaning, and production planning and scheduling in the future.

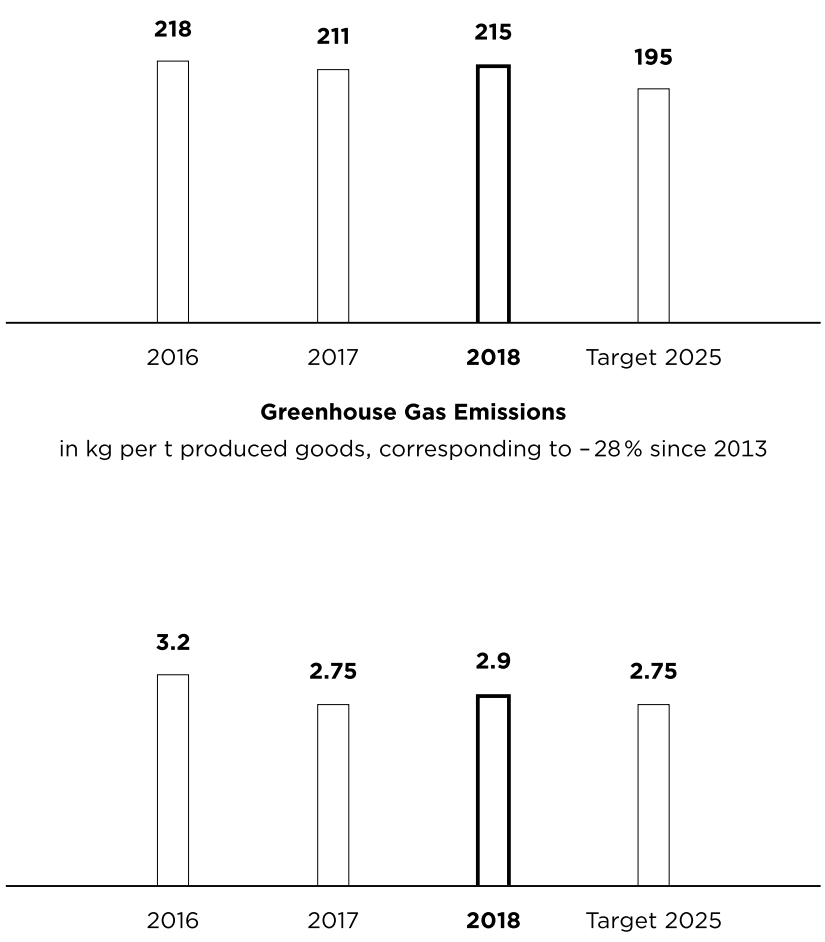
002 **PROGRESS TOWARDS 2025 TARGETS**



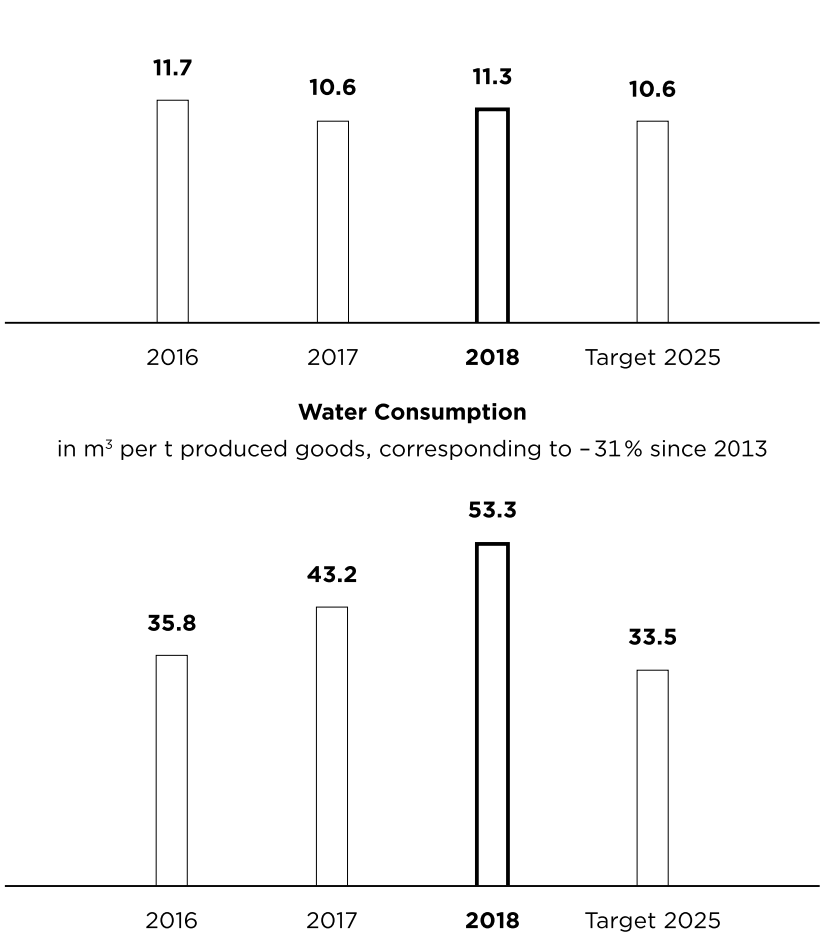
Energy Consumption
in MWh per t produced goods, corresponding to –20% since 2013



Direct CO_2 Emissions
in kg per t produced goods, corresponding to –18% since 2013



Greenhouse Gas Emissions
in kg per t produced goods, corresponding to –28% since 2013



Water Consumption
in m^3 per t produced goods, corresponding to –31% since 2013

Wastewater Generation
in m^3 per t produced goods, corresponding to –37% since 2013

Waste Generation
in kg per t produced goods, corresponding to +4% since 2013
(Waste performance mainly affected by reclassification of non-hazardous waste from gypsum waste)

Water consumption per ton of produced goods increased by 6.5 %, from 10.6 m^3 to 11.3 m^3. This was mainly due to an extremely warm summer and, consequently, increased cooling demand. Wastewater generation per ton of production increased by 5.6 %, from 2.8 m^3 to 2.9 m^3.

Waste generation increased by 23 % in 2018, rising from 43.2 kg to 53.3 kg per ton of production. This significant increase is mainly due to different accounting, resulting from internal and regulatory changes. → PAGE 159

GRI

GRI Online Report

Management Approach Environmental Protection and Resources
reports.clariant.com/2018/gri

1.2. Environmental protection and resources

For Clariant, environmental protection and resources encompasses consumption of resources, such as energy and water, on one hand and preventing pollution and ecosystem effects on the other. To minimize the company's impacts on the environment and safeguard natural resources, high-level management attention and a corporate culture that prioritizes environmental stewardship throughout the company is essential. To ensure this focus, Clariant uses comprehensive management tools and programs that combine technology, data, and behavioral guidelines.

ENVIRONMENTAL PROTECTION AND RESOURCES

	2018 [1]	2017
Total energy consumption (in m kWh)	**3 209**	3 245
Energy consumption (in kWh/t production)	**739**	706
Total water consumption (in m m^3)	**49**	49
Total wastewater generation (in m m^3)	**13**	13
Total quantity of waste (in thousand t)	**232**	198

[1] Every three years, Clariant validates environmental data from all production sites. The last full reporting campaign was in 2017. In interim years, including 2018, the reduced reporting scope comprises the larger sites responsible for 95 % of production.

1.2.1. Energy

Clariant recognizes the critical role companies must play to reduce energy consumption and minimize energy-related greenhouse gas emissions. In 2018, energy consumption per ton of produced goods rose by 4.6 %. The increase is mainly due to a reduction of the production volume. Clariant will continue to work toward its energy consumption reductions targeted for 2025 by further investing in and developing programs such as eWATCH™, Clariant Operational Excellence, and the Clariant Production System Yield, Energy, Environment (YEE) initiative.

Through eWATCH™, Clariant crafted a comprehensive energy efficiency program that analyzes energy consumption across operations and identifies potential cost-saving opportunities. Since 2013, a total of CHF 26.7 million was saved by implementing energy efficiency measures and energy-purchasing optimizations. In 2018, Clariant managed to save CHF 3.85 million.

eWATCH™ focuses on three pillars: operations and technology; awareness, mindset, and behavior; and energy management. In 2018, the eWATCH™ program was rolled out in Greater China, at two Business Unit Catalysts sites in South Africa and at all Clariant sites in Indonesia. Clariant globally passed the recertification of the energy management system according to ISO 50001. More than 40 % of Clariant's production volume was produced at ISO 50001-certified sites. Clariant also continued performing energy benchmarks of utility generation systems internally as well as against state-of-the-art installations. A guideline of best practice for utility engineering is in preparation and will be further developed in 2019.

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With the Yield, Energy, Environment (YEE) initiative, Clariant saved more than CHF 50 million since 2012.

With the »eWATCH™ goes digital« initiative, Clariant will identify additional energy saving and emission reduction opportunities by increasing transparency at the different levels of production and organization, and by exploiting suitable tools for data monitoring, analysis and interpretation. For example, real-time energy consumption data at equipment, plant, production, and product level is key to realizing further operational energy efficiency. The focus will be on identifying equipment that is mainly responsible for energy consumption in the utility and production areas.

The Production System **Yield, Energy, Environment (YEE) initiative** analyzes Clariant's production processes and units to discover even more opportunities to increase yields, improve energy efficiency, and reduce waste streams. Since its inception in 2012, Clariant achieved savings with the YEE of more than CHF 50 million. In 2018 alone, savings amounted to CHF 6 million.

1.2.2. Water consumption and wastewater generation

Water is one of the most important auxiliary materials for the chemical industry. Clariant considers the entire volume of water withdrawn and used as its total water consumption. Cooling water returned to the source after being used in cooling cycles is not excluded from total consumption. Clariant uses about 70 % of purchased water for cooling production plants, 20 % for production processes, and 10 % as a product component or for sanitary purposes. Conservation of water is mandated by local communities, customers, and regulators.

In 2018, water consumption per ton of produced goods increased by 6.5 %, mainly caused by an extremely warm summer that led to a higher demand for cooling water. The reduced reporting scope also contributed to the increased water intensity, as the omitted sites are only responsible for a very small fraction of total water consumption. Similarly, wastewater generation per ton of produced goods increased by 5.6 %.

Wastewater is closely managed at all Clariant production sites and local regulatory requirements regarding discharge limits are strictly followed. The company assesses wastewater quality by measuring heavy metals concentration, nitrogen and phosphorus compounds, as well as biological and chemical oxygen demands. Wastewater is often pretreated at Clariant's sites before being transferred to dedicated industrial or municipal wastewater treatment plants for further treatment. The pretreatment mostly consists of a multi-stage chemical and physical treatment to ensure effluents do not impair the receiving water bodies. With this multistep treatment approach and constant monitoring, Clariant guarantees that discharged wastewater does not negatively impact ecosystems.

In 2017, Clariant undertook a Group-wide water risk assessment to understand which production sites are located in water-risk areas. First, the World Resources Institute's (WRI) global risk assessment tool was utilized to prepare a short list of sites located in areas with water risks. Second, the short-listed sites were analyzed in an internal survey aiming to understand site-specific water risks and impacts. To further develop an in-depth understanding of risks, a pilot water risk management project was completed in Santa Clara, Mexico, in 2018. While at-risk sites comprise only a small percentage of Clariant's total sites,

INSPIREWater

The eleven partners of the EU-funded project span eight industries, including steel, paper, and chemicals. Clariant joined the project in 2016.

the results of the pilot study will be used to develop goals to ensure all sites are equipped to responsibly manage water risks. Due to its engagement to reduce water-related risks, Clariant was recognized as the sector leader in the Dow Jones Sustainability Index (DJSI) for the second consecutive year.

Clariant is one of eleven partners in the European **INSPIREWater** project, which is exploring innovative solutions for industrial water management. The project includes developing a pilot wastewater treatment plant in the water-limited region of Tarragona, Spain, with the aim of achieving zero liquid discharge. Knowledge obtained from this project can be transferred to other Clariant sites, particularly those located in water-stressed areas.

1.2.3. Waste

Clariant is aware of the environmental harm associated with waste production and consequently follows a strict waste-management protocol. Clariant prioritizes waste prevention over recycling waste, as this approach minimizes resource consumption in addition to costs. During product development and manufacturing, Clariant aims to generate as little waste as possible, and any unavoidable waste is recycled or disposed of properly. Accumulated waste is documented in detail in order to enable proper classification and handling.

Per ton of production, generation of waste increased by 23 % in 2018. The increase can only be observed in non-hazardous waste, which is 76 % of Clariant's total waste. Gypsum is a by-product of bentonite processing and represents 40 % of the total non-hazardous waste. In 2018, two sites accumulated large amounts of gypsum. The sites are exploring different commercial avenues to convert gypsum into a viable product. In addition, changes in regulations and definitions led to changes in reporting and a further increase of non-hazardous waste.

1.2.4. Air pollution

In order to maintain healthy ecosystems, Clariant not only focuses on wastewater treatment, but also judiciously monitors and contains air emissions from operations. Clariant adheres to local regulations regarding air emission limits in all the countries in which it operates. Air pollutants tracked include volatile organic compounds (VOCs), sulfur oxides (SO_x's), and nitrogen oxides (NO_x's).

1.2.5. Ecosystem protection

Ecosystem services are vital for businesses and society. They include provision of fresh water, air purification, energy production, and protection against natural disasters, among many other critical benefits. Clariant strives to ensure its activities do not impede or degrade such services. Thus, Clariant does not operate production sites in biological reserves or areas with high biodiversity value. In addition, Clariant carefully addresses the environmental impacts of sourcing palm oil and mining bentonite, both of which are important raw materials for the company.

To protect rainforests and peatland and combat ecological degradation caused by clearing land for palm oil plantations, Clariant pursues certification of its palm oil derivatives supply. As member of the Roundtable on Sustainable Palm Oil (RSPO), Clariant achieved mass-balance certification for all of its sites in 2016 and has more than 250 products certified specifically. Clariant will continue to extend the certified product portfolio in order to help its customers meet demand for certified-palm ingredients.

When mining bentonite, Clariant follows several steps to exceed societal and community expectations regarding the conservation of the surrounding ecosystem. Before drilling begins, Clariant's geologists craft a plan to minimize associated environmental impacts. This includes removing the topsoil and overburden to preserve the land for restoration, as well as reduce operating costs and fuel consumption. During mining, Clariant ensures that resident animals may easily move to adjacent areas. Before being transported, the bentonite is sun-dried, reducing its weight and thus emissions produced in shipping. Quarry closure is undertaken with local experts in order to restore the land for profitable use in forestry or agriculture. These efforts are crucial to maintain healthy relationships with local communities and protect local ecosystems.

1.3. Climate change

Mitigating and adapting to human-induced climate change is one of the world's most pertinent challenges. The expectations and pressure for corporations to address climate change have risen considerably in recent years. Financial investors, customers, policy-makers, rating programs, and NGOs have set clear expectations regarding the need to properly identify and evaluate climate risks and opportunities, and to develop mitigation strategies.

Clariant's overall objective is to address and promote the transition to a low-carbon economy and ultimately achieve climate resilience. Clariant also wants to capitalize on business opportunities such as reducing energy costs and developing low-carbon products, for which customer demand is rising.

In order to contribute to a sustainable economy, Clariant adopted environmental targets to be achieved by 2025. Clariant committed to reduce Scope 1 and 2 greenhouse gas emissions by 35 %, and to reduce direct carbon dioxide emissions by 30 %, both per metric ton of production, compared to the base year 2013. Clariant is well on track to reach these targets.

→ **PAGE 159**

GREENHOUSE GAS EMISSIONS

	2018 [1]	2017
Total greenhouse gas emissions (Scope 1 & 2 CO_2 equivalents) (in m t)	**0.93**	0.97
Total indirect greenhouse gas emissions (Scope 3 CO_2 equivalents) (in m t)	**5.69**	5.21
Greenhouse gas emissions (Scope 1 & 2 CO_2 equivalents) (in kg/t production)	**215**	211

[1] Every three years, Clariant validates environmental data from all production sites. The last full reporting campaign was in 2017. In interim years, including 2018, the reduced reporting scope comprises the larger sites responsible for 95 % of production.

In 2018, direct CO_2 emissions (Scope 1) per ton of production rose by 2.7 % and greenhouse gas emissions, including from the production of electricity (Scope 1 & 2), increased by 1.9 %. The increase per ton is mainly due to the lower production volume.

To increase transparency about its carbon footprint, Clariant is moving beyond **Scope 1 and 2** and reports further emissions that occur along its value chain, so-called **Scope 3 emissions**. The most relevant Scope 3 emission activities for Clariant are: purchase of raw materials, energy-related emissions, transportation and distribution of supplied materials and sold products, and the end-of-life treatment of its products.

GRI

GRI Online Report

Management Approach Climate Change
reports.clariant.com/2018/gri

Emission scopes

»Scope 1« covers direct emissions from operations, including from the combustion of fuels in vehicles, boilers, and furnaces. »Scope 2« includes indirect emissions from the generation of purchased energy, such as electricity and district heat. »Scope 3« comprises emissions occurring in the value chain, which are not included in Scope 1 or 2.

Scope 3 emissions are typically much larger than Scope 1 and 2 emissions, given the broader value chain and activity coverage. The increase of Scope 3 emissions between 2017 and 2018 was primarily driven by increased purchases of raw materials. A detailed breakdown of Clariant's greenhouse gas emissions is available in the GRI report.

To support the agenda on climate change mitigation, Clariant focuses on low-carbon products that are also a promising growth market. Based on Clariant's Portfolio Value Program, already more than 20 % of sales are associated with products that help reduce carbon emissions. In the future, an increasing share of bio-based raw materials will replace fossil-based resources, leading to a reduced product carbon footprint. Examples of products contributing to emissions reduction are lightweight solutions for automotive applications, such as the foaming agent Hydrocerol® or the catalyst EnviCat®, which significantly reduces nitrogen oxide emissions.

Increasing pressure on natural resources, concerns on climate change, rising expectations about corporate performance, and higher availability and affordability of renewable energy are factors leading to their growing uptake. To increase the share of clean energy in the consumed energy mix, Clariant started developing a global renewable energy procurement strategy. More specifically, it investigates drivers, sourcing options, contractual instruments, and the feasibility of green energy solutions at the country level. The increase in renewable energy use will have a positive, direct effect on greenhouse gas emissions. → PAGE 76

In addition, Clariant is currently assessing how to further integrate a dedicated climate risks and opportunities management process at the Group level. This process would support the company to better identify mid- to long-term developments, address and enable the transition to a low-carbon economy, and ultimately secure climate resilience.

GRI

GRI Online Report

Management Approach
Circular Economy
reports.clariant.com/2018/gri

IDEA TO MARKET

1.4. Circular economy

1.4.1 The circular model gains traction

Increasing awareness of limited natural resources has generated support for the circular economy as a necessary alternative to the current linear economic model. In a circular economy, materials are kept in use for as long as possible, and are fully reused or recycled at a product's end-of-life. Ideally, materials originate from renewable sources, where feasible, and are sustainably sourced. The circular economy eliminates currently prevalent and wasteful take-make-dispose material flows and requires a strong focus on product design that favors durability, reparability, and recyclability.

Due to increasing customer and policy attention, intensified by media coverage of plastic waste, the circular economy has gained importance as a topic across all Business Units. In addition, two recent policies are further creating momentum: In 2018, the European Union Plastic Strategy was adopted and the waste ban in China came into force. As a supplier to value chains in various industries, Clariant and other chemical companies play an important role in transi-

tioning from a linear to a circular economy. Clariant also supports the development of public policies promoting the circular economy and sustainable chemistry. → PAGE 122, → PAGE 147

1.4.2 Embracing opportunities with chemical expertise and sustainability innovations

Clariant is ideally positioned to seize new market opportunities arising from the transition to a circular economy. Being a specialty chemical company with strong connections and customers in the plastic value chain, e.g., through its catalysts, additives, or masterbatches, Clariant's understanding of product-related recycling efforts and deep chemical knowledge not yet represented in the recycling value chain are clear advantages. Further, as a company with a strong focus on innovation and sustainability leadership, the topic has already been embraced in its early stage.

Clariant contributes in several ways to the proliferation of the circular economy, for example, by increasing eco-efficiency of production processes by using waste and renewable resources instead of virgin or fossil ones. For instance, waste streams from food production are used to source esters, and rice bran wax serves as feedstock for esterquats. Clariant also redesigns processes and promotes closed-loop recycling on-site, such as solvent recycling in wax production and comprehensive concepts on de-icing fluids for aircraft, as well as water recycling within the INSPIREWater project. In addition, Clariant engages in industrial symbiosis and value chain clusters, such as the Carbon2Chem project, which aims to convert process gases from steel production into base chemicals. Furthermore, circular economy principles are integrated in product and technology development.

1.4.3 A comprehensive approach yields tangible results

A highlight in 2018 was the Cradle-to-Cradle™ certification for Business Unit Masterbatches' CESA® solution for colored bottle caps made of 100 % recycled polypropylene. The solution avoids the use of adverse substances, such as halogenated pigments, while still enabling customers to obtain the requested color match and meeting the stringent Cradle-to-Cradle™ certification. The Cradle-to-Cradle™ certification considers the complete life cycle of a product, assessing it along five dimensions: material health, material reutilization, renewable energy and carbon management, water stewardship, and social fairness. The solution was awarded with the 2017 German Packaging Award and was tailor-made for Werner & Mertz, a German company offering cleaning agents and detergents. → PAGE 171

In addition, an iGarage focusing on plastic recycling has been set up. The iGarage is a platform to develop strategic innovation opportunities by applying agile and design thinking methods. → PAGE 116 The objective of this iGarage is to evaluate challenges and opportunities in plastic recycling and explore how Clariant can address these in collaboration with customers and other value chain partners. → PAGE 168

Where
Why
When
Who
What

Circular Economy

Where Can Chemistry Help Close the Plastics Loop?

Plastic is everywhere. Our modern lives depend on it. But the miracle material is becoming a global problem as single-use plastics waste resources and choke ecosystems. A circular economy for post-consumer plastic could change that. Modern chemistry might hold the key.

Richard Haldimann

As Head of New Business Development at Clariant, Richard works with a unique team that is rethinking how we design and formulate plastics for a circular economy.

Alexander Schau

As Packaging Developer for Werner & Mertz, Alexander designs recyclable packaging that's easy to separate and reuse, and works to incorporate more and more recycled materials in his designs.

Richard, Clariant is exploring new approaches to plastics recycling. Why?
As a company we are driven by sustainability. In a sense, it's become the lens through which we look at any new business opportunity. And plastics are an interesting case here. Their strength, light weight, and versatility have made them ubiquitous. Which, in and of itself, isn't a bad thing. Better plastic packaging has dramatically reduced food waste. Light weight plastics help save fuel. And plastics have increased the durability of products in many aspects of modern life. That's why demand for plastic has reached 322 million tons in 2015. Unfortunately, much of the produced plastic is lost after a single use. Every year, about 200 million tons are disposed of in landfills and about eight million tons leak into the oceans uncontrolled. We desperately need to find a solution for this waste problem. Having decades of experience in improving plastics, we consider Clariant to be well positioned to do just that. This also drove our decision to become a founding member of the Alliance to End Plastic Waste.

In your search, you've applied a new concept called iGarage. What is that and how does it help?
The problem is very complex and involves many different industries. We applied the iGarage, a new concept developed by Clariant Excellence to drive customer-centric innovation. It's a space where we bring together different experts from across the company as well as from the outside. By leveraging methods like design thinking and lean startup tools, they come up with new insights and approaches for a business. The main point is to gain speed and to focus on a singular challenge together. The iGarage allows us to tackle opportunities that are more complex and uncertain but also more rewarding.

What could Clariant's contribution look like?
We can contribute in two important ways. First, we can help increase the lifespan and use of plastic products. Reusing a plastic product several times because it's more durable reduces waste. And that's something we are already doing a lot today. Our second contribution would be to help design plastic products for improved recyclability. That can mean designing materials to make them easier to separate, recover, and reuse them for new products. It can also mean designing materials that make mixing different materials obsolete in the first place. Imagine a single recyclable material that does the job usually reserved for several layers of different plastics.

What's driving the push for a circular plastics economy?
Consumer awareness is very high, which drives brand owners and consumer-facing industries to make strong commitments. I know of big companies that want to use 100 percent recycled materials by 2025. As things are going, they won't even find those materials. Additionally, legislation is being introduced around the world that increases the pressure on industries to reduce plastic waste.

What are the next steps for Clariant?
We've prioritized five specific concepts that we're fleshing out right now, again working with external experts and scouting for technologies.

What are you looking for? New products, new services, or even new business models?
All of the above. We want to apply our products, but we also think about new business models. Is there, for example, an opportunity to co-develop recyclable and high-performing post-consumer solutions in particular? Those are things the individual Business Unit could do, but there may be opportunities for an overarching business model addressing the whole plastics-recycling value chain.

How is the industry reacting to your efforts?
They haven't gone unnoticed. We're now being invited to join various consortia like the Circular Economy Initiative Deutschland.

How can we help improve plastics recycling?



RICHARD HALDIMANN
Head of New Business Development, Clariant

How are design and recycling interlinked?



ALEXANDER SCHAU
Packaging Developer, Werner & Mertz

Alexander, your company prides itself on being a pioneer in eco-friendly products. Does that apply to their packaging as well?
Back in 1986, with environmental awareness on the rise, Werner & Mertz established Frosch as a brand for eco-friendly cleaning products. It led the way back then and we're leading the way again by working to close the loop for our packaging materials.

What's the current share of recycled material in your bottles and what's the target?
Roughly 70 percent of our bottles currently incorporate recycled materials. We've committed ourselves to using 100 percent recycled material by the year 2025 for all of our packaging. So we're well underway, but there's work left to be done.

What's holding you back?
There are both economic and technical hurdles. The use of recycled materials still lacks economies of scale. Today, recycled plastics are in many cases more expensive than virgin plastics. But we're confident that this will change with growth in demand and supply. In the meantime, we´re working with different shareholders on solutions for recyclable packaging and working to open new fields for the use of recycled materials.

Impurities in recycled materials are a problem. Where do they come from?
Some stem from labels for example. We're dealing with inks, adhesives, and paper fibers that end up in the recyclates. Here we need to call both on recycling firms to improve treatment processes and on packaging manufacturers to use more recycling-friendly solutions. But there's also the issue of complex plastic mixes. What to a consumer might seem like a simple enough plastic pack, say for cheese or meats, is in fact made up of several functional layers, each from a different plastic with any number of additives in the mix. Here we need unification in materials.

You mentioned joint Research & Development. Who are you working with?
No one company can solve this problem alone. We need to work with partners along the entire packaging value chain. That's why, in 2012, we started our recyclate initiative. It involves »Der Grüne Punkt™«, Germany's largest industry-funded waste collection scheme, a supermarket chain, a big manufacturer of plastic bottles and caps, as well as an environmental group and the makers of sensors used to sort waste. But it's an open collaboration that invites any company to get involved, including our competitors.

Don't recyclers work with plastics manufacturers anyway?
A lot less than you'd think. We made an effort to actually visit recycling facilities and bottle-production sites together. That was a first for some. To better understand the needs and constraints along the value chain is part of our drive to rethink packaging.

Where does a supplier like Clariant come in?
We recently introduced a new bottle cap made entirely of recycled polypropylene extracted from household waste. Together with Clariant, we've developed a new type of color masterbatch for our trademark green that is tailored to this specific post-consumer plastic. Not only that, we were able to substitute certain chemicals in this masterbatch, making it particularly sustainable and recyclable. It follows the Cradle-to-Cradle™ guidelines, and the certification process has started.

What's the key in designing for recyclability?
We need to rethink certain paradigms in packaging. For example, for years the industry has designed for packaging to be lightweight. That often meant using ever thinner layers but adding different materials, additives, and functions. This causes problems in recycling up to no recyclability at all. »Healthy materials«, meaning mono-materials without additives, would actually be a huge boon to recyclability.

Are you following this route to simplicity?
Yes. Last year, we patented a 100-percent recyclable pouch made of a polyethylene mono-material that will hit the shelves this year for a laundry detergent and a host of other products. The spout and cap are also made of polyethylene, and, instead of printing or gluing on any labels, we dress the pack in a decorative layer of low-density polyethylene that comes off easily and cleanly after use.

Independent Assurance Report on the Clariant Non-Financial Performance Reporting 2018

To the Board of Directors of Clariant Ltd, Muttenz

We have been engaged to perform assurance procedures to provide limited assurance on the non-financial performance reporting of Clariant Ltd and its consolidated subsidiaries (›Clariant‹) for the year ended 31 December 2018.

Scope and Subject matter

Our limited assurance engagement focused on the 2018 non-financial performance indicators published in the Integrated Report 2018 of Clariant:

a) The »Intellectual Capital« indicators on page 116, the »Manufactured Capital« indicators on page 122, the »Product Stewardship/ Sustainable Chemistry« indicators on page 123, the« Raw Material Procurement according to Region« indicators on page 126, the »Key Figures Workforce« on page 135, the »Talent Attraction and Development« indicators« on page 138, the »Employee Engagement« indicators on page 139, the »Occupational Health, Safety and Well-being« indicators on page 141, the »Relationship Capital« indicators on page 143, the »Customer Relationships« indicators on page 144, the »Ethics and Compliance« indicators on page 146, the »Sustainable Value Chain« indicators on page 149, the »Environmental Protection and Resources« indicators on page 160 and the »Greenhouse Gas Emissions« indicators on page 163; and

b) The management and reporting processes to collect and aggregate the data as well as the control environment in relation to the data aggregation of these data.

Criteria

The reporting criteria used by Clariant are described in the internal reporting guidelines and define those procedures, by which the non-financial performance indicators are internally gathered, collated and aggregated. The internal guidelines are based on the GRI Sustainability Reporting Standards (GRI Standards) published by the Global Reporting Initiative (GRI).

Inherent limitations

The accuracy and completeness of non-financial performance indicators are subject to inherent limitations given their nature and methods for determining, calculating and estimating such data. Our assurance report should therefore be read in connection with Clariant's internal guidelines, definitions and procedures on non-financial performance reporting. Further, the greenhouse gas quantification is subject to inherent uncertainty because of incomplete scientific knowledge used to determine emissions factors and the values needed to combine emissions of different gases.

Clariant Responsibilities

The Board of Directors of Clariant Ltd is responsible for both the subject matter and the criteria as well as for selection, preparation and presentation of the information in accordance with the criteria. This responsibility includes the design, implementation and maintenance of related internal control relevant to this reporting process that is free from material misstatement, whether due to fraud or error.

Our Responsibilities

Our responsibility is to form an independent conclusion, based on our limited assurance procedures, on whether anything has come to our attention to indicate that the non-financial performance indicators are not stated, in all material respects, in accordance with the reporting criteria.

We planned and performed our procedures in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (revised) ›Assurance engagements other than audits or reviews of historical financial information‹ and with ISAE 3410 ›Assurance Engagements on Greenhouse Gas Statements‹. These standards require that we plan and perform the assurance engagement to obtain limited assurance the identified non-financial indicators.

A limited assurance engagement is substantially less in scope than a reasonable assurance engagement in relation to both the risk assessment procedures, including an understanding of internal control, and the procedures performed in response to the assessed risks. Consequently, the nature, timing and extent of procedures for gathering sufficient appropriate evidence are deliberately limited relative to a reasonable assurance engagement and therefore less assurance is obtained with a limited assurance engagement than for a reasonable assurance engagement is obtained with a limited assurance engagement than for a reasonable assurance.

Our Independence and Quality Control

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

Our firm applies International Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Summary of work performed

Our limited assurance procedures included, but were not limited to the following work:

— Reviewing the application of Clariant's internal guidelines
— Interviewing Clariant representatives at Group level responsible for the data collection and reporting
— Interviewing Clariant representatives in South Africa, Mexico and USA responsible for the data collection and reporting by phone
— Performing tests on a sample basis of evidence supporting the non-financial performance indicators as outlined in the scope and subject matter section concerning completeness, accuracy, adequacy and consistency
— Inspecting the relevant documentation on a sample basis
— Reviewing and assessing the management reporting processes for non-financial performance reporting and consolidation and their related controls

We have not carried out any work on data other than outlined in the scope and subject matter section as defined above. We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our assurance conclusions.

Limited assurance conclusion

Based on the procedures we performed, nothing has come to our attention that causes us to believe that

a) The 2018 non-financial performance indicators of Clariant as described in the scope and subject matter section are not prepared and disclosed in all material respects in accordance with Clariant's internal guidelines and procedures; and

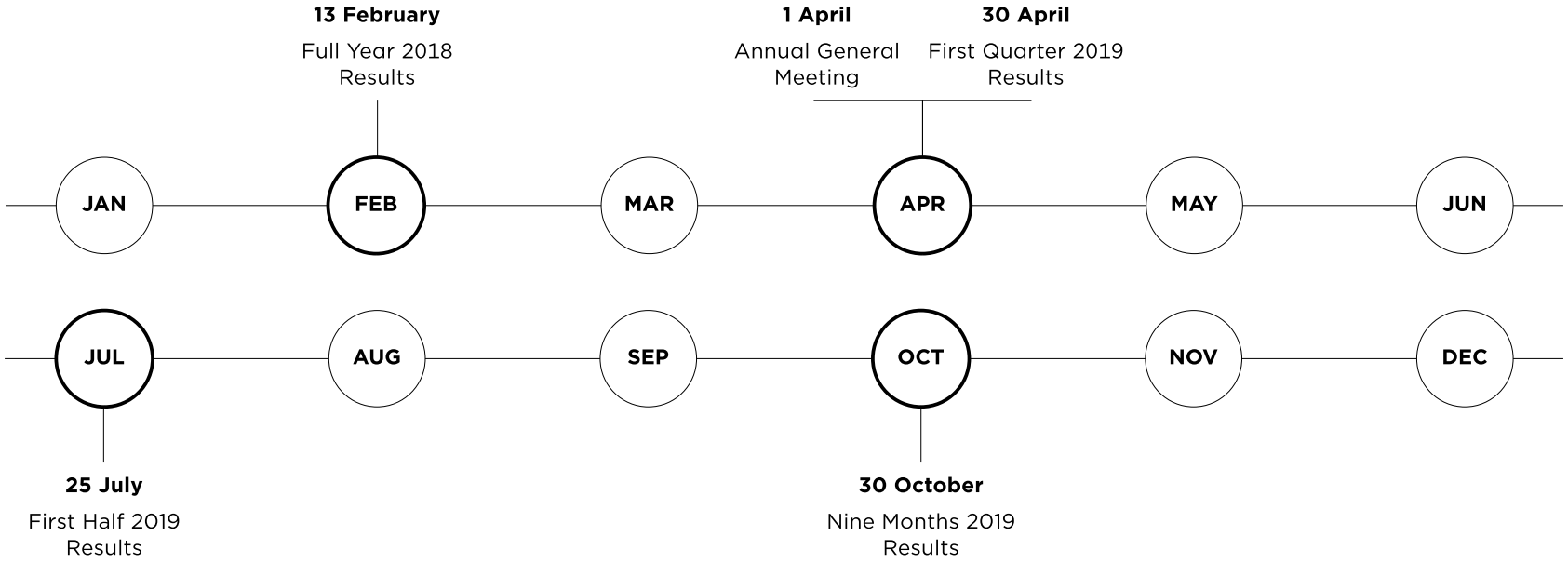
b) The management and reporting processes to collect and aggregate the data as well as the control environment in relation to the data aggregation are not functioning as design

PricewaterhouseCoopers AG

Dr. Marc Schmidli Raphael Rutishauser

Basel, 6 March 2019

Financial Calendar 2019



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This report contains forward-looking statements based on current assumptions and projections made by management. Such statements are subject to known and unknown risks, uncertainties and other factors which may cause the actual results and performance of Clariant International Ltd to differ from those expressed in, implied or projected by the forward-looking information and statements. The information published in this report is provided by Clariant International Ltd and corresponds to the status as of the date of publication of this report.

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Five-Year Group Overview 2014 – 2018

CHF m	**2018**	2017	2016	2015	2014
Group sales	**6 623**	6 377	5 847	5 807	6 116
Change relative to preceding year					
in Swiss francs (%)	**4**	9	1	– 5	1
in local currencies (%)	**5**	9	2	3	5
Operating income before exceptionals	**693**	673	622	596	585
Operating income	**546**	496	512	496	525
EBITDA before exceptionals	**1 018**	974	887	853	867
EBITDA	**871**	813	785	767	923
Net income	**356**	302	263	227 [1]	235 [1]
Basic earnings per share (in CHF)	**1.02**	0.84	0.78	0.67	0.55
Distribution per share (in CHF)	**0.55**	0.50	0.45	0.40	0.40
EBITDA margin before exceptionals (%)	**15.4**	15.3	15.2	14.7	14.2
Return on invested capital (ROIC) (%)	**10.1**	10.2	10.2	9.7	9.4
Operating cash flow	**530**	428	646	502	334
Investment in property, plant, and equipment	**237**	248	297	374	310
Research & Development expenditures	**209**	211	206	206	213
Depreciation and amortization	**325**	301	265	257	282
Net working capital	**1145**	1 281	1 087	1 027	1 169
in % of sales	**17.3**	20.1	18.6	17.7	19.1
Total assets	**7 981**	8 229	8365	7 461	7 915
Equity (including non-controlling interests)	**2 970**	2 939	2 546	2 494	2 733
Equity ratio (%)	**37.2**	35.7	30.4	33.4	34.5
Net financial debt	**1 374**	1 539	1540	1 312	1 263
Gearing ratio (%)	**46**	52	60	53	46
Employees (in FTE)	**17 901**	18 135	17 442	17 213	17 003

[1] Continuing operations

Curiosity sparks progress

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CLARIANT

Compensation Report 2018

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Compensation Report

Clariant's compensation philosophy is aimed to support the ambition of Clariant to be an employer of choice and strives to attract, motivate, and retain committed employees.

The purpose of this Compensation Report is to provide a comprehensive overview of Clariant's compensation concept and programs. In addition, it includes the compensation levels of the Board of Directors and the Executive Committee; accordingly, some information given in Note 14, pages 80 to 81, of the Financial Report 2018 is repeated here.

1. Members and responsibilities of the Compensation Committee of the Board of Directors

During the 2018 reporting year, the Compensation Committee (CoC) comprised three non-executive members of the Board of Directors until 16 October 2018: Carlo G. Soave (Chairman), Rudolf Wehrli, and Eveline Saupper. Following the Extraordinary General Meeting on and effective as of 16 October 2018, the CoC comprised five non-executive board members: Eveline Saupper (Chairwoman), Carlo G. Soave, Claudia Suessmuth Dyckerhoff, Susanne Wamsler, and Abdullah Mohammed Alissa. The Chairman of the Board is a regular guest in the Compensation Committee.

Since 16 October 2018, the Corporate Secretary has acted as Secretary to the CoC. Previously, this role was held by the Head of Corporate Human Resources (HR), who is now a regular guest to share information and consult on relevant topics. The Chairwoman of the CoC may invite the CEO to discussions on individual agenda items for consultation, taking into account potential conflicts of interest which would oblige him to abstain.

The CoC establishes principles for the compensation of members of the Board of Directors and the Executive Committee and submits these to the Board of Directors for approval. The Committee proposes to the Board of Directors – subject to the approval of the total compensation by the Annual General Meeting (AGM) – the individual compensation for board members, for the CEO and members of the Executive Committee (EC). The Committee also takes note of employment contracts for the Heads of Global Functions, Global Business Units, and Region Heads, including their respective compensation. All appointments and dismissals that are within the purview of the Board of Directors are submitted in advance to the CoC, which, with regard to compensation aspects, makes a recommendation to the Board of Directors.

The CoC reviews global Short-Term and Long-Term Incentive Plans and makes recommendations to the Board of Directors. Furthermore, the Committee reviews fringe benefit regulations, dismissal regulations, and contractual severance compensation with the CEO, members of the EC, Heads of Global Functions, Global Business Units and Region Heads (always in accordance with the Ordinance against Excessive Compensation in Stock-Listed Corporations, OaEC).

The responsibilities of the Compensation Committee are documented in the Articles of Association (Art. 24 ss; www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association) of Clariant Ltd.

As a rule, the CoC holds at least three meetings per year:
a) Winter: Discussion regarding the executive bonus plan allocation, determination of bonus payments for members of the EC
b) Summer: Fundamental matters concerning the Group's HR priorities
c) Autumn: Preparation of the Compensation Report and planning of compensation changes in the following year.

The CoC also meets as needed. In 2018, the CoC met four times and held several bilateral discussions and telephone conferences.

2. Compensation concept

To support the attraction, motivation, and retention of qualified and committed employees throughout the world, Clariant's compensation policy is based on the following main principles:

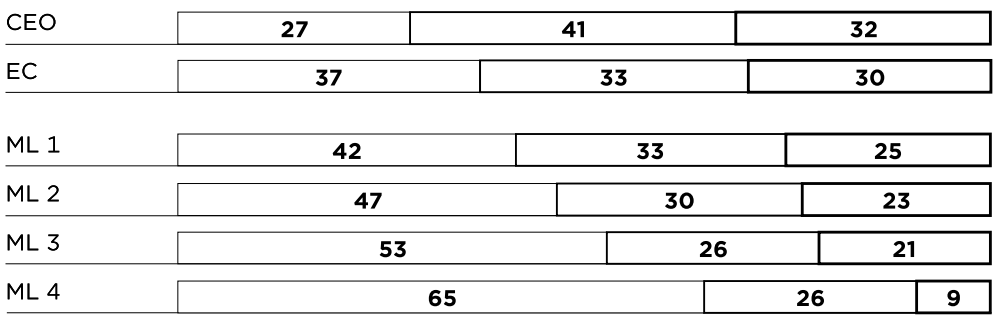
— Alignment with Business Strategy: Remuneration components are designed to support the Clariant Business Strategy.
— Competitiveness: Clariant is conducting regular benchmarking studies to ensure compensation levels are adequate and in line with market practices.
— Compliance: Clariant's compensation practices always follow local regulations such as laws and collective union agreements.
— Internal Fairness: In order to ensure consistently fair treatment of employees working for Clariant, compensation guidelines and work instructions are in place.
— Performance-based Pay: Clariant's remuneration components aim to incentivize business and individual performance.
— Transparency: Remuneration components must be clear and transparent in order to be understood and appreciated.

In order to uphold these principles, the CoC analyzes and discusses market developments at regular intervals and considers the implications of these developments for Clariant. The Articles of Association (Art. 26 ss; www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association) of Clariant Ltd – which have been approved in the AGM 2014 – therefore reflect Clariant's commitment to market practice.

3. Remuneration structure for management

The structure of total remuneration should be highly performance- and success-oriented to ensure that shareholder and management interests are aligned. As part of Clariant's compensation philosophy, performance-based Short-Term and Long-Term Incentives in relation to total compensation increase with increasing responsibility/management level (see exhibit Global Pay Mix → **FIGURE 001**). Clariant positions target levels for management incentives above market norm to provide a distinct incentive for achieving ambitious business objectives. While Long-Term and Short-Term Incentives are based on Group Performance Indicators only (details are disclosed in chapter 4, beginning on page 4), individual performance – measured through a consistent, global Performance Management system – is a determining factor in career development and annual salary reviews. Within the Global Performance Management System, each manager's or employee's performance is assessed and discussed on a yearly basis. Since 2012, the process includes regular 360-degree feedback for all management levels. In addition to this, Clariant has practiced a calibration process of individual performance ratings for all management levels since 2017. In conjunction with other factors, such as internal and external market conditions, this results in transparency and consistent salary decisions. In general, Clariant applies a four-eyes principle, which includes the involvement of the line manager and next level supervisor in addition to obtaining guidance from global or local Human Resources professionals.

001 **GLOBAL PAY MIX (RELATIVE STRUCTURE)** in % of total compensation



□ Base Salary □ Short-Term Incentives (STI) □ Long-Term Incentives (LTI)
ML: Management Level

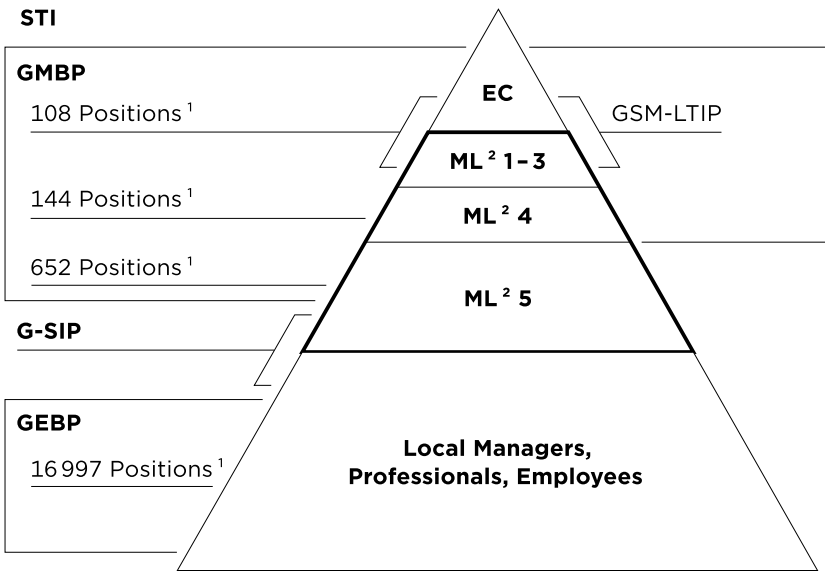
4. Overview of existing Incentive Plans

Key principles for Clariant's Short-Term Incentives (STI) and Long-Term Incentives (LTI) are to reduce complexity, increase transparency, and ensure a coordinated and unified »One Clariant« approach throughout all employee groups and countries. Therefore, success, in terms of bonus payouts, will generally be measured only based on relevant financial Group Performance Indicators. Only if Clariant is successful, profits can be shared with employees.

The following variable compensation programs are currently in place for Clariant:

STI: Short-Term Incentive Plans (cash bonus)
a) Group Management Bonus Plan (GMBP) – started in 2010
b) Group Employee Bonus Plan (GEBP) – started in 2010/2011
c) Global Sales Incentive Plan (G-SIP) – started in 2011

002 **CLARIANT INCENTIVE SCHEME LANDSCAPE**

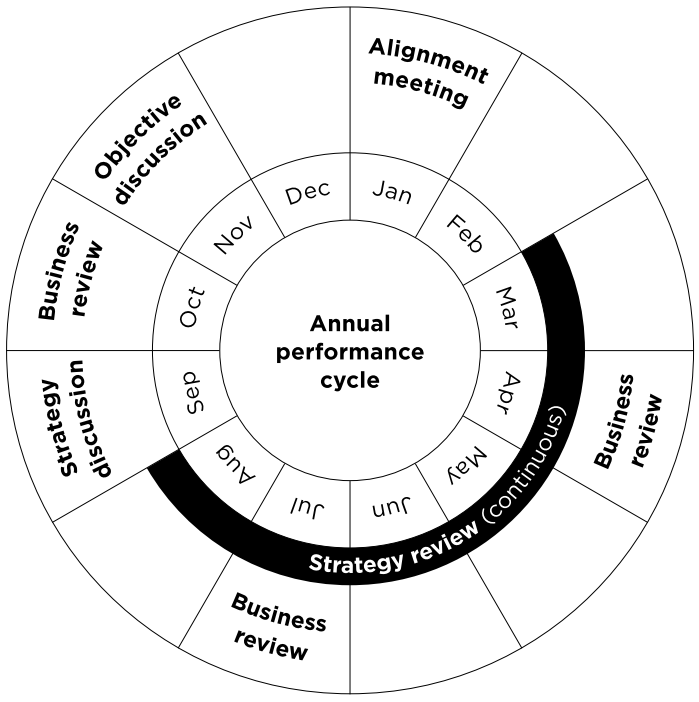


[1] Number of positions as of 31 December 2018
[2] ML: Management Level

LTI: Long-Term Incentive Plans (equity-linked incentives)
a) Performance Share Unit (PSU) Plan – started in 2013
b) Group Senior Management – Long-Term Incentive Plan (GSM-LTIP or Matching Share Plan) – started in 2010
c) Restricted shares for the Board of Directors – started in 2012

The **Performance Cycle of Clariant** is based on a 12-month rotation, which starts in November each year with objective discussions focusing on the next business year. Group Performance Indicators (GPI), top priorities, and related projects are included. In January, alignment meetings take place with key leaders of the company in order to cascade GPI objectives and priorities for the new year.

003 **ANNUAL PERFORMANCE CYCLE**



4.1. Short-Term Incentive Plans (cash bonus)
a) The **Group Management Bonus Plan (GMBP)** is anchored in the overall Performance Cycle at Clariant. Through intensive discussions and systematic alignment meetings, this cycle ensures a challenging business-specific target agreement for each Business Unit and Service Unit (BU/SU).

The individual amount of bonus payments generated in a year is determined by the achieved result of the Clariant Group measured against clear objectives. The achievement is calculated by means of three elements: financial result of the Group; financial results of Business and Service Units; and defined top priorities (Group Performance Indicators and strategic projects).
→ **FIGURE 004, PAGE 6**

As Clariant Performance Cycle agreements with each BU lead to challenging business-specific target settings, the maximum bonus payout is explicitly capped at 100 % (= target). These target settings were defined in the fourth quarter of 2017. As outlined in the compensation concept, Clariant aims for a more aggressive pay-mix than the norm in international markets; thus, this 100-percent approach ensures competitive positioning compared with other companies.

004 GROUP MANAGEMENT BONUS PLAN (GMBP) 2018 – THREE PILLARS TO BALANCE THE BONUS PLAN

Group Performance Indicators

Group Achievement How do we as a company perform against our targets?	**Business/Service Achievement** What are the business results/ contributions of my unit?			**TOP Priorities** Have we acted while focused and aligned with our unit priorities?
All BUs and SUs	CC/Cat./NR/ Add	MB/PI	SUs	All BUs and SUs
ROIC (a.e.i.)	EBITDA (b.e.i.) ROS %	EBITDA (b.e.i.) in CHF	Costs	1) Inventory Excellence (quarterly inventory targets in % of annualized quarterly sales) 2) CLN-X Benefits 3) Innovation Sales 4) Lost Time Accident Rate
Operating Cash Flow (a.e.i.)	BU Cash Flow (a.e.i.)	BU Cash Flow (a.e.i.)		
	LC Growth %	LC Growth %		

Target Set (weighting)

Group Achievement How do we as a company perform against our targets?	**Business/Service Achievement** What are the business results/ contributions of my unit?			**TOP Priorities** Have we acted while focused and aligned with our unit priorities?
All BUs and SUs	CC/Cat./NR	P&C	SUs	All BUs and SUs

EC:

ROIC (a.e.i.): 40 %				20 %
Operating Cash Flow (a.e.i.): 40 %				

BUs:

ROIC (a.e.i.): 5 %	EBITDA (b.e.i.) ROS %: 20 %	EBITDA (b.e.i.) in CHF: 10 %		20 %
Operating Cash Flow (a.e.i.): 5 %	BU Cash Flow (a.e.i.): 30 %	BU Cash Flow (a.e.i.): 50 %		
	LC Growth: 20 %	LC Growth: 10 %		

SUs:

ROIC (a.e.i.): 5 %			SU Costs: 70 %	20 %
Operating Cash Flow (a.e.i.): 5 %				

Achievements & Payouts

Group Achievement How do we as a company perform against our targets?	**Business/Service Achievement** What are the business results/ contributions of my unit?			**TOP Priorities** Have we acted while focused and aligned with our unit priorities?
All BUs and SUs	CC/Cat./NR	P&C	SUs	All BUs and SUs
94 %	**51 – 100 %**			**75 – 100 %**

The corresponding bonus payouts range between **42.3 – 98.7 % (EC = 85.0 %)**

Legend:

Add = Additives

a.e.i. = after exceptional items

b.e.i. = before exceptional items

BU = Business Unit

Cat. = Catalysis

CC = Care Chemicals

CLN-X = Clariant Excellence

EBITDA = Earnings Before Interest, Taxes, Depre-cation and Amortization

EC = Executive Committee

LC = Local currency

MB = Masterbatches

NR = Natural Resources

PI = Pigments

P&C = Plastics & Coatings

ROIC = Return On Invested Capital

ROS % = Return On Sales in %

SU = Service Unit

The annual evaluation of the achievement of objectives and allocation of funds for the GMBP is conducted by the CoC in February, following the financial year in question, and approved by the Board of Directors. This system ensures that the bonus payments granted to employees are closely aligned with the Group's overall results.

b) Cash bonus for non-management-levels: The **Group Employee Bonus Plan (GEBP)** represents an aligned and standardized bonus plan for all legal entities around the world. In general (where legally compliant and possible), all legal entities will apply the global Group Achievement or a combination of Group Achievement and local Top Priorities as the bonus payout. Some countries in Asia reward part of the GEBP for blue-collar employees in form of a local productivity scheme to improve site/plant performance. Since 2017, employees in the Clariant Shared Service Centers in Poland and Mumbai have received 50 % of their GEBP in form of a »Global Business Services – Shared Service Center Bonus Plan (GBS-SSC)« to offer a competitive incentive focused on quality and productivity.

c) For the sales force: The **Global Sales Incentive Plan (G-SIP)** aims to incentivize premier sales performance and growth by focusing on the individual sales performance and underlying Key Performance Indicators in the areas of sales, margin, and trade receivables. Each objective is weighted and can be monitored using existing reporting systems. Thus, the direct impact of individual success on payout can be easily tracked. In 2011, the global rollout started, and in 2018, approximately 1100 employees were included worldwide. Employees can participate only in one global bonus plan (G-SIP or GMBP/GEBP).

4.2. Long-Term Incentive Plans (equity-linked incentive)

Clariant offers equity-based compensation for approximately 250 senior managers worldwide (EC and ML 1 – 4).

a) The **Performance Share Unit (PSU)** Plan was introduced in 2013. Its key objective is a strong commitment to higher profitability for Clariant and therefore the achievement of strategic targets.

Clariant's Performance Share Unit Plan has a three-year vesting period. The vesting is conditional upon achievement of the performance target (check after three years). The relevant underlying Key Performance Indicator is EBITDA (before exceptional items) in percentage of sales and the performance target is to be at or above the median of a defined peer group. If vesting and performance targets are achieved, one PSU will be converted to one Clariant share. For PSUs granted in 2015, the performance criteria were checked in summer 2018. The comparison with the peer group revealed that Clariant missed the relevant performance hurdle (the median of the group) and therefore the PSUs for all participants were forfeited in September 2018.

PSU participation is limited to the Executive Committee and selected senior managers of ML 1 – 4 (approximately 1.4 % of employees). Eligible participants will receive a fixed number of PSUs in accordance with an underlying share price defined over a 10-day trading period. Eligibility and endowment will be reviewed each year that the scheme is in operation. For 2018, the Board of Directors had approved to grant PSUs again. The grant took place on 19 September 2018 with an underlying share price of CHF 23.58.

If an employee should voluntarily leave Clariant before the vesting period (three years) expires, all rights to shares which have not yet been transferred at that point in time become invalid. In case of retirement, disability, or death of the participant, the employee (or the estate and/or heirs of the participant in case of death) will receive an immediate vesting on a pro-rata basis in accordance with published regulations. The vested PSUs remain subject to the performance condition and will be allocated only at the end of the vesting period.

LIST OF RELEVANT PEERS 2018

Akzo	EMS	Mitsubishi Chem
Albemarle	Evonik	Mitsui Chem
Altana	Ferro	Omnova
Arkema	H&R	Polyone
Ashland	HB Fuller	PPG
Baker Hughes	Honeywell	RPM International
BASF	Huntsman	Schulman
Borealis	Innospec	Sherwin Williams
Braskem	ICL	Shin Etsu Chem
Cabot	Jiangsu Yoke	Solvay
Celanese	Johnson Matthey	Symrise
Covestro	Kemira	Teijin Limited
Croda	Kraton	Toray Industries
DIC Corp	Lanxess	Umicore
DowDupont	LG Chemicals	Wacker
DSM	Lonza	West Lake Chem
Eastman	Lyondell Basell	WR Grace

In case a participant has substantially contributed to a financial loss, issues resulting in restatement of financial results, reputational damage, or substantial breach of legal or regulatory requirements, including internal policies, the Board of Directors can decide to cancel any outstanding PSUs.

After 5 years without any plan changes, the Compensation Committee has decided to amend the PSU Plan for senior management starting in 2019. Based on intensive benchmarking, this revised Long-Term Incentive aims to provide a closer alignment of underlying Key Performance Indicators with the market perspective and to represent an attractive and competitive incentive for senior management (see also 4.2. c).

b) Group Senior Management – Long-Term Incentive Plan (GSM-LTIP) = Matching Share Plan

The Matching Share Plan requires a personal investment in Clariant shares and fosters the commitment of key managers (approximately 108 positions; EC and ML 1 – 3) to the long-term success of Clariant. Under this plan, key managers have to invest 20 % of their annual cash bonus (GMBP) in Clariant shares (= investment shares). Thus, this plan supports senior managers in meeting their requirement to permanently hold a minimum of 20 000 and up to 100 000 shares, depending on their management level. New participants will have six years to fulfill the required investment thresholds.

The investment shares will be blocked and held in a custody account for a period of three years. At the end of the blocking period, the participant is entitled to obtain for each investment share an additional share free of charge (= matching share). This matching is subject to the condition of continued employment with Clariant throughout the blocking period. In case of termination of employment before the end of the blocking period, the right to receive Matching Shares lapses. In case of retirement, disability, or death, a cash amount will be paid instead, equal to the pro rata temporis portion (considering employment during the blocking period).

The senior managers who do not participate in this plan, or do not invest according to the plan regulations, will have their target cash bonus (GMBP) decreased by 50 % and forfeit the eligibility to participate in any Long-Term Incentive Programs (including the PSU Plan) for the following bonus year.

The CoC has decided to revise Clariant's Long-Term Incentive Plans for 2019 to better reflect Clariant's strategic targets and to ensure a competitive remuneration package to senior managers reflecting market best practices. The Matching Share Plan will therefore be discontinued and will not be granted for 2018. Consequently, no deduction for investment shares from the actual 2018 bonus payout in 2019 will be made and the bonus will be fully paid in cash instead. The STI weighting within total remuneration for 2018 has therefore as an exception been higher than regular → FIGURE 001.

c) New Long-Term Incentive Plan

The new LTIP will be initiated in 2019; it will have a three-year vesting period and will represent an equity-based award in the form of Performance Share Units. Vesting will be conditional upon achievement of performance targets. Relative Total Shareholder Return and Economic Profit have been selected as underlying Key Performance Indicators. Vesting will occur only if at least a threshold performance level as defined by the Board of Directors has been achieved and can take place at any level between 0 % and 100 % of the granted PSU volume. At vesting, each PSU will be converted into one Clariant share.

Participation in the new Long-Term Incentive Plan will be limited to the Executive Committee and selected senior managers of ML 1 – 4 (approximately 1.4 % of employees).

d) Restricted shares for the Board of Directors

This share plan introduced in 2012 allocates shares of Clariant Ltd to members of the Board of Directors. Board members will receive a fixed portion of the annual fee allocated in the form of shares subject to a blocking period (»Restricted Shares«). The blocking period is three years from the date they are allocated. From the first business day after the blocking period, the board member may freely dispose of and trade these shares without any further restrictions (legal restrictions will remain applicable). The allocation is made once a year, at the end of the mandate year, four weeks prior to the Annual General Meeting (AGM).

The value of a grant is determined by the role and responsibility.

5. Structure of compensation for members of the Board of Directors

The compensation structure for members of the Board of Directors follows the compensation concept outlined in the Articles of Association (www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association) of Clariant Ltd from 24 March 2014, or 16 October 2018 for the performance year 2018.

According to Art. 26, remuneration of members of the Board of Directors consists of the following components:
a) Annual basic fee (Honorarium)
b) Committee membership fees
c) Share-based remuneration

Effective 16 October 2018, the Board of Directors approved amended compensation levels. The following graphs illustrate the relative structure and absolute value of the three components for 2018.

ANNUAL COMPENSATION OF THE BOARD OF DIRECTORS (STRUCTURAL OVERVIEW ONLY) in CHF

	Chairman of the Board	Vice-Chairman of the Board	Member of the Board of Directors	**Total 2018**	Total 2017
Cash compensation					
Honorarium [1] (until 15 October/effective 16 October)	300 000/450 000	200 000/180 000	100 000/150 000	**1 406 250**	1 200 000
Committee fee [1]	According to individual activity (see table below)			**738 750**	770 000
Social contribution					
Relevant amount	According to individual situation [2]				
Shares					
Value (at grant) [3] (until 15 October/effective 16 October)	200 000/300 000	150 000/120 000	100 000/100 000	**1 057 083**	1 050 000

[1] The Honorarium and fees are paid in cash in equal parts in March and September.
[2] For actual details for 2018, see table on page 10.
[3] Shares will be granted at the end of the mandate year.

According to the amended compensation regulation, the Chairman of the Board is no longer entitled to receive committee fees when serving as a member of a committee. Furthermore, all Board of Directors members are asked to build up defined minimum shareholding requirements within three years from becoming a member and to hold them during the entire term of Board of Directors membership.

The shareholder requirements are:
— Chairman of the Board of Directors: 30 000 shares
— Vice-Chairman of the Board of Directors: 15 000 shares
— Members of the Board of Directors: 12 000 shares

COMMITTEE FEE (UNTIL 15 OCTOBER 2018)

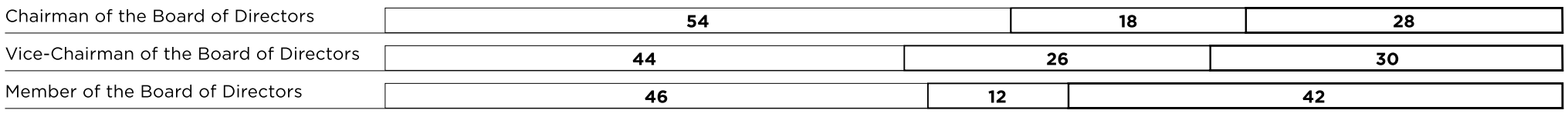
	Chair	Member
Chairman's Committee	120 000	60 000
Audit Committee	80 000	40 000
Compensation Committee	60 000	30 000
Technology & Innovation Committee [1]	60 000	30 000

COMMITTEE FEE (EFFECTIVE 16 OCTOBER 2018)

	Chair	Member
Nomination Committee	50 000	30 000
Audit Committee	80 000	40 000
Compensation Committee	50 000	30 000

[1] The Technology & Innovation Committee will be discontinued effective 1 January 2019. Fees will be granted until 31 December 2018.

005 **RELATIVE STRUCTURE OF ACTUAL TOTAL COMPENSATION 2018 (BOARD OF DIRECTORS)** in % of total compensation



☐ Honorarium ☐ Committee fee: Activity-based (assumption for members is minimum = CHF 30 000) ☐ Shares (value at grant)
(Pro-rata consideration of old and new compensation levels).

In order to fulfill the reporting needs outlined in the Ordinance against Excessive Compensation (OaEC), the relevant Fair Market Value (FMV) figures as earned by the Board of Directors members for the calendar year are disclosed in the following audited table.

2018 ANNUAL COMPENSATION – EMOLUMENTS TO MEMBERS OF THE BOARD OF DIRECTORS (FAIR MARKET VALUE = FMV) in CHF

	Rudolf Wehrli	Günter von Au	Peter Chen	Hariolf Kottmann [1]	Eveline Saupper	Carlo G. Soave	Peter Steiner	Claudia Suessmuth Dyckerhoff	Susanne Wamsler	Konstantin Winterstein	Abdullah Mohammed Alissa	Calum MacLean	Geoffrey Merszei	Dr. Khaled Homza A. Nahas	**Totals 2018**
Cash compensation															
Honorarium	250 000	189 583	83 333	93 750	110 417	110 417	110 417	110 417	110 417	110 417	31 250	31 250	31 250	37 500	**1 410 417**
Committee fee	125 000	117 500	50 000	0	74 167	137 500	133 750	6 250	36 250	40 000	6 250	6 250	8 333	6 250	**747 500**
Social contribution															
Relevant amount	49 391	28 610	22 840	12 500	18 705	51 071 [2]	0	13 795	15 899	0	4 667	8 750	4 833	5 500	**236 561**
Shares															
Fair market value (FMV)	116 667 [3]	139 583	58 333 [3]	62 500	100 000	100 000	100 000	100 000	100 000	100 000	20 833	20 833	20 833	25 000	**1 064 583**
Total 2018 (Fair market value 2018)	**541 058**	**475 277**	**214 507**	**168 750**	**303 288**	**398 988**	**344 167**	**230 462**	**262 566**	**250 417**	**63 000**	**67 083**	**65 250**	**74 250**	**3 459 060**

2017 ANNUAL COMPENSATION – EMOLUMENTS TO MEMBERS OF THE BOARD OF DIRECTORS (FAIR MARKET VALUE = FMV) in CHF

	Rudolf Wehrli	Günter von Au	Peter Chen	Hariolf Kottmann [1]	Eveline Saupper	Carlo G. Soave	Peter Steiner	Claudia Suessmuth Dyckerhoff	Susanne Wamsler	Konstantin Winterstein	**Totals 2017**
Cash compensation											
Honorarium	300 000	200 000	100 000	0	100 000	100 000	100 000	100 000	100 000	100 000	**1 200 000**
Committee fee	150 000	130 000	60 000	0	70 000	150 000	140 000	0	30 000	30 000	**760 000**
Social contribution											
Relevant amount	39 164	28 610	18 004	0	18 705	32 344 [2]	23 616	13 795	15 899	0	**190 137**
Shares											
Fair market value (FMV) [4]	200 022	150 004	100 011	0	100 011	100 011	100 011	100 011	100 011	100 011	**1 050 103**
Total 2017 (Fair market value 2017) [4]	**689 186**	**508 614**	**278 015**	**0**	**288 716**	**382 355**	**363 627**	**213 806**	**245 910**	**230 011**	**3 200 240**

[1] No compensation as Board of Directors member while still in the function of CEO; 2018 values from 16 October 2018.

[2] Including additional compensation for project work.

[3] Due to resignation from the Board of Directors, in form of pro-rata cash payment.

[4] Correction needed due to adjustments of final share price at grant.

In both years there were no payments to former members of the Board of Directors after the mandate year nor were any loans or credits outstanding and/or granted.

The information about the actual share ownership of the Board of Directors is displayed on the next page.

SHARES HELD BY MEMBERS OF THE BOARD OF DIRECTORS

	Number of shares granted for 2018 [1]	Number of shares granted for 2017 [2]	Number of privately held shares at 31 Dec. 2018	Number of privately held shares at 31 Dec. 2017
Hariolf Kottmann	6 875 [3]	– [4]	404 267 [5]	– [6]
Günter von Au	6 354	5 962 (correction of 6 000)	58 507	52 212
Eveline Saupper	5 000	3 975 (correction of 4 000)	15 309	11 334
Carlo G. Soave	5 000	3 975 (correction of 4 000)	36 063	32 088
Peter Steiner	5 000	3 975 (correction of 4 000)	9 309	5 334
Claudia Suessmuth Dyckerhoff	5 000	3 975 (correction of 4 000)	10 409	6 434
Susanne Wamsler	5 000	3 975 (correction of 4 000)	976 741 [7]	969 516 [7]
Konstantin Winterstein	5 000	3 975 (correction of 4 000)	6 077 824	6 019 849
Abdullah Mohammed Alissa	2 292	–	–	–
Calum MacLean	2 292	–	–	–
Geoffery Merszei	2 292	–	–	–
Dr. Khaled Homza A. Nahas	2 750	–	–	–
former Board of Directors Members [8]	–	11 925 (correction of 12 000)	–	107 414
Total	**52 855**	**41 737 (correction of 42 000)**	**7 588 429**	**7 204 181**

[1] Final number of shares for the mandate year will be defined prior to grant in 2019. Underlying assumption here is a share price of CHF 20.00.

[2] Correction needed due to adjustments of final share price at grant: Underlying assumption was CHF 25.00. Final allocation of shares with CHF 25.16; therefore, the numbers of shares differ from the overview in the Integrated Report 2017.

[3] Pro rata as of 16 October 2018 in function as Chairman of the Board of Directors.

[4] No shares granted in role as Board of Directors member for 2017.

[5] This amount includes corrections from non-transaction-related internal calculation errors in previous years. Additional 29 295 PSUs still in vesting from grants received as CEO.

[6] Number of privately held shares as CEO per 31 December 2017: see table »Shares held by members of the Executive Committee«, page 13.

[7] Thereof 240 271 held by »The Honoré T. Wamsler Trust«.

[8] Former Board of Directors members include Rudolf Wehrli and Peter Chen, who resigned 16 October 2018. Pro-rata cash payment for 2018 instead of shares, see table »2018 Annual Compensation« on page 10.

The compensation for members of the Board of Directors is subject to the Swiss taxation and social security laws, with Clariant paying the employer contributions as required. The members of the Board of Directors do not receive any lump-sum reimbursement of entertainment expenses above and beyond actual expenditure on business trips. For additional information on the Board of Directors, refer to Note 14 of the Notes to the 2018 Financial Report of Clariant Ltd, on pages 80 to 81.

6. Compensation of members of the Executive Committee

The EC participates in the same compensation elements as Clariant's senior managers. Accordingly, they receive a fixed annual base salary, an annual cash bonus (GMBP), and Long-Term Incentives (GSM-LTIP, PSU) as stated in Art. 27 of the Articles of Association. The annual bonus is based on achieved results for the particular financial year and payout is capped at 100 % of the target value. For details of the respective plans, please refer to sections 4.1.a, 4.2.a & b. According to Clariant's Articles of Association, the annual bonus payout and any single share grant must each not exceed 200 % of base salary for the CEO and 150 % for EC members (Art. 32; www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association).

The Compensation Committee decides on the amendment or discontinuation of the annual bonus plan and Long-Term Incentive Plans for the Executive Committee (Art. 33 – 35).

After no adjustments to the compensation packages for EC members in 2017, the CoC approved an increase in base salary for EC members for 2018.

With the envisioned changes to Clariant's Long-Term Incentive Plans (see 4.2.a, b & c), the CoC also decided not to grant the GSM-LTIP for 2018 for the Executive Committee. Consequently, no Investment Shares and Matching Shares will be granted for 2018 and the 2018 annual bonus will be fully paid in cash.

The total target remuneration for the Executive Committee in 2018 was therefore lower than in 2017.

REMUNERATION STRUCTURE OF THE CLARIANT EXECUTIVE COMMITTEE [1] in CHF

	CEO Compensation		EC Compensation	
	2018 [2]	2017	2018	2017
Total target	**3 900 000**	**4 560 000**	**2 250 000**	**2 400 000**
Performance Share Unit [3]	500 000	500 000	350 000	350 000
Matching Shares [4]	–	460 000	–	200 000
Target Cash Bonus, thereof Investment Share [5] (20 % Invest)	2 200 000 (–)	2 300 000 (460 000)	1 000 000 (–)	1 000 000 (200 000)
Base salary	1 200 000	1 300 000	900 000	850 000

[1] Without other benefits.

[2] New 2018 annual CEO remuneration structure for Ernesto Occhiello; annual total target remuneration for Hariolf Kottmann would have been 4 175 000 CHF.

[3] 3-years vesting period with defined performance hurdle (Value at Grant).

[4] 2017: 1:1 match of Investment Shares after 3-years vesting period (Value at Grant); 2018: no grant due to planned changes in Long-Term Incentive Plans.

[5] 2017: Investment of 20 % from Actual Cash Bonus into 3-years blocked shares (Value at Grant); 2018: no deduction for Investment Shares due to planned changes in Long-Term Incentive Plans.

The members of the EC participate in the pension plans of the Clariant Group in Switzerland, notably the Clariant pension fund with an insured income of up to CHF 200 000 per annum, and the management pension fund with an insured income of up to an additional CHF 646 000 per annum. The maximum insured income under the pension plans therefore stands at CHF 846 000 per annum. The CEO participates in Clariant's pension and insurance plans.

Clariant's pension plans comply with the legal framework of the Swiss occupational pension scheme (BVG) and the maximum contribution will be dynamically aligned in accordance with Art. 79c BVG. For members of the EC and all other Clariant employees, the insured income is defined as the base salary plus 50 % of the target cash bonus. Equity-linked income components are not subject to pensionable income. Usual policies for death and disability are part of Clariant's pension plans. The total employer contribution is approximately 11 % of the insured income in the case of the Clariant pension fund, and 22 % of the insured income in the case of the Clariant management pension fund. These contributions cover both the contributions to the formation of retirement capital and the risk components. Under IFRS, the Clariant pension fund is a defined benefit plan. The management pension fund provides the members with retirement capital upon retirement. Pension payments are only accepted in exceptional cases.

The following personnel changes within the Executive Committee occurred in 2018: Ernesto Occhiello was appointed CEO effective 16 October 2018, replacing Hariolf Kottmann, who became Chairman of the Board of Directors at the same time. Britta Fuenfstueck decided to leave Clariant effective 31 October 2018 and was replaced by Hans Bohnen effective 12 October 2018.

In accordance with the reporting requirements outlined in the Ordinance against Excessive Compensation (OaEC), the relevant Fair Market Value (FMV) figures are shown in the following audited table.

2018 ANNUAL COMPENSATION TO MEMBERS OF THE EXECUTIVE COMMITTEE (FAIR MARKET VALUE, FMV) in CHF

	Hariolf Kottmann	Other EC members [1]	**Totals 2018**
Base salary	1 094 469	3 003 562	4 098 031
Cash bonus [2]	1 547 932	2 991 068	4 539 000
Share-based incentive (FMV) [3]	13 648	747 544	761 192
Other benefits [4]	574 361	1 700 566	2 274 927
Total	**3 230 409**	**8 442 741**	**11 673 150**

2017 ANNUAL COMPENSATION TO MEMBERS OF THE EXECUTIVE COMMITTEE (FAIR MARKET VALUE, FMV) in CHF

	Hariolf Kottmann	Other EC members	**Totals 2017**
Base salary	1 300 000	2 550 000	3 850 000
Cash bonus	1 339 520	1 747 200	3 086 720
Share-based incentive (FMV)	1 170 016	1 933 398	3 103 414
Other benefits	1 250 358	1 628 534	2 878 892
Total	**5 059 894**	**7 859 132**	**12 919 026**

[1] Including Ernesto Occhiello, Britta Fuenfstueck, and Hans Bohnen, respectively on a pro-rata basis for 2018.

[2] 2018: cash bonus payout 85 % without deduction for investment shares as in previous years due to discontinuation of GSM-LTIP.

[3] No grant of Investment Shares and Matching Shares for 2018 due to discontinuation of the GSM-LTIP. Forfeiture of PSU grant for Britta Fuenfstueck due to termination. Pro-rata PSU grant for Hariolf Kottmann. No PSU grant for Hans Bohnen as EC member and Ernesto Occhiello due to start date in October 2018.

[4] »Other benefits« include pension contributions (36 %), cost related to the international assignment of Christian Kohlpaintner (21 %), and social security contributions/other benefits (43 %).

In 2017 and 2018, no contractual payments to leaving Executive Committee members were made and no loans or credits were outstanding and/or granted in both years. According to Art. 30 of Clariant's Articles of Association (www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association), no loans may be granted to EC members.

According to Art. 28, an additional amount of 50 % of the respective total remuneration approved by the Annual General Meeting can be spent in case new EC members are appointed after the Annual General Meeting.

The total compensation of the Executive Committee for 2018 amounts to CHF 11.7 million and is within the approved budget of CHF 17.2 million.

This budget approval was granted for the year 2018 at the Annual General Meeting in 2017.

The actual share ownership of the members of the Executive Committee is shown below. No options were held at 31 December 2017/2018.

2018 NUMBERS OF SHARES GRANTED

	Hariolf Kottmann	Ernesto Occhiello [1]	Hans Bohnen [2]	Patrick Jany	Christian Kohlpaintner	**Total**
Number of performance share units	542 [3]	–	–	14 844	14 844	**30 230**
Total number of shares [4]	**542**	**–**	**–**	**14 844**	**14 844**	**30 230**

[1] No shares granted in 2018 due to start date in October 2018.

[2] No shares granted as EC member for 2018 due to start date in October 2018.

[3] Pro-rata amount due to retirement as CEO (full amount would have been 21 205).

[4] No Investment Shares or Matching Shares granted for 2018 due to planned redesign of Long-Term Incentive Plans.

SHARES HELD BY THE MEMBERS OF THE EXECUTIVE COMMITTEE

	Number of shares granted for 2018 [1]	Number of shares granted for 2017 [2]	Number of shares within vesting period for 2018	Number of shares within vesting period for 2017	Number of privately held shares at 31 Dec. 2018	Number of privately held shares at 31 Dec. 2017
Hariolf Kottmann	542 [3]	51 965 (correction of 49 407)	29 295 [4]	143 171	– [5]	447 421
Ernesto Occhiello	–	–	–	–	–	n.a.
Hans Bohnen [6]	–	n.a.	25 084	n.a.	87 247	n.a.
Patrick Jany	14 844	28 592 (correction of 27 478)	79 368	80 569	394 713	378 996
Christian Kohlpaintner	14 844	28 594 (correction of 27 478)	79 368	80 569	320 853	305 135
Britta Fuenfstueck [7]	–	28 592 (correction of 27 478)	–	44 020	n.a.	7 406
Total	**30 230**	**137 743 (correction of 131 841)**	**213 116**	**348 329**	**802 813**	**1 138 958**

[1] No Investment Shares or Matching Shares granted for 2018 due to planned redesign of Long-Term Incentive Plans.

[2] Correction needed due to adjustments to final share price at grant: Underlying assumption was CHF 25.00 per share. Final allocation was done at CHF 22.82.

[3] Pro-rata grant due to retirement as CEO.

[4] Unvested Matching Shares were paid out in cash on pro-rata basis upon retirement as CEO; only unvested PSUs remain on pro-rata basis.

[5] Not an EC member as of 31 December 2018; please refer to Board of Directors overview on page 11.

[6] Hans Bohnen became EC member in October 2018; therefore no shares granted as EC member for 2018. Number of shares within vesting result from prior LTIP grants in senior leadership roles at Clariant.

[7] All unvested grants forfeited upon termination.

Report of the statutory auditor

to the General Meeting of Clariant Ltd

Muttenz

We have audited the Compensation Report of Clariant Ltd for the year ended 31 December 2018. The audit was limited to the information according to articles 14–16 of the Ordinance against Excessive Compensation in Stock Exchange Listed Companies (Ordinance) contained in the tables labeled 'audited' on pages 10 and 12 of the Compensation Report.

Board of Directors' responsibility

The Board of Directors is responsible for the preparation and overall fair presentation of the Compensation Report in accordance with Swiss law and the Ordinance against Excessive Compensation in Stock Exchange Listed Companies (Ordinance). The Board of Directors is also responsible for designing the remuneration system and defining individual remuneration packages.

Auditor's responsibility

Our responsibility is to express an opinion on the Compensation Report. We conducted our audit in accordance with Swiss Auditing Standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the Compensation Report complies with Swiss law and articles 14–16 of the Ordinance.

An audit involves performing procedures to obtain audit evidence on the disclosures made in the Compensation Report with regard to compensation, loans and credits in accordance with articles 14–16 of the Ordinance. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatements in the Compensation Report, whether due to fraud or error. This audit also includes evaluating the reasonableness of the methods applied to value components of remuneration, as well as assessing the overall presentation of the Compensation Report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Opinion

In our opinion, the tables labeled 'audited' on pages 10 and 12 of the Compensation Report of Clariant Ltd for the year ended 31 December 2018 comply with Swiss law and articles 14–16 of the Ordinance.

PricewaterhouseCoopers AG

Rolf Johner
Audit expert
Auditor in charge

Michael Scheibli
Audit expert

Basel, 11 February 2019

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CLARIANT

Corporate Governance 2018

what is precious to you?

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Corporate Governance

Clariant is committed to international compliance standards, ensuring checks and balances between the Board and Management, as well as a sustainable approach to value creation.

1. Principles of corporate governance

In defining the management structure, organization, and processes of the Clariant Group, the corporate governance principles aim to provide stakeholder value and transparency to promote sustainable long-term success. The Group is committed to Swiss and international standards of corporate governance by following the respective statutory provisions and the rules issued by the SIX Swiss Exchange and by implementing the principles of the Swiss Code of Best Practices for Corporate Governance. The principles and regulations on corporate governance are described in the Swiss Code of Obligations, the Directive on Information relating to Corporate Governance by SIX Swiss Exchange, the Ordinance against Excessive Compensation in Listed Stock Corporations, the Articles of Association of Clariant Ltd, the Bylaws, the organizational Group regulations of the Clariant Group, and the Clariant Code of Conduct. The Board of Directors adapts the internal documents regularly. The Articles of Association, the Bylaws of the Board of Directors, and the Clariant Code of Conduct can be viewed on the internet at www.clariant.com/corporate-governance.

2. Group structure and shareholders

2.1. Group structure

The registered address of Clariant Ltd is Rothausstrasse 61, 4132 Muttenz, Switzerland. The company's business operations are conducted through Clariant Group companies. Clariant Ltd, a holding company organized under Swiss law, directly or indirectly owns all Clariant Group companies worldwide. With the exception of Clariant Chemicals (India) Ltd, these companies' shares are not publicly traded. Clariant owns 51 % of the publicly traded company Clariant Chemicals (India) Ltd, based in Airoli, Navi Mumbai, India, and listed on the Bombay Stock Exchange and the National Stock Exchange of India Limited under Stock ID »CLNINDIA«, ISIN No. INE492A01029, with a market capitalization of INR 9 677 043 812 (approx. CHF 135 608 800).

The important subsidiaries of Clariant Ltd are listed in Note 35 of the »Notes to the consolidated financial statements of the Clariant Group« of the Financial Report 2018 (pages 62 to 64).

The Group conducts its business through seven Business Units (Additives; Catalysts; Functional Minerals; Industrial & Consumer Specialties; Masterbatches; Oil & Mining Services; Pigments) and reports in the following four Business Areas: Care Chemicals; Catalysis; Natural Resources; Plastics & Coatings.

2.2. Significant shareholdings of 3 % or more of total share capital

Based on the notifications received by Clariant and published by SIX Exchange Regulation, as at 31 December 2018, the following shareholders held 3 % or more of voting rights in Clariant Ltd:

Shareholders	Voting rights
SABIC International Holdings B.V., Sittard, The Netherlands, controlled by the Public Investment Fund of Saudi Arabia (PIF), Riyadh, Kingdom of Saudi Arabia [1]	25.67 % [2]
APG Asset Management N.V., Amsterdam, Netherlands	5.01 %
Blue Beteiligungsgesellschaft mbH, Am Holzmaierfeld, 82064 Strasslach-Dingharting (Germany) and Maple Beteiligungsgesellschaft mbH, 82057 Icking (Germany) [3]	3.49 %

[1] As of 31 December 2017, White Tale Holdings LP/40 North Latitude Master Fund Ltd. held 20.00 % and subsequently increased their shareholding to 25.15 %. On 25 January 2018, SABIC International Holdings B.V., Sittard, The Netherlands, controlled by the Public Investment Fund of Saudi Arabia (PIF), Riyadh, Kingdom of Saudi Arabia, acquired, subject to the necessary regulatory approvals, a 24.99 % stake in Clariant Ltd previously held by White Tale Holdings LP resp. Corvex Holdings LLC resp. 40 North Latitude Master Fund Ltd. On 17 September 2018, this transaction was closed and thus SABIC became Clariant Ltd's largest shareholder.

[2] SABIC acquired 24.99 % of the shares of Clariant Ltd on 17 September 2018. The difference corresponds to the amount of treasury shares held by Clariant Ltd which have to be aggregated to the shares held by SABIC solely for regulatory disclosure purposes due to the Governance Agreement entered into by SABIC and Clariant on 17 September 2018.

[3] According to a disclosure notification published on 18 December 2018, a group consisting of Konstantin Winterstein, 80333 Munich, Germany, and Elisabeth Prinzessin zu Sayn-Wittgenstein, 80333 Munich, Germany – initially formed on 14 December 2013 and holding 3.73 % partially through Blue Beteiligungsgesellschaft mbH, Strasslach-Dingharting (Germany) and partially through Maple Beteiligungsgesellschaft mbH, Icking (Germany) – was dissolved on 12 December 2018 and formed again according to said disclosure notification of 18 December 2018. The 3.73 % previously held by this group was included in the 13.96 % mentioned under footnote 4.

Former shareholders of Süd-Chemie AG [4] who had exchanged their shares against Clariant shares in April 2011 and are related to each other for family or other reasons (especially the Wamsler, Winterstein, Schweighart, and Stockhausen families), held a total of 13.96 % of the share capital of Clariant Ltd until this group of shareholders was dissolved according to a disclosure notification published on 18 December 2018.

[4] The following former shareholders of Süd-Chemie AG, holding 13.96 % of Clariant's shares, formed a group that was dissolved according to a disclosure notification published on 18 December 2018:

Wilhelm, Dr. Winterstein, Germany
Dolf, Dr. Stockhausen, Switzerland
Axel, Dr. Schweighart, Germany
Rosemarie Schweighart, Germany
Dominique Kraus, Germany
Irene W. Banning, United States
Susanne Wamsler-Singer, Austria
Caroline A., Dr. Wamsler, United States
Amelie Ratjen, Germany
Christof Ratjen, Germany
Christopher Weithauer, Germany
Johanna Bechtle, Germany
Kaspar Bechtle, Germany
Luisa Redetzki, Germany
Karl T. Banning, United States
Schuyler H. Joerger, United States
Sophie Isabel Schweighart, Germany
Heidrun Schweighart, Germany
Adriane Hartner, Austria
Konstantin Alfred Winterstein, Germany
Max-Theodor, Dr. Schweighart, Germany
Peter, Dr. Schweighart, Germany
Moritz Ostenrieder, Germany
Christian Ratjen, Germany
Bettina Wamsler, Germany
Pauline Joerger, United States
Marianne Kunisch, Germany
Maximilian Ratjen, Germany
Julius Ratjen, Germany
Elisabeth Prinzessin zu Sayn-Wittgenstein, Germany
Georg A. Weithauer, Germany
Charlotte Bechtle, Germany
Clara Redetzki, Germany
Marie Redetzki, Germany
Sophia P. Joerger, United States
Susanna Maria Schweighart, Germany
Maria Stockhausen, Switzerland

Disclosure notifications during the financial year 2018 reported to the Stock Exchange Disclosure Office pursuant to Art. 120 of the Financial Markets Infrastructure Act (FMIA) as well as further information in relation to disclosure notifications can be found on the SIX Swiss Exchange reporting platform: www.six-exchange-regulation.com/en/home/publications/significant-shareholders.html

At 31 December 2018, Clariant AG itself held 2 250 664 shares in treasury, corresponding to 0.68 % of the share capital.

3. Cross-shareholdings

There are no cross-shareholdings.

4. Capital structure

4.1. Capital

As of 31 December 2018, the fully paid nominal share capital of Clariant Ltd totaled CHF 1 228 175 036.30 and was divided into 331 939 199 registered shares, each with a par value of CHF 3.70. Clariant Ltd shares have been listed on the SIX Swiss Exchange since 1995 (symbol: CLN, ISIN CH0012142631). Clariant Ltd does not issue non-voting equity securities (Genussscheine or Partizipationsscheine). Based on the closing price of the Clariant share of CHF 18.09 on 31 December 2018, the company's market capitalization at year-end amounted to CHF 6.005 billion. There was no change in the capital structure of Clariant Ltd in the last three years (2016 to 2018).

4.2. Conditional capital

The company's share capital may be increased by no more than CHF 14 103 978.20 by issuing the remaining 3 811 886 registered shares each with a par value of CHF 3.70, corresponding to 1.14837 % of the current share capital.

The details are set out in Article 5 of the Articles of Association. The Articles of Association can be found on our website at www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association

4.3. Distribution of capital reserves

In the 2018 calendar year, a distribution of CHF 0.50 per share from capital reserves was decided by the Annual General Meeting. The total amount of CHF 164 669 568.50 was paid out on 26 March 2018. A table with additional information on the distribution of capital reserves can be found on page 34 (Note 16) of the Financial Report 2018.

4.4. Transferability of shares

The transfer of registered shares requires the approval of the Board of Directors, which may delegate this function. Approval is granted if the acquirer discloses his/her identity and confirms that the shares have been acquired in his/her own name and for his/her own account.

4.5. Nominee registrations and voting rights

Each registered share entitles the holder to one vote at the shareholders' meetings. Special rules according to Article 6 of the Articles of Association (www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association) apply to nominees who fail to disclose the identity of the persons they represent and whose shareholding exceeds 2 %.

4.6. Options
There are no options or option rights.

5. The Board of Directors
The Board of Directors of Clariant Ltd comprises at least six and no more than twelve members pursuant to Article 19 of the Articles of Association of Clariant Ltd (www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association).

All members of the Board of Directors (except for Hariolf Kottmann, who held the position of CEO until 15 October 2018) are considered to be independent in accordance with international best-practice standards. No member of the Board of Directors exceeds any of the maximum number of mandates as stipulated in Article 38 of the Articles of Association (www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association), except for Abdullah Mohammed Alissa in accordance with the transitional provision, Article 44, in the Articles of Association (www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association).

5.1. Members of the Board of Directors

5.1.1. Rudolf Wehrli, Swiss citizen
Function at Clariant: Chairman, non-executive member of the Board of Directors
Born: 1949
Year of first election: 2007
Board member and Chairman until the Extraordinary General Meeting dated 16 October 2018

Professional career: Following studies at the Universities of Zurich and Basel, where he earned doctorates in theology, philosophy, and German literature, Rudolf Wehrli began his career at McKinsey & Co. in 1979. In 1984 he joined the Schweizerische Kreditanstalt (now Credit Suisse) as a member of the company's senior management. In 1986, he became Marketing Manager and member of the Executive Committee of the Silent Gliss Group. Five years later, he took over the management of the group's German subsidiary. In 1995 he transferred to the Gurit-Heberlein Group as a member of the Executive Committee, and was promoted to Chief Operating Officer in 1998 and Chief Executive Officer in 2000. He remained in this position until the company split up in 2006. A member of the Board of Directors of Clariant Ltd since 2007, he became Chairman in 2012.

Other activities: Board of Directors/Supervisory Board mandates as stipulated in Article 38 para 1 of the Articles of Association (www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association):
Mandates according to Article 38 para 1 lit. a) none.
Mandates according to Article 38 para 1 lit. b) five: Kambly AG, Switzerland; Chairman of the Board of Directors of Rheinische Kunststoff-Werke SE, Germany; Chairman of the Board of Directors of Sefar Holding AG, Switzerland; Wipf AG, Switzerland; HaKa Gerodur AG, Switzerland.
Mandates according to Article 38 para 1 lit. c) seven (including member of the Board of Trustees of Avenir Suisse and member of the Board of Clariant Foundation [until 8 June 2018]).

5.1.2. Günter von Au, German citizen
Function at Clariant: Vice-Chairman (until the Extraordinary General Meeting dated 16 October 2018), non-executive member of the Board of Directors
Born: 1951
Year of first election: 2011

Professional career: After studying textile and polymer chemistry at Reutlingen University and Chemistry at the University of Tübingen, where he obtained a doctorate, Günter von Au began his career in 1980 in Burghausen at Wacker-Chemie AG. He held a number of different management positions at the company through 2001 in Germany, Brazil, and the United States – most recently as Head of Wacker's division for polymers, specialty chemistry, and basic chemistry in Munich. He was also CEO of Wacker Polymer Systems GmbH & Co. KG in Burghausen, Germany. He joined Süd-Chemie in 2001 as President and CEO of Süd-Chemie Inc. In 2004, he became CEO of the Management Board of Süd-Chemie AG in Munich and held this position until 31 March 2012. On 1 April 2012, Mr. von Au joined the Board of Directors at Clariant Ltd and has, since then, acted as Vice-Chairman of the Board of Directors.

Other activities: Board of Directors/Supervisory Board mandates as stipulated in Article 38 para 1 of the Articles of Association (www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association):
Mandates according to Article 38 para 1 lit. a) one: Chairman of the Supervisory Board of Stada Arzneimittel AG, Germany.
Mandates according to Article 38 para 1 lit. b) five: Member of the Supervisory Board of Bayernwerk AG, Germany; Member of the Advisory Committee of Gebr. Röchling KG, Germany; Chairman of the Board of CeramTec GmbH, Germany; Chairman of the Supervisory Board of Synlab Holding Deutschland GmbH, Germany; Member of the Advisory Board of Baerlocher GmbH, Germany.
Mandates according to Article 38 para 1 lit. c) three: Chairman of the Board of Directors of the Bavarian Chemical Industry Association, Germany; Vice President of the German Institute of Economic Research, Germany; Chairman of the Advisory Board of Tyczka GmbH, Germany.

5.1.3. Peter Chen, US and Swiss citizen

Function at Clariant: Non-executive member of the Board of Directors
Born: 1960
Year of first election: 2006
Board member until the Extraordinary General Meeting dated 16 October 2018

Professional career: Peter Chen studied chemistry at the University of Chicago and in 1987 received a doctorate from Yale University in New Haven, Connecticut. He then served as an assistant professor (1988 to 1991) and associate professor (1991 to 1994) at Harvard University in Cambridge, Massachusetts. Since September 1994, he has been a full Professor of Physical Organic Chemistry at ETH Zurich. From 2007 to 2009, he was Vice President of Research and Corporate Relations at ETH Zurich.

Other activities: Board of Directors/Supervisory Board mandates as stipulated in Article 38 para 1 of the Articles of Association (www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association):
Mandates according to Article 38 para 1 lit. a) none.
Mandates according to Article 38 para 1 lit. b) none.
Mandates according to Article 38 para 1 lit. c) two: Consultant at Givaudan, Switzerland; Gesellschaft zur Förderung von Forschung und Ausbildung im Bereich der Chemie (Zurich).

5.1.4. Hariolf Kottmann, German citizen

Function at Clariant: Chairman of the Board of Directors since 16 October 2018; Chief Executive Officer (CEO) and executive member of the Board of Directors until 15 October 2018
Born: 1955
Year of first election: 2008

Professional career: Hariolf Kottmann earned his PhD in organic chemistry at the University of Stuttgart in 1984. In 1985 he launched his career at the former Hoechst AG in Frankfurt, where he held several key management positions across the company's chemical divisions and functions. In 1996, he was appointed Deputy Head of the Basic Chemicals Division at Hoechst AG and took responsibility for the Inorganic Chemicals BU. In 1998, he joined Celanese Ltd in New Jersey (United States) as a member of the Executive Committee and Head of the Organic Chemicals BU. In April 2001, he was appointed as member of the Executive Committee of SGL Carbon AG, where he was responsible for the Graphite Specialties, Corrosion Protection, and Advanced Materials Divisions as well as the Eastern Europe and Asia regions until 30 September 2008. He was also in charge of the SGL Excellence and Technology & Innovation corporate functions. He has been a member of the Board of Directors of Clariant Ltd since April 2008 and became CEO of Clariant on 1 October 2008 and held this position until 15 October 2018.

Other activities: Board of Directors/Supervisory Board mandates as stipulated in Article 38 para 1 of the Articles of Association (www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association):
Mandates according to Article 38 para 1 lit. a) none.
Mandates according to Article 38 para 1 lit. b) one: Plansee Holding AG, Austria.
Mandates according to Article 38 para 1 lit. c) seven: Member of the Board of Trustees of ETH Zurich Foundation; Member of the Board of Trustees of Aventis Foundation, Frankfurt; Member of the Executive Committee of Science Industries, Zurich; President of the Board of Cefic (European Chemical Industry Council) and of its Executive Committee; Chairman of the Board of ICCA (International Council of Chemical Associations); Chairman of the Board of Clariant Foundation; Member of the Advisory Board of Deloitte, Zurich.

5.1.5. Dr. Khaled Homza A. Nahas

Function at Clariant: Vice-Chairman, non-executive member of the Board of Directors
Born: 1949
Year of first election: 2018

Professional career: Dr. Khaled Homza A. Nahas holds the following degrees: a BSc in mining and engineering from the University of Washington, Seattle, USA; a master's degree in industrial engineering from the Oregon State University, Oregon, USA; PhD in engineering and economic systems from Stanford University, California, USA. Dr. Khaled Homza A. Nahas is a member of the SABIC Board of Directors, Head of the Risk and Sustainability Committee, and member of both the Audit and Investment Committee. Dr. Khaled Homza A. Nahas was a board member of Hassanah Investment Company and the National Water Company until 2017. Previously, he held various positions in Saudi Arabia, including Vice President of the Industrial Committee in the Chamber of Commerce and Industry (1986 to 1989), and was also a member of the Shoura Council (1997 to 2001) and the Mayor of Mecca (2001 to 2006). Dr. Khaled Homza A. Nahas was also a member of the boards of directors of several companies, including Saudi Investment Bank, General Organization of Military Industries, Saudi Hotels & Resorts Company (SHARACO), Saudi Telecom Company STC, National Commercial Bank, and Riyad Bank. He was also Chairman of the Board of Directors of the National Company for Spring Mattresses & Sponges and the Tabuk Hotels Company.

Other activities: Board of Directors/Supervisory Board mandates as stipulated in Article 38 para 1 of the Articles of Association (www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association):
Mandates according to Article 38 para 1 lit. a) one: Saudi Basic Industries Corporation (SABIC), Saudi Arabia.
Mandates according to Article 38 para 1 lit. b) none.
Mandates according to Article 38 para 1 lit. c) none.

5.1.6. Abdullah Mohammed Alissa

Function at Clariant: Non-executive member
of the Board of Directors
Born: 1956
Year of first election: 2018

Professional career: Abdullah Mohammed Alissa holds an MSc in engineering management and a BSc in industrial engineering from Southern Methodist University in Dallas, USA. Abdullah Mohammed Alissa is a member of the SABIC Board of Directors, Head of the Remuneration and Nomination Committee, and member of both the Audit and Investment Committees. Abdullah Mohammed Alissa is also the Chief Executive Officer of Assila Investment Company and Chairman of Abdullah Mohammed Alissa Consulting Engineers. In addition, he is the Chairman of Dur Hospitality Co., Chairman of Amias Holding Co., and Chairman of Riyad Bank. Abdullah Mohammed Alissa is also on the boards of several other companies, including Saudi Arabian Mining Company (Ma'aden) and Etihad Etisalat (Mobily). He previously held the positions of Chairman and Managing Director of National Medical Care Co. and Chairman of Arabian Cement.

Other activities: Board of Directors/Supervisory Board mandates as stipulated in Article 38 para 1 of the Articles of Association (www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association):
Mandates according to Article 38 para 1 lit. a) five: Saudi Basic Industries Corporation (SABIC), Saudi Arabia; Dur Hospitality Company, Saudi Arabia; Riyad Bank, Saudi Arabia; Saudi Arabian Mining Company (Ma'aden), Saudi Arabia; Etihad Etisalat (Mobily), Saudi Arabia.
Mandates according to Article 38 para 1 lit. b) one: Assila Investment Company, Saudi Arabia.
Mandates according to Article 38 para 1 lit. c) two: Abdullah Mohammed Alissa Consulting Engineers, Saudi Arabia; Amias Holding Company, Saudi Arabia.

5.1.7. Calum MacLean

Function at Clariant: Non-executive member
of the Board of Directors
Born: 1963
Year of first election: 2018

Professional career: Calum MacLean holds a BSc (Hons) degree in chemistry from Aberdeen University, UK. Calum MacLean has been a member of the SABIC Board (Non-Executive Director) and a member of the Risk and Sustainability Committee since 2017. Calum MacLean has been Chief Executive Officer of Synthomer plc (UK FTSE 250 listed), a speciality chemical company, since January 2015. Previously, Calum MacLean was a founding member of INEOS Group, established in 1998. During his time at INEOS he held a number of senior executive roles, including Chief Executive Officer of INEOS Refining from December 2006 to 2011, Chief Executive Officer of EVC Corporation and subsequently INEOS ChlorVinyls until 2005, Chief Executive Officer INEOS Styrenics and subsequently Chairman of Styrolution (at that time a joint venture with BASF), and Chief Executive Officer of PetroIneos Refining (a joint venture with Petro China). Additionally, he served as the Chairman and Chief Executive Officer of INEOS Olefins and Polymers Europe and Chief Executive Officer of INEOS Phenol.

Other activities: Board of Directors/Supervisory Board mandates as stipulated in Article 38 para 1 of the Articles of Association (www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association):
Mandates according to Article 38 para 1 lit. a) two: Saudi Basic Industries Corporation (SABIC), Saudi Arabia; Synthomer plc, UK.
Mandates according to Article 38 para 1 lit. b) none.
Mandates according to Article 38 para 1 lit. c) none.

5.1.8. Geoffery Merszei

Function at Clariant: Non-executive member
of the Board of Directors
Born: 1951
Year of first election: 2018

Professional career: Geoffery Merszei holds a BSc in economics from Albion College in Michigan, USA. Geoffery Merszei is the Chairman and Chief Executive of Zolenza AG, an investment and advisory firm based in Zug, Switzerland. Geoffery Merszei was previously the Executive Vice President of The Dow Chemical Company, President of Dow Europe, the Middle East and Africa, and Chairman of Dow Europe before retiring in 2013. He served on Dow's board from 2005 to 2009 and was the Lead Director on the board of Dow Corning Corporation. He was also Chairman of Dow's Geographic Leadership Council and a member of Dow's Executive Leadership Committee. Previously, he was Dow's Executive Vice President and Chief Financial Officer. In 2001, Geoffery Merszei served as Executive Vice President and Chief Financial Officer of Alcan Inc. He has also served as a board member of the Chemical Financial Corporation, and as a trustee and executive committee member of the United States Council for International Business. Further board mandates include OC Oerlikon Corporation AG and EuroChem Group AG.

Other activities: Board of Directors/Supervisory Board mandates as stipulated in Article 38 para 1 of the Articles of Association (www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association):
Mandates according to Article 38 para 1 lit. a) one: OC Oerlikon Corporation AG, Switzerland.
Mandates according to Article 38 para 1 lit. b) one: EuroChem Group AG, Switzerland
Mandates according to Article 38 para 1 lit. c) one: Zolenza AG, Switzerland.

5.1.9. Eveline Saupper, Swiss citizen

Function at Clariant: Non-executive member
of the Board of Directors
Born: 1958
Year of first election: 2016

Professional career: Eveline Saupper studied law at the University of St. Gallen, Switzerland (HSG). She was a partner at the law firm Homburger AG, Zurich, Switzerland, until 2014 and Of Counsel of said law firm until March 2017. Before joining Homburger in 1985, she worked as a tax specialist with Peat Marwick Mitchell (today KPMG) in Zurich. She holds a PhD in law from the University of St. Gallen and past her bar exams in Zurich. Eveline Saupper is also a certified tax expert.

Other activities: Board of Directors/Supervisory Board mandates as stipulated in Article 38 para 1 of the Articles of Association (www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association):
Mandates according to Article 38 para 1 lit. a) two: Flughafen Zürich AG, Switzerland; Georg Fischer AG, Switzerland.
Mandates according to Article 38 para 1 lit. b) three: Stäubli Holding AG, Switzerland; Hoval Aktiengesellschaft, Liechtenstein; Interhoval AG, Switzerland.
Mandates according to Article 38 para 1 lit. c) four: Mentex Holding AG, Switzerland; Stiftung Schweizer Berghilfe, Switzerland; UZH Foundation [University of Zurich], Switzerland; Tourismus Savognin Bivio Albula AG, Switzerland.

5.1.10. Carlo G. Soave, British citizen

Function at Clariant: Non-executive member
of the Board of Directors
Born: 1960
Year of first election: 2008

Professional career: Carlo G. Soave studied languages and economics at Heriot-Watt University in Edinburgh, Scotland. He launched his career in 1982 at Oerlikon-Bührle in Switzerland, moving to Procter & Gamble in 1984. There he held various senior management positions, including Vice President of Global Purchasing for the Fabric and Home Care Division. In 2004, he founded Soave & Associates, a consulting company based in Brussels, Belgium. He is an Advisory Board member of MonoSol LLC, a company based in Indiana (United States) that belongs to the Kuraray Group (Japan).

Other activities: Board of Directors/Supervisory Board mandates as stipulated in Article 38 para 1 of the Articles of Association (www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association):
Mandates according to Article 38 para 1 lit. a): none.
Mandates according to Article 38 para 1 lit. b) one: Advisory Board of MonoSol LLC, United States.
Mandates according to Article 38 para 1 lit. c) one: Managing Director of Soave & Associates, Belgium.

5.1.11. Peter Steiner, German citizen

Function at Clariant: Non-executive member
of the Board of Directors
Born: 1959
Year of first election: 2016

Professional career: Peter Steiner studied business administration in Mannheim and Cologne, Germany, and finished with a master's degree. He is a German certified public accountant, tax advisor, and business consultant with a focus on mergers and acquisitions, financing, and investment management. Peter Steiner was previously a partner of the investment company One Equity Partners LLC and worked for MG Technologies AG as its Chief Financial Officer. At Dyckerhoff AG, he was successively CFO, Chief Operating Officer, and finally CEO. Following his many years as an auditor with Arthur Andersen & Co., he was also CFO of Süba Bau AG.

Other activities: Board of Directors/Supervisory Board mandates as stipulated in Article 38 para 1 of the Articles of Association (www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association):
Mandates according to Article 38 para 1 lit. a) two: Zeal Network SE, Great Britain; Wienerberger AG, Austria.
Mandates according to Article 38 para 1 lit. b) three: Caldic B.V., The Netherlands; JM Holding GmbH & Co. KGaA, Germany; Renolit SE, Germany.
Mandates according to Article 38 para 1 lit. c) none.

5.1.12. Claudia Suessmuth Dyckerhoff, German citizen

Function at Clariant: Non-executive member
of the Board of Directors
Born: 1967
Year of first election: 2016

Professional career: Claudia Suessmuth Dyckerhoff holds a PhD in business administration from the University of St. Gallen/University of Michigan Ann Arbor, USA, focusing on strategy, organization, and operational excellence. Claudia Suessmuth Dyckerhoff also holds an MBA from CEMS/ESADE. She joined McKinsey in 1995 in Switzerland and since then focused on advising mainly healthcare companies in Europe, the United States, Greater China, and across Asia. She was a Senior Partner at McKinsey & Company and led the Asia Health Services and Systems sector within McKinsey until March 2016 when she became a Senior External Advisor to McKinsey.

Other activities: Board of Directors/Supervisory Board mandates as stipulated in Article 38 para 1 of the Articles of Association (www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association):
Mandates according to Article 38 para 1 lit. a) one: Roche Holding AG, Switzerland.

Mandates according to Article 38 para 1 lit. b) three: Member of Board of Directors at Ramsay Health Care (Sydney); Member of Board of Directors at Cyrcadia Ltd., Hong Kong (start-up); Member of Board of Directors at Edugreen Education & Services Ltd., Kolkata, India (start-up).
Mandates according to Article 38 para 1 lit. c) three: Member of the Advisory Council at Buurtzorg Neighborhood Care Asia Ltd., Hong Kong; Member of the Advisory Council of the University of St. Gallen, Switzerland; Member of the Advisory Council at IMA [International Market Assessment], Shanghai, China.

5.1.13. Susanne Wamsler, US citizen
Function at Clariant: Non-executive member of the Board of Directors
Born: 1961
Year of first election: 2015

Professional career: Susanne Wamsler studied at Princeton University in Princeton, New Jersey, USA, graduating with a degree in political economy. From 1984 to 1988, she held various positions with Deutsche Bank AG in Munich and New York. In 1989, she received her MBA from INSEAD in Fontainebleau, France. Since then, she has been a successful entrepreneur in different fields, including retail, real estate, telecommunications, and wealth management. She complemented her education with certificates in board membership and corporate governance and has previously held mandates and officer positions in different businesses as well as non-profit organizations before joining the Clariant Board.

Other activities: Board of Directors/Supervisory Board mandates as stipulated in Article 38 para 1 of the Articles of Association (www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association): none

5.1.14. Konstantin Winterstein, German citizen
Function at Clariant: Non-executive member of the Board of Directors
Born: 1969
Year of first election: 2011

Professional career: Konstantin Winterstein studied at the Technical Universities in Darmstadt and in Berlin, where he completed a degree in production engineering. In 2004, he received his MBA from INSEAD in Fontainebleau and Singapore. From 1997 to 2014, he has held various positions with the BMW Group. Since 2014, he is a member of the management board of Ringmetall AG in Munich, and Co-CEO since 2017. From 2006 to 2011, he served on the Supervisory Board of Süd-Chemie AG.

Other activities: Board of Directors/Supervisory Board mandates as stipulated in Article 38 para 1 of the Articles of Association (www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association):
Mandates according to Article 38 para 1 lit. a) one: Ringmetall AG, Germany.

5.2. Cross-involvement
There are no cross-involvements.

6. Elections
The Board of Directors will stand for election or re-election for one- year terms. The Chairman of the Board of Directors of Clariant Ltd as well as the members of the Compensation Committee will be elected individually for a term of one year by the Annual General Meeting. Only members of the Board of Directors are eligible.

7. Internal organizational structure

7.1. The Board of Directors and its committees
The Board of Directors consists of the Chairman, one or more Vice-Chairpersons, and the other members. Except for Hariolf Kottmann (who held the position of CEO until 15 October 2018), none of the non-executive members of the Board of Directors held a senior management position at Clariant Ltd or any current or former Clariant Group company between 2015 and 2018 or has any significant business relationship with Clariant Ltd or any other Clariant Group company.
The members of the Board of Directors constitute the following committees:
— Nomination Committee
— Compensation Committee
— Audit Committee
— Technology and Innovation Committee (until 31 December 2018)

BOARD OF DIRECTORS – COMMITTEE RESPONSIBILITIES AND MEETINGS

Member of the Board of Directors	Nomination Committee		Audit Committee		Compensation Committee		Technology and Innovation Committee [2]	
Number of meetings in 2018	3	[1]	7	[1]	4	[1]	4	[1]
Abdullah Mohammed Alissa					■ since 16 October 2018			
Günter von Au	■ from 2012 until 16 October 2018	3	■ since 2015	7			■ since 2012	4
Peter Chen							■ from 2006 until 16 October 2018	3
Hariolf Kottmann	■ since 16 October 2018							
Calum MacLean	■ since 16 October 2018							
Geoffery Merszei			■ since 16 October 2018	2				
Dr. Khaled Homza A. Nahas	■ since 16 October 2018							
Eveline Saupper			■ since 2016	7	■ since 16 October 2018 ■ since 2016	4		
Carlo G. Soave	■ since 2012	3			■ since 2012 ■ until 16 October 2018	4	■ since 2008	3
Peter Steiner	■ since 2016	3	■ since 2016	7				
Claudia Suessmuth Dyckerhoff					■ since 16 October 2018	1		
Susanne Wamsler					■ since 16 October 2018	1	■ since 2015	4
Rudolf Wehrli	■ from 2012 until 16 October 2018	3			■ from 2008 until 16 October 2018	3		
Konstantin Winterstein			■ from 2012 until April 2016 and since March 2017	7				

■ Chairman

■ Member

[1] = Number of meetings attended in 2018

[2] = The Technology and Innovation Committee was discontinued as of 1 January 2019

The **Board of Directors** appoints the members of the committees, except for the members of the Compensation Committee, who are elected by the Annual General Meeting. The Board of Directors meets at least once a quarter. At the invitation of the Chairman, the CEO, the CFO, and other members of the Executive Committee and/or other employees and third parties attend the meetings of the Board of Directors for the purpose of reporting or imparting information. Each committee has a written charter outlining its duties and responsibilities. The committees' charters are published on Clariant's website (www.clariant.com/committees). The committees report on their activities and results to the Board of Directors. They prepare the business of the Board of Directors in their respective areas.

The **Nomination Committee** (NC) comprises the Chairman, the Vice-Chairman, and two other members of the Board of Directors. The NC meets as needed. The NC draws up principles for the selection of candidates for election and re-election to the Board of Directors and to the office of CEO and prepares the corresponding recommendations. The NC considers and submits to the Board of Directors the CEO's proposals concerning candidates for Executive Committee positions.
www.clariant.com/committees

The **Compensation Committee** (CoC) comprises five members of the Board of Directors as elected by the Annual or the Extraordinary General Meeting. The majority of the members shall be non-executive members of the Board of Directors. The CoC meets at least twice a year. It reviews and proposes to the Board of Directors the compensation and benefits policies and programs, reviews the performance criteria relevant to compensation, and determines individual executive compensation and benefits of the members of the Board of Directors and the Executive Committee, subject to the approvals of the total compensations by the Annual General Meeting. Furthermore, the CoC reviews fringe benefit regulations and dismissal regulations with the CEO, members of the Executive Committee, Heads of Global Functions and Global Business Units, and Region Heads always in accordance with the Articles of Association and the Ordinance against Excessive Compensation in Listed Stock Corporations.
www.clariant.com/committees

The **Audit Committee** (AC) comprises two to five members of the Board of Directors who all must be independent, non-executive members of the Board of Directors. A majority of the members of the AC must have financial and accounting experience.

The AC reviews the activities of the external auditors, their collaboration with the internal auditors, and their organizational adequacy. It also reviews the performance, compensation, and independence of the external auditors as well as the performance of the internal auditors and reports back to the Board of Directors. Furthermore, the AC reviews the company's internal control and risk management systems, and reviews compliance with the law and internal regulations – in particular with the Code of Conduct. In collaboration with the Group's external and internal auditors and financial

and accounting management, the AC reviews the appropriateness, effectiveness, and the compliance of accounting policies and financial controls with applicable accounting standards. The AC meets at least six times a year. The AC reviews and recommends the Group's financial statements for the first three quarters of each year and the annual financial results to the Board of Directors for approval.
www.clariant.com/committees

The **Technology and Innovation Committee** (TIC) comprises four members of the Board of Directors with experience in research, innovation management, and technology. The TIC meets at least twice a year. The tasks of the TIC include assessing the company's innovative activities on behalf of the Board of Directors. The TIC also reviews measures to stimulate research and development and optimize innovative potential, and submits appropriate recommendations to the Board of Directors. The TIC was discontinued as of 1 January 2019.

7.2. Definition of working methods and areas of responsibility

In accordance with the law and the Articles of Association, the Board of Directors is the ultimate decision-making authority for Clariant Ltd in all matters except those decisions reserved by law or the Articles of Association for the shareholders. In accordance with and supplementary to Article 716a of the Swiss Code of Obligations and Article 22 of the Articles of Association (www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association), the Board of Directors has sole authority particularly for the following non-transferable and inalienable duties of the Board of Directors:

— Providing the strategic direction of the Group;
— Approving the basic outline of the Group's organization and its corporate governance;
— Supervising the overall business operations;
— Evaluating the performance of the CEO and members of the Executive Committee;
— Appointing and dismissing the CEO and members of the Executive Committee, the Head of Corporate Auditing, and other key executives;
— Approving the basic accounting system and financial planning and control of the Group;
— Approving the Group's annual budget;
— Reviewing and approving the quarterly financial statements and results release for Clariant Ltd and the Group;
— Approving the Group's consolidated financial statements at the end of the fiscal year for submission to the Annual General Meeting;
— Approving major M&A transactions and financial transactions of considerable scope or those involving special risks, particularly capital market transactions and other financing transactions (e.g., large loans) as well as changes in conditions associated therewith;
— Ensuring a management and corporate culture that is appropriate for the company's objectives;
— Ensuring an internal control system and adequate risk and compliance management, particularly with regard to financial, corporate governance and citizenship, personnel, and environmental protection matters;
— Ensuring succession planning and management development;
— Convening the Annual General Meeting (AGM) and determining the items on the agenda and the proposals to be made to the AGM.

7.3. Working methods

In 2018, the Board of Directors held seven meetings in person at the Corporate Center in Pratteln or at other locations in Switzerland (with two meetings lasting two days), and five meetings by phone. From the twelve board meetings in total, nine board meetings were attended by all board members, and at three board meetings, one board member was excused. The company's strategy is reviewed and further developed once a year. Members of the Executive Committee are invited to attend the meetings of the Board of Directors. The views of external and internal consultants are heard, if necessary, in the case of projects of considerable scope.

BOARD OF DIRECTORS MEETINGS	
Number of meetings in 2018	12
Board of Directors	
Abdullah Mohammed Alissa	4
Günter von Au	12
Peter Chen	8
Hariolf Kottmann	12
Calum MacLean	4
Geoffery Merszei	4
Dr. Khaled Homza A. Nahas	3
Eveline Saupper	11
Carlo G. Soave	12
Peter Steiner	12
Claudia Suessmuth Dyckerhoff	12
Susanne Wamsler	12
Rudolf Wehrli	9
Konstantin Winterstein	12

7.4. Management of the Group

The Board of Directors has delegated the executive management of the Clariant Group to the CEO and the other members of the Executive Committee. The Executive Committee is mainly responsible for implementing and monitoring the Group strategy, for the financial and operational management of the Group, and for the efficiency of the Group's structure and organization. The members of the Executive Committee are appointed by the Board of Directors on the recommendation of the Nomination Committee. Subject to the responsibility of the Board of Directors and the Annual General Meeting, the CEO and, under his supervision, the Executive Committee are responsible for:

— Drawing up strategic plans and policies for approval by the Board of Directors;
— Implementing Group strategies and policies as well as strategies and action programs for individual Business Units and subsidiaries;

— Managing the Business Units and functions to ensure efficient operations, including regularly assessing the achievement of goals;
— Regularly informing the Board of Directors and its committees of all matters of fundamental significance to the Group and its businesses;
— Ensuring compliance with legal requirements and internal regulations;
— Establishing a management and corporate culture in line with the company's objectives;
— Promoting an active internal and external communications policy;
— Appointing and dismissing senior management, including appropriate succession planning.

The Executive Committee is supported by the Corporate Center, which defines Group-wide policies and guidelines. While reporting in the four Business Areas Care Chemicals (BU ICS), Catalysis (BU Catalysts), Natural Resources (BU Oil & Mining Services, BU Functional Minerals), and Plastics & Coatings (BU Additives, BU Masterbatches, BU Pigments), the seven Business Units are the highest-level operating units within the Group. They have global responsibility for the activities assigned to them, particularly sales, marketing, product management, and production. The Business Units also have global responsibility for short- and long-term revenue and earnings generated from the operations and assets assigned to them. This includes fully exploiting existing business potential, identifying new business opportunities, and pursuing the active management of their products and services portfolio. The Business Units' activities are complemented and supported by global Group functions (e.g., Procurement, Finance, Information Technology, Legal, Human Resources, and Group Technology & Innovation), which are organized as service centers.

7.5. Information and control instruments vis-à-vis the Executive Committee

The Board of Directors ensures that it receives sufficient information from the Executive Committee to perform its supervisory duties and make decisions that are reserved for the Board of Directors. The Board of Directors obtains the information required to perform its duties in various ways:

— The CEO and the CFO inform all directors regularly about current developments, including through the regular submission of written reports, such as key performance indicators for each business;
— The minutes of the meetings of the Executive Committee are made available to the directors;
— Informal meetings and teleconferences are held, as required, between the CEO and the members of the Nomination Committee;
— The members of the Executive Committee are invited to attend meetings of the Board of Directors to report on Business Units under their responsibility;
— The members of the Board of Directors are entitled to request information from members of the Executive Committee or any other Clariant senior manager.

7.6. Board committees

The Nomination Committee meets regularly with members of the Executive Committee and other members of senior management to review the business, better understand applicable laws and policies affecting the Group, and support the Executive Committee in meeting the requirements and expectations of stakeholders. The Technology and Innovation Committee invites members of the Executive Committee and members of senior management as necessary to discuss selected aspects of innovative activities. The CFO and representatives of the external auditor are invited to Audit Committee meetings. Furthermore, the Heads of Corporate Auditing and Risk Management, the Group Compliance Officer, and Clariant's General Counsel report on a regular basis to the Audit Committee. The Audit Committee reviews the financial reporting processes on behalf of the Board of Directors. For each quarterly and annual reporting of financial information, an internal team reviews the information for accuracy and completeness of disclosures, reporting to the Audit Committee before publication. The Compensation Committee generally meets at least twice per year to adjust the development of the compensation structures to changing conditions, as necessary. In this context, the long-term incentive program for the Executive Committee and the senior management team is also aligned with current market and business developments and corresponding adjustments are made, if required.

BOARD OF DIRECTORS — COMMITTEE MEETINGS

	Number of meetings	Duration in h	Invited CEO/CFO	Other attendees
Board of Directors	12	3 – 7	Yes	Executive Committee
Nomination Committee	3	2	Yes	
Audit Committee	7	3 – 4	CFO	Auditors; Risk Management; Corporate Auditing; General Counsel; Group Compliance Officer in two meetings
Compensation Committee	4	1	Yes	CEO; Head of Group Human Resources
Technology and Innovation Committee	4	3 – 4	CEO	Head of Group Technology & Innovation; Executive Committee

7.7. Internal audit (Corporate Auditing)

Corporate Auditing carries out operational and system audits in accordance with a plan adopted by the Audit Committee. By assisting organizational units in the accomplishment of objectives, it provides an independent approach for the evaluation, improvement, and effectiveness of the internal control framework. The quality of Corporate Auditing is regularly assessed in accordance with the requirements of The Institute of Internal Auditors (IIA). Corporate Auditing also prepares reports on the audits it has performed and reports actual or suspected irregularities to the Audit Committee and the Chairman of the Board of Directors. The Audit Committee regularly reviews the scope, plans, and results of Corporate Auditing. The Group pursues a risk-oriented approach to auditing and coordinates internal audit activities with the external auditors on a regular basis. More information on Clariant's risk management system can be found on page 16.

8. Group management

8.1. The Executive Committee

The Executive Committee (EC) consists of the CEO, the CFO, and two other members. The Executive Committee regularly holds meetings at the Corporate Center in Pratteln or at other Clariant sites worldwide. It uses such external meetings to discuss business performance with the management of the local companies in person.

8.2. Members of the Executive Committee

The Executive Committee comprised the following members:

8.2.1. Hariolf Kottmann, German citizen, CEO until 15 October 2018

Chief Executive Officer (CEO)
Operational responsibilities: Corporate Planning & Strategy; Group Communication; Group Legal.
Hariolf Kottmann earned his PhD in organic chemistry at the University of Stuttgart in 1984. In 1985, he launched his career at the former Hoechst AG in Frankfurt, where he held several key management positions across the company's chemical divisions and functions. In 1996, he was appointed Deputy Head of the Basic Chemicals Division at Hoechst AG and took responsibility for the Inorganic Chemicals BU. In 1998, he joined Celanese Ltd in New Jersey (United States) as member of the Executive Committee and Head of the Organic Chemicals BU. In April 2001, he was appointed member of the Executive Committee of SGL Carbon AG, where he was responsible for the Graphite Specialties, Corrosion Protection, and Advanced Materials Divisions as well as the Eastern Europe and Asia regions until 30 September 2008. He was also in charge of the SGL Excellence and Technology & Innovation corporate functions. He became CEO of Clariant on 1 October 2008 and held this position until 15 October 2018.

8.2.2. Britta Fuenfstueck, Austrian citizen, EC member until 31 October 2018

Operational responsibilities: Business Area Plastics & Coatings; Group Procurement Services; Group Information Technology; Commercial Excellence; Operational Excellence; Supply Chain Excellence; Digital4Clariant; regions Latin America and North America.
Britta Fuenfstueck, following an education in economics, studied engineering physics at the Johannes-Kepler-University of Linz (Austria), where she completed her MSc studies in 1998. In the same year, she began her career as a consultant at Boston Consulting Group in Vienna (Austria). Between 2000 and 2009, she held several positions in marketing and sales as well as director roles in strategy, planning, and mergers and acquisitions in the Healthcare division of Siemens AG in Germany and in the United States. In 2009, she became CEO of the Molecular Imaging Business Unit at Siemens in Chicago, USA. In 2013, she was appointed CEO of the Clinical Products division at Siemens in Erlangen (Germany) and member of the Executive Committee of the Siemens Healthcare division.
Britta Fuenfstueck has been member of the Executive Committee of Clariant from 1 April 2016 until 31 October 2018.

8.2.3. Ernesto Occhiello, Italian citizen, CEO since 16 October 2018

Chief Executive Officer (CEO)
Operational responsibilities: Corporate Planning & Strategy; Group Communication; Group Human Resources; Group Legal; Clariant Excellence.
Ernesto Occhiello holds a laurea in chemistry with honors from the University of Turin.
Ernesto Occhiello started his career in 1985 at Istituto Guido Donegani, where he became a leading scientist in the field of surface characterization and modification.
Between 1991 and 2001, he held several positions at EniChem, where he led the technical aspects of the due diligence and negotiations for the sale of the polyurethane business to Dow Chemical.
From 2001 to 2011, he championed R&D of several businesses of Dow Chemical, responsible for a global scientific workforce.
Between 2009 and 2011, he worked as Dow's R&D Director Performance Systems and R&D Director Europe, India, Middle East & Africa, based in Horgen, Switzerland.
In 2011, Ernesto Occhiello joined SABIC as Executive Vice President Technology & Innovation, Chief Sustainability Officer, and Member of the Executive Committee. In 2015, he became Executive Vice President Innovative Plastics Strategic Business Unit, leading a major restructure, which resulted in the creation of a true Specialties Strategic Business Unit in 2016.
Ernesto Occhiello was appointed as CEO of Clariant effective as of 16 October 2018.

8.2.4 Hans Bohnen, German citizen, EC member since 12 October 2018

Operational responsibilities: Business Area Plastics & Coatings; Group Procurement Services; Group Information Technology; Global Business Services; Digital4Clariant; regions Latin America and North America.

Hans Bohnen studied chemistry at the University of Duisburg-Essen, Germany, obtained a PhD in chemistry from the University of Tübingen, Germany, and holds an MBA from the Aston Business School. Hans Bohnen began his career in 1995 as a Research Chemist at Hoechst AG. Between 1995 and 2006, he held several senior positions in Research & Development and Operations across Europe and North America for Hoechst AG, Celanese AG, and SGL Group. From 2007 to 2009, he worked in strategic management consultancy with Booz Allen Hamilton. In 2010, he became Senior Vice President and Head of Clariant's Business Unit Masterbatches. In 2015, he was appointed Head of Clariant Global Business Services to build up Clariant's internal shared service organization. On 12 October 2018, he was appointed a member of the Executive Committee of Clariant.

8.2.5. Patrick Jany, German citizen, Chief Financial Officer (CFO)

Operational responsibilities: Corporate Accounting; Corporate Controlling; Corporate Tax; Corporate Treasury; Corporate Mergers & Acquisitions; Group Finance Services; Group Compliance; Global Business Services (until 12 October 2018); Investor Relations; regions Europe and Middle East & Africa.

Patrick Jany studied economics at the École Supérieure de Commerce de Paris. He has been Chief Financial Officer at Clariant since 1 January 2006. In 1990, he joined Sandoz – one of Clariant's predecessor companies. He held various positions in Finance and Controlling at Sandoz and Clariant, including Chief Financial Officer for the ASEAN region and Head of Controlling for the Pigments & Additives Division. From 2003 to 2004, he was Head of Country Organization for Clariant in Mexico. Prior to his appointment as CFO, he was Clariant's Head of Corporate Development with responsibility for Group strategy and mergers and acquisitions.

8.2.6. Christian Kohlpaintner, German citizen

Operational responsibilities: Business Area Care Chemicals, Business Area Catalysis; Business Area Natural Resources; Group Technology & Innovation; Corporate Sustainability & Regulatory Affairs; Clariant Excellence (until 16 October 2018); Group Human Resources (until 16 October 2018); regions Greater China, India, Japan, and South East Asia & Pacific.

Christian Kohlpaintner studied chemistry at the Technical University of Munich and completed his PhD in 1992. Between 1993 and 1997, he worked in various research departments of Hoechst AG in Germany and the United States. In 1997, he joined Celanese Ltd and held a number of leadership roles at Celanese Chemicals Corporation. In 2002, he became Vice President Innovation of Celanese Ltd and Executive Director of Celanese Ventures Corporation. From 2003, he was a member of the Executive Committee of Chemische Fabrik Budenheim. In 2005, he became CEO. On 1 October 2009, he was appointed a member of the Executive Committee of Clariant.

8.3. Other activities and functions

While the members of the Executive Committee may undertake other activities in accordance with Article 38 para 2 of the Articles of Association (www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association), none of the members of the Executive Committee undertake other activities or hold consultancy functions or other offices, except for

- Hariolf Kottmann, who was a member of the Board of Directors of Clariant Ltd and whose other activities can be found on page 6,
- Ernesto Occhiello, who is a member of a scientific committee of the Agroinnova institute, University of Turin, and
- Christian Kohlpaintner, who is chairman of the university foundation of the Technische Universität München (TUM) in Munich, Germany, member of the Senior Advisory Board of Equity Capital Management GmbH (ECM) in Frankfurt, Germany (until 30 September 2018), member of the Board of Trustees of the scientific journal »Angewandte Chemie«, Weinheim, Germany, and member of the board of the business association scienceindustries Switzerland, Zurich, Switzerland.

8.4. Management contracts with third parties

There are no management contracts with third parties.

8.5. Contractual arrangements for members of the Executive Committee

All members of the Executive Committee hold employment contracts with Clariant International Ltd, the Clariant Group's management company. The contractual provisions are governed exclusively by Swiss law. Contracts of the members of the Executive Committee are subject to a standard notice period of 12 months.

8.6. Compensation, shareholdings, and loans

Please refer to the Compensation Report (reports.clariant.com/2018/compensation/pdf/en) and Note 14 (pages 80 and 81) of the Financial Statements of Clariant Ltd in the Financial Report 2018.

9. Remuneration, shareholdings, and loans

All information on the remuneration of the Board of Directors and the Executive Committee of Clariant Ltd can be found in the Compensation Report (reports.clariant.com/2018/compensation/pdf/en).

10. Shareholders' participation rights

Subject to Article 6 para 2 of the Articles of Association (www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association), providing certain limitations on voting by nominees, each registered share entitles the holder to one vote at the Annual General Meeting. Shareholders have the right to receive dividends and such other rights as are granted by the Swiss Code of Obligations. However, only shareholders entered in the Clariant share register may exercise their voting rights.

10.1. Voting right restrictions and representation

A registered shareholder may be represented at the Annual General Meeting by another shareholder with the right to vote, a legal representative, or by the independent proxy (unabhängiger Stimmrechtsvertreter). The shares held by any one shareholder may be represented by only one representative. There are no special rules for waiving any voting rights restrictions laid down in the Articles of Association. The Articles of Association also do not contain any rules on participation in the Annual General Meeting that differ from the standard terms proposed by law.

10.2. Statutory quorums

The quorums laid down in the Articles of Association correspond to those in Article 704 of the Swiss Code of Obligations.

10.3. Convocation of the Annual General Meeting

The Articles of Association do not contain any rules that differ from the standard terms proposed by law.

10.4. Proposal of agenda items for the 2020 Annual General Meeting

The Articles of Association do not contain any rules that differ from the standard terms proposed by law. Shareholders representing shares with a total par value of CHF 1 million have the right to submit written requests that an item be included on the agenda at least 45 days prior to the 25th Annual General Meeting on 30 March 2020. Items to be included on the agenda – with regard to the 2019 financial year – must be submitted no later than 13 February 2020. Such requests must specify the item(s) to be included on the agenda and must contain a proposal on which the shareholder requests a vote.

10.5. Entries in the share register

There are no statutory rules concerning deadlines for entry in the share register. However, for practical reasons, the share register will be closed to entries several days before a shareholder meeting. With regard to the Annual General Meeting 2020 concerning the financial year 2019, this applies as of Wednesday, 25 March 2020. Shareholders who have been entered into the share register by Tuesday, 24 March 2020, may exercise their right to vote at the Annual General Meeting on 30 March 2020. There are no voting rights restrictions except those mentioned above.

11. Change of control and defense measures

The limit beyond which the duty to make an offer applies is the same as the statutory minimum, 33 1/3 %. There are no clauses on changes of control in agreements with members of the Board of Directors and the Executive Committee as well as other management executives, other than

a) with regard to the Performance Share Units (PSU): PSUs unvested at the date of change of control vest on a pro-rata basis. The Board of Directors is authorized, at its discretion, to assess if the performance targets are met and to decide on settlement in shares or in cash;

b) with regard to the Matching Share Plan (MSP): The blocking period of the Investment Shares of the MSP terminates on the date of the change of control and entitles to receive Matching Shares on a pro-rata basis.

12. Information policy

Notices are published, in accordance with Article 42 of the Articles of Association (www.clariant.com/en/Company/Corporate-Governance/Articles-of-Association), in the Swiss Official Gazette of Commerce and in daily newspapers specified by the Board of Directors (currently Basler Zeitung, Neue Zürcher Zeitung). Clariant releases its annual financial results in the form of Financial Statements and publishes further information in the form of an Integrated Report (formerly annual report) in printed and electronic form. In addition, detailed business figures for the first quarter, half year, nine months, and full year are published in electronic form in April, July, October, and February of the following year, respectively. Current publication dates can be found online in English on our website (www.clariant.com/UpcomingEvents). All information pertaining to investor updates, and presentations at analyst and investor conferences can be obtained online (www.clariant.com) or from the following contact address:

Clariant International Ltd, Investor Relations, Hardstrasse 61, 4133 Pratteln, Switzerland, investor-relations@clariant.com, Phone +41 61 469 63 73, Fax +41 61 469 67 67.

The results for the 2019 financial year will be published as follows:

— Interim Report on the first quarter	30 April 2019
— Interim Report on the first half	25 July 2019
— Interim Report on the nine months	30 October 2019
— Full-Year Results	13 February 2020

12.1. The Annual General Meeting for the 2019 financial year will take place on the following date
30 March 2020

12.2. Weblinks

12.2.1. Clariant website
www.clariant.com

12.2.2. E-mail distribution list (push system)
www.clariant.com/SubscriptionForm

12.2.3. Ad hoc messages (pull system)
www.clariant.com/AdHocNews

12.2.4. Financial reports
www.clariant.com/Publications

12.2.5. Corporate calendar
www.clariant.com/UpcomingEvents

13. Auditors

13.1. Duration of the mandate and term of office of the lead auditor
PricewaterhouseCoopers (PwC) has held the mandate since Clariant Ltd was established in 1995. The principle of rotation applies to the lead auditor, Rolf Johner, who was first appointed in April 2016. The Audit Committee ensures that the position of lead auditor is changed at least every seven years.

13.2. Auditing fees
PricewaterhouseCoopers received a fee of CHF 5.5 million for auditing the 2018 financial statements (2017: CHF 11.9 million). The 2017 audit fees were higher as a result of additional audit procedures in relation to the (abandoned) merger with Huntsman.

13.3. Additional fees
PricewaterhouseCoopers received a total fee of CHF 0.5 million for additional services (2017: CHF 1.1 million). These services comprise audit-related services of CHF 0.3 million, and tax services of CHF 0.2 million. No consulting services were provided in 2018 (2017: CHF 0.1 million).

13.4. Supervisory and control instruments vis-à-vis the auditors
The Audit Committee of the Board of Directors is responsible for overseeing and evaluating the performance of the external auditors on behalf of the Board of Directors and recommends to the Board of Directors whether PwC should be proposed to the Annual General Meeting for re-election. Criteria applied for the performance assessment of PwC include technical and operational competence, independent and objective view, employment of sufficient resources, focus on areas of significant risk to Clariant, ability to provide effective and practical recommendations, and open and effective communication and coordination with the Audit Committee, Corporate Auditing, and management. In 2018, seven joint meetings were held with the external auditor's representatives. These meetings were attended by members of the Audit Committee, the partner and senior manager of the audit firm, Clariant's CFO, the Group Accountant, the Head of Corporate Auditing, the General Counsel, and partly the Group Compliance Officer. Depending on the topics to be discussed, the meetings were also attended by the Group Risk Manager. The auditors communicate audit plans and findings to the Audit Committee and issue reports to the Board of Directors in accordance with article 728b of the Swiss Code of Obligations. The Audit Committee's approval is required for all services provided by PwC exceeding a fee volume of CHF 25 000. These services may include audit and audit-related services as well as tax and other services. PwC and the Executive Committee report to the Audit Committee on a regular basis regarding the extent of services provided in conjunction with this approval.

14. Enterprise risk management (ERM)
Under the Enterprise Risk Management Policy, based on the standard of »The Institute of Risk Management«, risk assessments are prepared by Business Units, Service Units, Corporate Functions, and Regions to assess threats that will impact the achievement of the objectives set for Clariant overall. These objectives are a result of the overall strategy of the Group as set by the Board of Directors and implemented by the Executive Committee.

The Executive Committee is responsible for monitoring the risk assessments for relevance and consistency. The Executive Committee has formed an »Ethics and Risk Management« subcommittee, which maintains an up-to-date understanding of areas where Clariant is, or may be, exposed to risk issues, and seeks to ensure that management is effectively addressing those issues. The Ethics and Risk Management Committee meets on a quarterly basis.

The short- and long-term objectives are set in the fourth quarter of the year. These objectives, threats, and opportunities are subject to scrutiny by the Executive Committee during meetings with each Business Unit. Also reviewed and discussed are proposed measures to reduce or contain threats. In that context, mitigation measures are defined, and responsibilities are assigned. All stakeholders are required to report significant changes to existing identified risks and new threats and opportunities as they arise.

Risk registers are maintained using financial and reputational impact and probability assessments to score and rank all identified risks. The assessment also addresses the measures in place to manage the risk identified with dates for completion of the measures. Effectiveness of the measures is also assessed.

When threats have been identified and quantified, they are delegated to qualified individuals who are required to deliver effective risk management. Depending on the nature of the risk identified, specific skill sets may be required for the management of those particular risks. The assessments are shared between the stakeholders on a regular basis.

A consolidated risk assessment is submitted annually to the Executive Committee, the Audit Committee, and the Board of Directors for review. In case of new or changed risks, reporting is accelerated.

Summaries of risk assessments from the Business Units, Regions, and Service Units are shared with key managers of Clariant.

To support functional responsibility, certain functions have access to risk assessments to assist them in their roles. Examples of such functions are Environmental Safety & Health Affairs (ESHA) to identify key sites for their property risk survey program or Group Procurement to ensure reliable and compliant supply of raw materials.

Examples of identified risks included in the risk register:

Regulation and compliance: Clariant is subject to many rules and regulations as well as compliance standards. These include chemical industry, country, government, and customer requirements as well as the European Union's (EU) Regulations on Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH) or similar regulations in other countries. Clariant Product Stewardship is responsible to ensure that all relevant legal requirements are met. Certain specific matters are delegated to Legal, ESHA, and logistics functions.

Sites and locations: This includes manufacturing plants and equipment important for the production of Clariant products for sale to customers. Also addressed are country and culture issues that could create threats to and opportunities for business objectives. The aim is to maintain high-quality production facilities. ESHA and Regional Services are responsible for the management of the associated risks.

Examples of emerging risks included in the risk register:

Economic development: The achievement of corporate targets depends on economic development, which is therefore continuously monitored in all markets. Should a market not develop in line with expectations, the organization will be adjusted accordingly. The global trade uncertainty arising from the currently looming conflicts around trade and tariffs could adversely affect economic development.

Consolidation of customers: Consolidations in certain markets of Clariant result in increasing pressure on prices. As a consequence, Clariant is further developing key account pricing strategies and speeding up the value proposition claim.

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Switzerland
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CLARIANT

Financial Report 2018

what is precious to you?

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CONSOLIDATED BALANCE SHEETS

at 31 December 2018 and 2017

	Notes[1]	31.12.2018 in CHF m	in %	31.12.2017 in CHF m	in %
Assets					
Non-current assets					
Property, plant and equipment	5	2 081		2 250	
Intangible assets	6	1 682		1 775	
Investments in associates and joint ventures	7	368		508	
Financial assets	8	211		50	
Prepaid pension assets	19	30		67	
Deferred tax assets	9	269		267	
Total non-current assets		**4 641**	**58.1**	**4 917**	**59.7**
Current assets					
Inventories	10	1 018		952	
Trade receivables	11	1 017		1 146	
Other current assets	12	366		388	
Current income tax receivables		65		56	
Short-term deposits	13	26		47	
Cash and cash equivalents	14	833		701	
Total current assets		**3 325**	**41.7**	**3 290**	**40.0**
Assets held for sale	**24**	**15**	**0.2**	**22**	**0.3**
Total assets		**7 981**	**100.0**	**8 229**	**100.0**
Equity and liabilities					
Equity					
Share capital	16	1 228		1 228	
Treasury shares (par value)	16	–8		–10	
Other reserves		–189		83	
Retained earnings		1 767		1 459	
Total capital and reserves attributable to Clariant shareholders		**2 798**		**2 760**	
Non-controlling interests		172		179	
Total equity		**2 970**	**37.2**	**2 939**	**35.7**
Liabilities					
Non-current liabilities					
Financial debts	17	1 711		1 727	
Deferred tax liabilities	9	47		65	
Retirement benefit obligations	19	778		849	
Other liabilities	21	72		79	
Provision for non-current liabilities	20	125		166	
Total non-current liabilities		**2 733**	**34.2**	**2 886**	**35.1**
Current liabilities					
Trade payables and other liabilities	21	1 266		1 216	
Financial debts	22	529		567	
Current income tax liabilities		212		301	
Provision for current liabilities	20	271		320	
Total current liabilities		**2 278**	**28.6**	**2 404**	**29.2**
Total liabilities		**5 011**	**62.8**	**5 290**	**64.3**
Total equity and liabilities		**7 981**	**100.0**	**8 229**	**100.0**

[1] The notes form an integral part of the consolidated financial statements.

CONSOLIDATED INCOME STATEMENTS

for the years ended 31 December 2018 and 2017

	Notes[1]	2018 in CHF m	2018 in %	2017 in CHF m	2017 in %
Sales	23	6 623	100.0	6 377	100.0
Costs of goods sold		–4 690		–4 475	
Gross profit		**1 933**	**29.2**	**1 902**	**29.8**
Selling, general and administrative costs		–1 308		–1 298	
Research and development costs		–209		–211	
Income from associates and joint ventures		130		103	
Operating income		**546**	**8.2**	**496**	**7.8**
Finance income	27	19		35	
Finance costs	27	–100		–94	
Income before taxes		**465**	**7.0**	**437**	**6.8**
Taxes	9	–109		–135	
Net income		**356**	**5.4**	**302**	**4.7**
Attributable to:					
Shareholders of Clariant Ltd		337		277	
Non-controlling interests		19		25	
Basic earnings per share attributable to the shareholders of Clariant Ltd (CHF/share)	**28**	**1.02**		**0.84**	
Diluted earnings per share attributable to the shareholders of Clariant Ltd (CHF/share)	**28**	**1.02**		**0.84**	

[1] The notes form an integral part of the consolidated financial statements.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

for the years ended 31 December 2018 and 2017

	Notes[1]	**2018** in CHF m	2017 in CHF m
Net income		**356**	**302**
Other comprehensive income:			
Remeasurements:			
Actuarial gain/loss on retirement benefit obligations	19	126	7
Return on retirement benefit plan assets, excluding amount included in interest expense	19	–149	111
Fair value adjustment on financial assets	8	2	—
Total items that will not be reclassified subsequently to the income statement, gross		**–21**	**118**
Deferred tax effect	9	1	–36
Total items that will not be reclassified subsequently to the income statement, net		**–20**	**82**
Net investment hedge	29	28	–55
Cash flow hedge		–1	—
Currency translation differences		–146	54
Share in other comprehensive income of associates and joint ventures	7	—	–3
Effect of the reclassification of foreign exchange differences on previously held net investments in foreign entities		2	2
Total items that may be reclassified subsequently to the income statement, gross		**–117**	**–2**
Deferred tax effect		0	0
Total items that may be reclassified subsequently to the income statement, net		**–117**	**–2**
Other comprehensive income/loss for the period, net of tax		**–137**	**80**
Total comprehensive income for the period		**219**	**382**
Attributable to:			
Shareholders of Clariant Ltd		210	358
Non-controlling interests		9	24
Total comprehensive income for the period		**219**	**382**

[1] The notes form an integral part of the consolidated financial statements.

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY in CHF m

at 31 December 2018 and 2017

			Other reserves							
	Total share capital	Treasury shares (par value)	Share premium reserve	Hedging reserves	Cumulative translation reserves	Total other reserves	Retained earnings	Total attributable to equity holders	Non-controlling interests	Total equity
Balance 31 December 2016	**1 228**	**–29**	**1 319**	**5**	**–1 095**	**229**	**1 033**	**2 461**	**85**	**2 546**
Net income						—	277	277	25	302
Net investment hedge					–55	–55		–55		–55
Remeasurements:										
Actuarial gain/loss on retirement benefit obligations (see note 19)						—	7	7		7
Return on retirement benefit plan assets, excluding amount included in interest expense (see note 19)						—	111	111		111
Deferred tax on remeasurements (see note 9)						—	–36	–36		–36
Currency translation differences					55	55		55	–1	54
Share in other comprehensive income of associates and joint ventures (see note 7)						—	–3	–3		–3
Effect of the reclassification of foreign exchange differences on previously held net investments in foreign entities					2	2		2		2
Total comprehensive income for the period	**—**	**—**	**—**	**—**	**2**	**2**	**356**	**358**	**24**	**382**
Distributions			–148			–148		–148		–148
Dividends to non-controlling interests						—		—	–29	–29
Transaction with non-controlling interests (see note 16)						—		—	99	99
Employee share & option scheme:										
Effect of employee services						—	–2	–2		–2
Treasury share transactions		19				—	72	91		91
Balance 31 December 2017	**1 228**	**–10**	**1 171**	**5**	**–1 093**	**83**	**1 459**	**2 760**	**179**	**2 939**
Changes in accounting policies [1]						—	–4	–4		–4
Balance 1 January 2018	**1 228**	**–10**	**1 171**	**5**	**–1 093**	**83**	**1 455**	**2 756**	**179**	**2 935**
Net income						—	337	337	19	356
Cash flow hedge				–1		–1		–1		–1
Net investment hedge					28	28		28		28
Remeasurements:										
Actuarial gain/loss on retirement benefit obligations (see note 19)						—	126	126		126
Return on retirement benefit plan assets, excluding amount included in interest expense (see note 19)						—	–149	–149		–149
Deferred tax on remeasurements (see note 9)						—	1	1		1
Currency translation differences					–136	–136		–136	–10	–146
Fair value adjustment on financial assets						—	2	2		2
Effect of the reclassification of foreign exchange differences on previously held net investments in foreign entities					2	2		2		2
Total comprehensive income for the period	**—**	**—**	**—**	**–1**	**–106**	**–107**	**317**	**210**	**9**	**219**
Distributions			–165			–165		–165		–165
Dividends to non-controlling interests						—		—	–16	–16
Employee share & option scheme:										
Effect of employee services						—	–12	–12		–12
Treasury share transactions		2				—	7	9		9
Balance 31 December 2018	**1 228**	**–8**	**1 006**	**4**	**–1 199**	**–189**	**1 767**	**2 798**	**172**	**2 970**

[1] The impact of the changes in accounting policies include CHF 4 million (net of tax) related to the implementation of IFRS 9 (see note 1.03).

The notes form an integral part of the consolidated financial statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS

for the years ended 31 December 2018 and 2017

	Notes[1]	**2018** in CHF m	2017 in CHF m
Net cash generated from operating activities	**15**	**530**	**428**
Cash flows from investing activities:			
Investments in property, plant and equipment	5	–237	–248
Investments in financial assets, associates and joint ventures		–4	–10
Investments in intangible assets	6	–20	–31
Changes in current financial assets and short-term deposits		15	238
Sale of property, plant and equipment and intangible assets		14	6
Business combinations	25	—	58
Proceeds from the disposal of associates and financial assets		62	35
Proceeds/payments associated to disposals of activities not qualifying as discontinued operations	24	38	17
Net cash provided by/used in investing activities		**–132**	**65**
Cash flows from financing activities:			
Sale of treasury shares		—	82
Distribution from the reserves to the shareholders of Clariant Ltd	16	–165	–148
Dividends paid to non-controlling interests		–16	–29
Proceeds from financial debts		350	78
Repayments of financial debts		–354	–718
Interest paid		–79	–109
Interest received		18	18
Net cash provided by/used in financing activities		**–246**	**–826**
Currency translation effect on cash and cash equivalents		–20	–9
Net change in cash and cash equivalents		**132**	**–342**
Cash and cash equivalents at the beginning of the period	**14**	**701**	**1 043**
Cash and cash equivalents at the end of the period	**14**	**833**	**701**

[1] The notes form an integral part of the consolidated financial statements.

Notes to the consolidated financial statements

1. Accounting policies

1.01 – General information

Clariant Ltd (the »Company«) and its consolidated subsidiaries (together the »Group«) are a global leader in the field of specialty chemicals. The Group develops, manufactures, distributes and sells a broad range of specialty chemicals which play a key role in its customers' manufacturing and treatment processes or add value to their end products. The Group has manufacturing plants around the world and sells mainly in countries within Europe, the Americas and Asia.

Clariant Ltd is a limited liability company incorporated and domiciled in Switzerland. The address of its registered office is Rothausstrasse 61, CH-4132 Muttenz, Switzerland. The Company is listed on the SIX Swiss Exchange.

The Board of Directors approved the consolidated financial statements for issue on 11 February 2019. They will be subject to approval by the Annual General Meeting of Shareholders scheduled for 1 April 2019.

1.02 – Basis of preparation

The consolidated financial statements of the Clariant Group have been prepared in accordance with the International Financial Reporting Standards (IFRS) and the IFRIC interpretations applicable to companies reporting under IFRS, and with the significant accounting policies set out below.

The consolidated financial statements have been prepared under the historical cost convention as modified by the revaluation of certain financial assets and liabilities (including derivative instruments) at fair value through profit or loss.

The preparation of financial statements in conformity with the IFRS requires the use of certain critical accounting estimates. It also requires management to exercise its judgment in the process of applying the Group's accounting policies.

These estimates and judgments affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements as well as the reported amounts of revenues and expenses during the reporting period.

Although these are based on management's best knowledge of current events and circumstances, actual outcomes may ultimately differ from those estimates. The areas involving a higher degree of judgment or complexity, or areas where estimates are significant to the consolidated financial statements, are disclosed under note 4.

1.03 – Standards, interpretations and amendments effective in 2018

The Group has applied the following standards and amendments for the first time:

- IFRS 9 Financial Instruments
- IFRS 15 Revenue from Contracts with Customers
- Classification and Measurement of Share-based Payment Transactions – Amendments to IFRS2
- Annual improvements 2014 – 2016 Cycle
- Transfers to Investment Property – Amendments to IAS 40
- Interpretation 22 Foreign Currency Transactions and Advance Consideration

The Group had to change its accounting policies and made certain adjustments as of 1 January 2018 following the adoption of IFRS 9 and IFRS 15. The other amendments listed above did not have any impact on the amounts recognized in prior periods and are not expected to significantly affect the current or future periods.

IFRS 9, Financial Instruments, addresses the classification, measurement and derecognition of financial assets and financial liabilities and introduces new rules for hedge accounting and a new impairment model. The Group's financial assets are made up to a large extent of trade receivables measured at amortized costs and other current assets which are measured at fair value. The rules for the determination of any need for impairment of trade receivables are such that they did not result in any material difference under IFRS 9 compared to the accounting rules under IAS 39. The Group only held a small amount of equity investments as of 1 January 2018 and their measurement at fair value had only a moderate impact on the financial statement. Short-term deposits consist of money market funds of a duration between three and twelve months placed with banks of high quality. Fair value fluctuations of these instruments are only minimal. The Group continues to measure all financial liabilities at amortized cost, thus no change in measurement has taken place.

Overview of financial assets and liabilities as of 31 December 2018 (under IFRS 9) and 31 December 2017 (under IAS 39)

CHF m		
Financial assets	**2018**	2017
Non-current		
Loans at amortized cost	13	20
Participations at cost	—	30
Participations at fair value through OCI	198	—
Total non-current financial assets	**211**	**50**
Current		
Trade receivables at amortized cost	1 017	1 146
Other receivables at amortized cost	248	264
Current financial assets at amortized cost	66	62
Interest rate swaps at fair value	6	5
Forward foreign exchange rate contracts at fair value	1	2
Short-term deposits at amortized cost	26	47
Cash and cash equivalents	833	701
Total current financial assets	**2 197**	**2 227**
Total financial assets	**2 408**	**2 277**
Financial liabilities		
Non-current		
Straight bonds, certificates of indebtedness and others at amortized cost	1 711	1 727
Total non-current financial liabilities	**1 711**	**1 727**
Current		
Banks and other financial institutions at amortized cost	244	317
Current portion of non-current financial debts at amortized costs	285	250
Total current financial liabilities	**529**	**567**
Total financial liabilities	**2 240**	**2 294**

The Group has designed its hedging activities in a way that the change in accounting rules from IAS 39 to IFRS 9 did not result in any changes in hedge accounting. Also, the Group does not to engage in additional hedge accounting as a result of the introduction of the new rules regarding hedge accounting. The impact of the new standard amounted to a total of CHF 5 million which resulted from the measurement at fair value of some participations in other companies, which were previously measured at cost and which was recognized in the opening balance of 2018.

IFRS 15, Revenue from contracts with customers, deals with revenue recognition and establishes principles for disclosing useful information about revenue and cash flows arising from these contracts. This standard replaces IAS 18, Revenue, and IAS 11, Construction Contracts, and related interpretations. It is effective for accounting periods beginning on or after 1 January 2018.

Clariant as a manufacturer and seller of industrial goods is engaged to the largest extent in transactions that are accounted for in the same manner under IFRS 15 as under the previous standards. Administrative procedures are such that contracts with customers are readily identifiable once they are agreed upon. Performance obligations for products and services can be identified by individual product numbers, which are also invoiced individually, allowing for the determination and allocation of the transaction price. Revenues from the sale of goods are recognized at a point in time. Services are normally invoiced separately and commensurate with the services rendered and thus recognized over time. As an industrial company with a large number of customers placing relatively small orders at a time, the Company does not incur substantial contract-related costs.

As a consequence the recognition and valuation rules required by IFRS 15 did not have any material impact on the financial statements of the Group.

1.04 – Standards, interpretations and amendments not yet effective

The following standards, interpretations and amendments already issued but not yet effective will be adopted by the Group as they become effective.

In January 2016, the IASB published the new lease standard. IFRS 16, Leases, introduces a new lessee accounting approach by which the lessee will be required to recognize its leases on the balance sheet, by way of the recognition of a »right of use« asset and a lease liability. It also provides new guidance on sale and lease-back accounting and requires new and different disclosures. This new standard will replace the guidance of IAS 17, Leases, and is effective for accounting periods beginning on or after 1 January 2019. It is expected that the application of IFRS 16 will entail a substantial increase of Clariant's total assets and liabilities as well as an increase of its operating result and a decrease of its financial result, as operating lease obligations (and assets leased under them) will have to be recognized on the balance sheet. Instead of the leasing expenses currently fully recognized as part of the operating result under the new standard the depreciation of the leased assets will be recognized in the operating result, while interest expense arising on the lease contracts will be reported as part of finance costs. It is estimated that if the standard had been introduced in 2018, at the end of the year about CHF 251 million of right of use asset would have been reported. It is also estimated that the operating result would have been CHF 10 million higher and the financial result would have been CHF 10 million lower. Estimated depreciation on right of use asset would have been CHF 55 million.

The Group will apply the standard from its mandatory adoption date of 1 January 2019 and intends to apply the simplified transition approach not restating comparative amounts for the year prior to first adoption.

1.05 – Scope of consolidation

- **Subsidiaries:** Subsidiaries are those entities over which the Group has control. This is the case when it is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Group and they are deconsolidated from the date the control ceases.

- **Associates:** Associates are entities over which the Group has significant influence but not control, generally accompanying a shareholding of between 20% and 50% of the voting rights. Investments in associates are accounted for using the equity method.

- **Joint arrangements:** The Group applies IFRS 11, Joint Arrangements, to all joint arrangements. Under IFRS 11, investments in joint arrangements are classified as either joint operations or joint ventures, depending on the contractual rights and obligations of each investor. Clariant has assessed the nature of its joint arrangements and determined them to be joint ventures. Joint ventures are accounted for using the equity method.

All associates and joint ventures apply the same accounting principles as the Group.

1.06 – Principles and methods of consolidation

The annual closing date of the individual financial statements is 31 December. The consolidated financial statements are prepared applying uniform presentation and valuation principles.
The results of non-controlling interests are separately disclosed in the income statement and in the balance sheet.

1.07 – Recognition of revenue from contracts with customers

Sales of goods and services are recognized in line with the requirements of IFRS 15, Revenue from contracts with customers. Revenue is measured based on the consideration the Group expects to receive in exchange for the goods or services. Revenue from sales of goods is recognized in the income statement when control has been transferred to the buyer, which is usually upon delivery, at a fixed or determinable price, and when collectability is reasonably assured. Delivery is defined based on the terms of the sale contract. Revenue from services is recognized when the respective services have been rendered.
Revenue is reported net of sales taxes, returns, discounts and rebates. Rebates to customers are provided for in the same period that the related sales are recorded based on the contract terms.
Where third parties hold Clariant inventories on a consignment basis, revenue is recognized in the period that inventories are withdrawn from consignment and delivered to customers. Clariant periodically enters into prepayment contracts with customers whereby it receives contract liabilities for products to be delivered in a future period. These contract liabilities are recorded as liabilities and presented as part of Other liabilities. Advance payment liabilities are released and revenues associated with such advance payment transactions are recognized upon delivery of and transfer of title, ownership, and risk of loss of the related products to the customer. Cash rebates and discounts granted to customers are classified as a reduction of revenue.

1.08 – Recognition of revenues from interest and dividends

Interest income is recognized on a time proportion basis, taking into account the principal outstanding and the effective rate over the period to maturity when it is determined that such income will accrue to the Group. Dividends are recognized when the right to receive the payment is established.

1.09 – Exchange rate differences

Exchange rate differences are recognized in line with the requirements of IAS 21, The Effect of Changes in Foreign Exchange Rates. The consolidated financial statements are presented in Swiss francs, which is the functional and presentation currency of the parent company.
Transactions and balances: Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions.
Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation of monetary assets and liabilities denominated in foreign currencies are recognized in the line »Finance costs« in the income statement, except when deferred in »Other comprehensive income« as qualifying cash flow hedges and net investment hedges.

Translation differences on debt securities and on other monetary financial assets measured at fair value are included in foreign exchange gains and losses in the line »Finance costs« in the income statement.

Group companies: Income statements and cash flow statements of foreign entities are translated into the Group's presentation currency at sales-weighted average exchange rates for the year and their balance sheets are translated at the exchange rates prevailing on 31 December.

All resulting exchange rate differences are recognized in Other comprehensive income in the line »Currency translation differences«. Exchange rate differences arising on the translation of the net investment in foreign entities and on borrowings and other currency instruments designated as hedges of such investments are recognized in »Other comprehensive income« in the line »Net investment hedge«. Net investments also include loans for which the settlement is neither planned nor likely to occur in the foreseeable future.

When a foreign operation is disposed of and as a consequence control, significant influence or joint control is lost, the cumulative amount in the translation reserve related to that foreign operation is reclassified to profit or loss as a part of the gain or loss on disposal.

When the Group's interest in a subsidiary that includes a foreign operation changes, while retaining control in the subsidiary, a proportionate part of the cumulative amount of the translation difference that was recognized in other comprehensive income is reclassified to non-controlling interests.

1.10 – Property, plant and equipment

Property, plant and equipment, except for the ones pertaining to mining activities, are valued at historical acquisition or production costs and depreciated on a straight-line basis to the income statement, using the following estimated useful lives in accordance with the Group guidelines:

- Buildings 15 to 40 years
- Machinery and equipment 10 to 16 years
- Furniture, vehicles, computer hardware 3 to 10 years
- Land is not depreciated

Property, plant and equipment pertaining to mining activities are valued at historical costs and depreciated over their useful lives to the income statement using the units of production method.

When the entity has a present legal or constructive obligation to dismantle an item of property, plant and equipment or restore a site, its initial costs include an estimate of the costs of dismantling and removing the item and restoring the site on which it is located. A corresponding provision is recorded for the amount of the asset component.

Financing costs directly associated with the acquisition, construction or production of qualifying property, plant and equipment are capitalized as a part of the costs of these assets. Investment property is valued at cost less depreciation. As all investment property held by Clariant consists of industrial and administrative sites which have been in use for several decades, there is no active market which would give information on possible market prices, if such property were sold to a third party. The fair values of the investment properties are therefore determined by way of external appraisals and value-in-use calculations.

1.11 – Intangible assets

Goodwill is recognized as per the requirements of IFRS 3, Business Combinations, IAS 38, Intangible Assets, and IFRS 11, Joint arrangements. Goodwill is not amortized, but tested annually for impairment as required by IAS 36, Impairment of Assets.

Trademarks and licenses are capitalized at historical costs and amortized on a straight-line basis to the income statement over their estimated useful lives, with a maximum of ten years.

Acquired computer software licenses are capitalized on the basis of the costs incurred to acquire and bring to use the specific software. They are amortized on a straight-line basis to the income statement over their estimated useful lives (three to five years).

Costs directly associated with the production of identifiable and unique software and other intangible products controlled by the Group, that will probably generate economic benefits beyond one year, are recognized as intangible assets and depreciated over their useful life of three years. Direct costs include software development costs, personnel costs and advisory costs directly related to the software or product development and an appropriate portion of the relevant overheads. Costs associated with developing and maintaining common software programs are recognized as an expense when incurred.

Intangibles acquired in a business combination with the exception of mining rights are amortized using a straight-line method over their remaining useful lives as follows:

- Technology 3 to 15 years
- Customer relationships 6 to 20 years
- Tradenames 10 years
- Order backlog 2 years

Mining rights are depreciated over their useful lives using the units of production method.

On 1 June 2007, a European Union regulation on chemicals and their safe use came into effect. It deals with the Registration, Evaluation, Authorization and Restriction of Chemical Substances (REACH). REACH applies to all substances manufactured, placed on the market and used in the European Union, either on their own, in mixtures or in products. REACH requires the registration of certain substances, with annual volumes exceeding a consumption of 1 000 metric tons, by 2010 and various other substances depending on their category by 2018.

As a company active in the chemical industry, Clariant has incurred costs in connection with REACH. Due to their nature, these costs are considered within the context of IAS 38, Intangible Assets, and those qualifying for capitalization are reported as intangible assets. As the initial two phases of the registration were completed in 2010 and 2013 respectively, the corresponding costs capitalized as intangible assets are amortized since 2011 for the first phase and since January 2014 for the second phase on a straight-line basis to the income statement over their estimated useful lives of twelve years.

1.12 – Impairment of assets
Impairment of assets is recognized and disclosed as per the requirements of IAS 36, Impairment of Assets.

1.13 – Non-current assets and disposal groups held for sale
Non-current assets and disposal groups are classified as held for sale when their carrying amount is to be recovered through a sale transaction and a sale is considered highly probable. They are stated at the lower of the carrying amount and fair value less costs of disposal, as per the requirements of IFRS 5, Non-current Assets Held for Sale and Discontinued Operations.

1.14 – Inventories
Purchased goods are valued at acquisition costs, while self-manufactured products are valued at manufacturing costs including related production overhead costs. Inventory held at the balance sheet date is primarily valued at standard costs, which approximates actual costs on a weighted average basis. This valuation method is also used for valuing the costs of goods sold in the income statement. Adjustments are made for inventories with a lower net realizable value. Unsaleable inventories are fully written off. These adjustments are recorded as valuation allowances, which are deducted directly from the inventory value in the balance sheet. The allowances are reversed when the inventories concerned are either sold or destroyed and as a consequence are removed from the balance sheet.

1.15 – Trade receivables
Trade receivables are amounts due from customers for goods sold or services rendered in the ordinary course of business and are recognized in accordance with IFRS 9, Financial Instruments. They are generally due within 40 days and therefore classified as current. Trade receivables are recognized initially at the amount of considerations that is unconditional. The Group holds trade receivables with the objective to collect the contractual cash flows and therefore measures them subsequently at amortized cost. Details about the Group's impairment policies and the calculation of the loss allowance are provided in note 11.

1.16 – Cash and cash equivalents, short-term deposits
Cash and cash equivalents comprise cash in hand, deposits and calls with banks, as well as short-term investment instruments with an initial lifetime of 90 days or less. Bank overdrafts are reported within financial debt in current liabilities on the balance sheet. Short-term deposits are disclosed separately in the balance sheet if they have an original maturity between 90 and 365 days. They are valued at their nominal value, which is close to their fair market value.

1.17 – Derivative financial instruments and hedging
Derivative financial instruments and hedges are recognized in accordance with IFRS 9, Financial Instruments. Qualifying hedge instruments are derivatives and non-derivative financial assets and liabilities that are fully measured at fair value through profit and loss. Hedged items are assets or liabilities, unrecognized firm commitments, forecast transactions or net investments in foreign entities. They are reliably measurable and if not recognized they are highly probable. The hedges are accounted for either as fair value hedges in the case of exposures in fair value of recognized assets and liabilities or unrecognized firm commitments, as cash flow hedges in the case of exposures in cash flows arising from recognized assets or liabilities or forecast transactions that could affect profit or loss, or as hedges of a net investment in a foreign entity.

1.18 – Leasing
The Group classifies leases into finance and operating leases and recognizes them based on the requirements of IAS 17, Leases.

1.19 – Current income tax
The taxable profits (losses) of Group companies are calculated in accordance with the rules established by the taxation authorities of the countries in which they operate. They are the basis for the determination of income tax payments (reimbursements) for the reporting period in accordance with the prevailing local income tax rates. Current income tax is accounted for in accordance with the requirements of IAS 12, Income Taxes.

1.20 – Deferred income tax
Deferred income tax is calculated using the comprehensive liability method as per the requirements of IAS 12, Income Taxes.
No deferred income tax is calculated for the temporary differences on investments in Group companies, provided that the investor (parent company) is able to control the timing of the reversal of the temporary differences and it is probable that the temporary differences will not reverse in the foreseeable future.
Deferred income tax assets are recognized on tax losses incurred, if based on the business plans of the respective subsidiaries it is deemed probable that the tax losses are recoverable in the foreseeable future. The recoverability of these tax losses is assessed by Management on a regular basis.

1.21 – Employee benefits

Group companies operate various post-employment schemes, including both defined benefit and defined contribution pension plans, post-employment health care plans and other benefits. Obligations for employee benefits are determined and recorded in line with the requirements of IAS 19, Employee Benefits.

Defined contribution plans: Contributions to defined contribution plans are recorded in the income statement in the period to which they relate.

Defined benefit plans: For defined benefit plans, the amount to be recognized in the provision is determined using the Projected Unit Credit method. Independent actuaries perform the actuarial valuations for the defined benefit plans on a regular basis. For the larger plans these valuations take place annually. For the smaller ones valuations are performed at least every three years, with systematic roll-forwards in the years in between.
The retirement benefit obligations recognized in the balance sheet represent the present value of the obligations at the end of the reporting period less the fair value of the plan assets.
The prepaid pension assets recognized in the balance sheet are capitalized only to the extent of their recoverability, that is when a cash refund or a reduction in the future payments is available. The return on plan assets, except for amounts reflected in net interest income, are reported under other comprehensive income.

Actuarial gains and losses are charged or credited to equity in other comprehensive income in the period in which they arise. Past service costs are recognized immediately in the income statement.

Some Group companies **provide post-employment health care benefits** to their retirees. The entitlement to these benefits is usually conditional on the employee remaining in service up to retirement age and the completion of a minimum service period. The expected costs of these benefits are accrued over the period of employment using an accounting method similar to that for the defined benefit pension plans. Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to equity in other comprehensive income in the period in which they arise.

The charges for defined benefit plans, defined contribution plans and termination benefits are included in personnel expenses and reported in the income statement under the corresponding functions of the related employees or in restructuring expenses.

Other **long-term employee benefits** are employee benefits (other than post-employment benefits and termination benefits) which do not fall wholly due within twelve months after the end of the period in which the employees render the related service. These include long-term compensated absences such as long-service or sabbatical leave and jubilee or other long-service benefits. The accounting policy for other long-term employee benefits is equal to that for post-employment benefits, with the exception that actuarial gains and losses are recognized immediately in the income statement.

Short-term employee benefits are employee benefits (other than termination benefits) which fall due wholly within twelve months after the end of the period in which the employees render the related service.

1.22 – Provisions

Provisions are recognized as per the requirements of IAS 37, Provisions, Contingent Liabilities and Contingent Assets.

1.23 – Research and development

Development expenses are capitalized to the extent that the recognition criteria set up by IAS 38, Intangible Assets, are met. Considering the uncertainties inherent to the development of new key products, Clariant does not capitalize the associated development costs. Experience has proven that the structure of research and development in the industries that Clariant engages in makes it difficult to demonstrate how single intangible assets (patents) will generate probable future economic benefits.

Laboratory buildings and equipment included in property, plant and equipment are depreciated over their estimated useful lives in accordance with the Group guidelines of note 1.10.

1.24 – Segment reporting

Segment information is presented in the same manner as in the internal reporting to the chief operating decision maker. The chief operating decision maker, responsible for strategic decisions, for the assessment of the segments' performance and for the allocation of resources to the segments, is the Executive Committee.

Clariant has seven Business Units (BU) for external reporting purposes, grouped into four Business Areas (BA) (reportable segments), in accordance with IFRS 8, Operating Segments:

- Care Chemicals (BU ICS)
- Catalysis (BU Catalysts)
- Natural Resources (BU Oil & Mining Services, BU Functional Minerals)
- Plastics & Coatings (BU Additives, BU Masterbatches, BU Pigments)

The seven Business Units were grouped into Business Areas in a manner that they reflect, in Management's opinion, the similar economic characteristics of certain BU's and common traits regarding products, markets, technologies and cyclicality.
These four Business Areas have full responsibility for their operating results.

The Business Area **Care Chemicals** comprises the BU Industrial & Consumer Specialties (ICS), food additives as well as the future Industrial Biotechnology business. It demonstrates a clear focus on highly attractive, high-margin, and low-cyclicality segments. The BA follows a lifestyle-driven megatrend and strengthens Clariant's image of being a supplier of green and sustainable products.

The Business Area **Catalysis** develops, manufactures, and sells a wide range of catalyst products for the chemical, fuel and automotive industries. This BA is the smallest within Clariant but is highly profitable with a cyclicality in line with the investment cycle of the petrochemical industry.

The Business Area **Natural Resources** comprising BUs Oil & Mining Services and Functional Minerals, is characterized by high growth and low cyclicality as well as a strong megatrend orientation. Main drivers are the rising demand for high-value added specialty chemicals used in the oil, mining, food and packaging industries, and increased consumption of oil, gas and base metals, driven by the fast-growing economies.

The Business Area **Plastics & Coatings** comprises the BUs Additives, Pigments and Masterbatches. The Business Area has a large exposure to Europe and, as such, is subject to lower growth and to economic cycles. Main drivers are the increasing use of plastics with tailor-made properties in applications such as mobile phones, cars, construction, as well as the rising consumption of plastics in line with increasing wealth.

Corporate: Income and expenses relating to Corporate include the costs of the Corporate headquarters and some of corporate coordination functions in major countries. In addition, Corporate includes certain items of income and expenses, which are not directly attributable to specific Business Areas, like central R&D costs.

The Group's Business Areas are segments offering different products. The segments are managed separately because they manufacture, distribute and sell distinct products, which require differing technologies and marketing strategies. These products are also subject to risks and returns that are different from those of other segments.

Segment sales are sales reported in the Group's income statement directly attributable to a segment and the relevant portion of the company income that can be allocated on a reasonable basis to a segment, whether from sales to external customers or from transactions with other segments.

Segment operating expenses are expenses resulting from the operating activities of a segment directly attributable to the segment and the relevant portion of an expense that can be allocated on a reasonable basis, including expenses relating to sales to external customers and expenses relating to transactions with other segments. Inter-segment transactions are entered into under the normal circumstances and terms and conditions that would also be available to unrelated third parties.
The segment net assets consist of segment assets, primarily property, plant and equipment, intangible assets, inventories and receivables, less segment liabilities. Usually no allocation of Corporate items is made to the segments. Corporate assets and liabilities principally consist of net liquidity (cash, cash equivalents and other current financial assets less financial debts) and deferred and current income taxes.

The Executive Committee assesses the performance of the operating segments based on income statement parameters like third-party sales, EBITDA, operating result and cashflow. Interest income, interest expense and taxes are not allocated to the segments.
The return on the capital invested in each segment is measured by the Return on Invested Capital (ROIC).

1.25 – Share capital and other reserves

All issued shares are ordinary shares and as such are classified as equity. Incremental costs, directly attributable to the issue of new shares or options, are shown in equity as a deduction, net of tax, from the proceeds.

Written put options, where Clariant Ltd shares are the underlying, are reported as obligations to purchase Clariant Ltd shares if the number of shares is fixed and physical settlement for a fixed amount of cash is required, in case the option is exercised.

At inception, the obligation is recorded at the present value of the settlement amount of the option and the corresponding effect is recognized in shareholders' equity.

The liability is measured subsequently at amortized costs using the effective interest method. Upon settlement of such written put options, the liability is extinguished and the charge to equity is reclassified to the treasury shares.

Clariant Ltd shares, subject to such put options, are not considered to be outstanding for the purpose of basic earnings per share calculations, but are considered for the dilutive earnings per share calculations to the extent that they are dilutive.

Other reserves comprise the following items:

- **Share premium:** The share premium comprises the excess price paid over the par value of the share at the time of issuance of the share capital.

- **Cumulative translation reserves:** The translation reserves comprise the foreign exchange differences arising on the translation of the financial statements of the foreign subsidiaries stated in a currency other than the Group's functional currency. In addition, the cumulative translation reserves comprise the foreign exchange differences arising on the translation of financial liabilities denominated in a currency other than the functional currency of the parent company Clariant Ltd, which are at the same time designated as a hedge of a net investment in a foreign entity.

1.26 – Treasury shares

Treasury shares are deducted from equity at their par value of CHF 3.70 per share. Differences between this amount and the amount paid for acquiring, or received for disposing of treasury shares are recorded in retained earnings.

1.27 – Financial debt

Financial debt is recognized based on the requirements of IFRS 9, Financial Instruments: Recognition and Measurement.

All financial liabilities are valued at amortized cost.

1.28 – Financial assets

Financial assets are classified, recognized, measured and if necessary, impaired based on the requirements of IFRS 9, Financial Instruments.

Financial assets are valued at amortized cost if there is the intention to hold them in order to collect the contractual cash flow and this cash flow is only for the principal and interest.

Financial assets are valued at fair value through Other comprehensive income when they are held with the intention of getting the contractual cash flow, but also with the intention of eventually selling the asset.

Equity investments are measured at fair value through Other comprehensive income based on the Group's irrevocable election at initial recognition.
There are currently no financial assets at fair value though profit and loss.

Loss allowances are recognized for expected credit losses. If at the reporting date the credit risk on a financial instrument has not significantly increased since the initial recognition the loss allowance is measured at an amount equal to the 12-month-expected credit loss. If at the reporting date the credit risk on a financial asset has increased significantly since initial recognition the loss allowance is measured at an amount equal to the lifetime-expected credit loss. If in the previous period the loss allowance was measured at the lifetime-expected credit loss but at the reporting date it is determined that the credit risk is no longer significantly higher than at initial recognition then at the reporting date the loss allowance is again measured at an amount equal to the 12-month expected credit loss. Changes in the measurement of the loss allowance are recognized in profit and loss.

Purchases and sales of financial assets are recognized on settlement date, which is the date on which the Group receives or delivers the assets.

1.29 – Business combinations

The Group applies the acquisition method to account for business combinations in accordance with IFRS 3, Business Combinations, and recognizes any non-controlling interests in the acquiree at fair value (full goodwill method).

Acquisition-related costs are expensed as incurred.

2. Enterprise Risk Management Identification, Assessment and Management

Under the Enterprise Risk Management Policy, based on the standard of »The Institute of Risk Management«, risk assessments are prepared by Business Units, Service Units, Corporate Functions and Regions to assess threats that will impact the achievement of the objectives set for Clariant overall. These objectives are a result of the overall strategy of the Group as set by the Board of Directors and implemented by the Executive Committee.

The Executive Committee is responsible for monitoring the risk assessments for relevance and consistency. The Executive Committee has formed a Subcommittee »Ethics and Risk Management« subcommittee, which maintains an up-to-date understanding of areas where Clariant is, or may be, exposed to risk issues and seeks to ensure that management is effectively addressing those issues. The Ethics and Risk Management Committee meets on a quarterly basis.

The short- and long-term objectives are set in the fourth quarter of the year. These objectives, threats and opportunities are subject to scrutiny by the Executive Committee during meetings with each Business Unit. Also reviewed and discussed are the proposed measures to reduce or contain threats. In that context, mitigation measures are defined and responsibilities are assigned.
All stakeholders are required to report significant changes to existing identified risks and new threats and opportunities as they arise.

Risk registers are maintained using financial and reputational impact and probability assessments to score and rank all identified risks. The assessment also addresses the measures in place to manage the risk identified with dates for completion of the measures. Effectiveness of the measures is also assessed.

When threats have been identified and quantified, they are delegated to qualified individuals who are required to deliver effective risk management. Depending on the nature of the risks identified, specific skill sets may be required for the management of those particular risks. The assessments are shared between the stakeholders on a regular basis.

A consolidated risk assessment is submitted to the Executive Committee, the Audit Committee and the Board of Directors for review. In the case of new or changed risks, the reporting procedure is accelerated.

Summaries of risk assessments from the Business Units, Regions, and Service Units are shared with key managers of Clariant.

To support functional responsibility, certain functions have access to risk assessments to assist them in their roles. Examples of such functions are Environmental Safety & Health Affairs (ESHA) to identify key sites for their property risk survey program, or Group Procurement to ensure reliable and compliant supply of raw materials.

Examples of identified risks included in the Risk Register:

2.1 – Regulation & Compliance:

Clariant is subject to many rules and regulations as well as compliance standards. These include chemical industry, country, government and customer requirements as well as the European Union's (EU) Regulations on Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) or similar regulations in other countries. Clariant Product Stewardship is responsible to ensure that all relevant legal requirements are met. Certain specific matters are delegated to Legal, ESHA and logistics functions.

2.2 – Sites and locations

This includes manufacturing plants and equipment important for the production of Clariant products for sale to customers. Also addressed are country and culture issues that could create threats to and opportunities for business objectives. The aim is to maintain high-quality production facilities. ESHA and Regional Services are responsible for the management of the associated risks.

Examples of emerging risks included in the risk register:

2.3 – Economic development

The achievement of corporate targets depends on the economic development, which is therefore continuously monitored in all markets. Should a market not develop in line with expectations, the organization will be adjusted accordingly. The global trade uncertainty arising from the currently looming conflicts around trade and tariffs could adversely affect economic development.

2.4 – Consolidation of Customers

Consolidations in certain markets of Clariant result in increasing pressure on prices. As a consequence, Clariant is further developing key account pricing strategies and speeding up the value proposition claim.

3. Financial risk management

3.1 – Financial risk factors

The Group's activities expose it to a variety of financial risks: market risk (including foreign exchange risk, interest rate risk and price risk), credit risk, liquidity risk, counterparty risk, (re-)financing and funding risk, and also settlement risk. The Group's overall risk management program focuses on the unpredictability of financial markets and seeks to reduce potential adverse effects on the Group's financial performance at reasonable hedging costs. The Group uses derivative financial instruments, non-derivative financial instruments and operating strategies to hedge certain risks.

Financial risk management is carried out by the central treasury department (Corporate Treasury) under policies approved by the Executive Committee and the Board of Directors. Corporate Treasury identifies, evaluates and hedges financial risks in close cooperation with the Group's operating units and functions. Written principles for the management of overall foreign exchange risk, credit risk for the use of derivative financial instruments, non-derivative financial instruments and investing excess liquidity (counterparty risk) are in place.

3.1.1 – Market risk

3.1.1.1 – Foreign exchange risk

- **Exposure to foreign exchange risk:** The Group operates internationally and is exposed to foreign exchange risks arising from various currency exposures, primarily with respect to the euro and the US-dollar and to some extent the currencies of emerging countries. Foreign exchange risks arise from future commercial transactions, recognized assets and liabilities and net investments in foreign operations, when they are denominated in a currency that is not the respective subsidiary's functional currency.

- **Foreign exchange risk management:** To manage the foreign exchange risk arising from future commercial transactions and recognized assets and liabilities, entities in the Group use spot transactions, FX forward contracts, FX options and FX swaps according to the Group's foreign exchange risk policy. Corporate Treasury is responsible, in close coordination with the Group's operating units, for managing the net position in each foreign currency and for putting in place the appropriate hedging actions.

The Group's foreign exchange risk management policy is to selectively hedge net transaction exposures in major foreign currencies.

Currency exposures arising from the net assets of the Group's foreign operations are managed primarily through borrowings denominated in the relevant foreign currency.

Detailed information regarding foreign exchange management is provided in note 29.

- **Foreign exchange risk sensitivity:** The estimated percentage change of the following foreign exchange rates used in this calculation is based on the historical foreign exchange rate volatility for a term of 360 days.

At 31 December 2018, if the euro had strengthened/weakened by 5 % (2017: 5 %) against the Swiss franc with all other variables held constant, pre-tax profit for the year would have been CHF 7 million higher/lower (2017: CHF 7 million higher/lower), mainly as a result of foreign exchange gains/losses on translation of the euro-denominated financing, cash and cash equivalents, intragroup financing and third-party trade receivables and payables. Equity would have been CHF 57 million lower/higher (2017: CHF 42 million lower/higher), arising mainly from foreign exchange gains/losses on translation of the euro-denominated hedging instruments.

At 31 December 2018, if the US-dollar had strengthened/weakened by 7% (2017: 7 %) against the Swiss franc with all other variables held constant, pre-tax profit for the year would have been CHF 19 million higher/lower (2017: CHF 27 million higher/lower) mainly as a result of foreign exchange gains/losses on translation of US-dollar-denominated cash and cash equivalents, intragroup financing and trade receivables. Equity would have been CHF 18 million lower/higher (2017: CHF 19 million lower/higher), arising mainly from foreign exchange gains/losses on the translation of the US-dollar-denominated hedging instruments.

3.1.1.2 – Interest rate risk

- **Exposure to interest rate risk:** Financial debt issued at variable rates and cash and cash equivalents expose the Group to cash flow interest rate risk; the net exposure as per 31 December 2018 was not significant. Financial debt issued at fixed rates does not expose the Group to fair value interest rate risk because it is recorded at amortized costs. At the end of 2018 and 2017, 100 % of the net financial debt was at fixed rates.

- **Interest rate risk management:** It is the Group's policy to manage the costs of interest using fixed and variable rate debt and interest-related derivatives. Corporate Treasury monitors the net debt fix-to-float mix on an ongoing basis.

- **Interest rate risk sensitivity:** To calculate the impact of a potential interest rate shift on profit and loss, a weighted average interest rate change was determined, based on the terms of the financial debt issued at variable rates, fix-term deposits and the movements of the corresponding interest rates (interest rates comparison between end of 2018 and end of 2017).

At 31 December 2018, if the euro interest rates on net current financial debt issued at variable interest rates had been 1 basis point higher/lower with all other variables held constant, pre-tax profit for the year would have been below CHF 0.001 million higher/lower (2017: CHF 0.1 million higher/lower for a euro interest rate shift of 9 basis points).

3.1.2 – Other price risks

With regard to the financial statements as per 31 December 2018 and 2017, the Group was not exposed to other price risks in the sense of IFRS 7, Financial Instruments: Disclosures.

3.1.2.1 – Credit risk

- **Exposures to credit risk:** Credit risk arises from deposits of cash and cash equivalents, from entering into derivative financial instruments and from deposits with banks and financial institutions, as well as from credit exposures to wholesale and retail customers, including outstanding receivables and committed transactions with suppliers. Customer credit risk exposure is triggered by customer default risk and country risk. As per 31 December 2018, the Group had a diversified portfolio with more than 31 500 active credit accounts (2017: more than 32 000), with no significant concentration neither due to size of customers nor due to country risk.

- **Credit risk management:** Clariant has a Group credit risk policy in place to ensure that sales are made to customers only after an appropriate credit risk rating and credit line allocation process. Procedures are standardized within a customer credit risk policy and supported by the IT system with respective credit management tools. Credit lines are partially backed by credit risk insurance.

Ageing balance of trade receivables	31.12.2018	31.12.2017
Not due yet	90 %	88 %
Total overdue	10 %	12 %
– less than 30 days	7 %	10 %
– more than 30 days	3 %	2 %

Net trade receivables per Group internal risk category	31.12.2018	31.12.2017
A – low credit risk	24 %	27 %
B – low to medium credit risk	33 %	31 %
C – medium to above-average risk	30 %	30 %
D – high credit risk	13 %	12 %
N – customers awaiting rating	0 %	0 %

Financial instruments contain an element of risk that the counterparty may be unable to either issue securities or to fulfill the settlement terms of a contract. Clariant therefore – whenever possible – only cooperates with counterparties or issuers that are at least rated »BB-« when it comes to entering into deposits with such counterparties. The cumulative exposure to these counterparties is constantly monitored by Corporate Treasury. There is no expectation of a material loss due to counterparty risk.
The Group maintains a large cash pooling structure with a leading European bank, over which most European subsidiaries execute their cash transactions denominated in euro. As a result of this cash pool the Group at certain times has substantial current financial assets and at other times substantial current financial liabilities.

In view of the bank being rated »BBB+« (2017: A-) by the most important rating agencies, Clariant does not consider this to pose any particular counterparty risk.

At the balance sheet date 75 % (2017: 72 %) of the total cash and cash equivalents and short-term deposits were held with five banks (2017: five banks), each with a position between CHF 49 million and CHF 312 million (2017: between CHF 37 million and CHF 224 million). All of these banks are rated »BBB+« (2017: »A-«) and better.

The table below shows in percentage of total cash and cash equivalents the share deposited with each of the three major counterparties at the balance sheet date (excluding the bank managing the euro cash pool):

Counterparty	Rating	31.12.2018
Bank 1	A	8 %
Bank 2	A+	19 %
Bank 3	A+	11 %

Counterparty	Rating	31.12.2017
Bank A	AA	5 %
Bank B	A+	22 %
Bank C	A+	7 %

3.1.3 – Liquidity risk

- **Liquidity risk management:** Cash flow forecasting is performed in the subsidiaries of the Group and in aggregate by Corporate Treasury. Corporate Treasury monitors the forecasts of the Group's liquidity requirements to ensure it has sufficient cash to meet its operational needs while maintaining sufficient headroom on its undrawn borrowing facilities. At all times the Group aims to meet the requirements set by the covenants of any of its borrowing facilities. Corporate Management therefore takes into consideration the Group's debt financing plans and financing options.

Cash which is not needed in the operating activities of the Group is invested in short-term money market deposits or marketable securities, if an interest income higher than the one on a regular bank deposit can be achieved. At 31 December 2018, the Group held money market funds of CHF 142 million (2017: CHF 154 million), thereof CHF 26 million with an initial tenor of more than 90 days (2017: CHF 47 million).

The following table analyzes the maturity profile of the Group's financial liabilities. The amounts disclosed are the contractual undiscounted cash flows and therefore do not reconcile with the financial liabilities presented in the consolidated balance sheets.

At 31 December 2018 CHF m	Less than 1 year	Between 1 and 2 years	Between 2 and 5 years	Over 5 years
Borrowings	529	410	816	485
Interest on borrowings	76	27	43	4
Finance lease liabilities	3	3	8	16
Trade payables and other liabilities	1 266	7	18	47
Derivative financial instruments	—	—	-4	—

At 31 December 2017 CHF m	Less than 1 year	Between 1 and 2 years	Between 2 and 5 years	Over 5 years
Borrowings	566	287	675	480
Interest on borrowings	42	36	63	2
Finance lease liabilities	3	3	9	17
Trade payables and other liabilities	1 216	1	23	55
Derivative financial instruments	1	—	– 7	—

The Group covers its liabilities out of generated operating cash flow, liquidity reserves in form of cash and cash equivalents including money market deposits (31 December 2018: CHF 859 million vs. 31 December 2017: CHF 748 million), out of uncommitted open cash pool limits and bank credit lines (31 December 2018: CHF 104 million vs. 31 December 2017: CHF 107 million), as well as out of additional uncommitted net working capital facilities and through issuance of capital market instruments.

Since 16 December 2016, Clariant Ltd has an agreement for a CHF 500 million five-year multi-currency revolving credit facility (RCF) with two one-year extension options. The RCF is structured as a club deal with ten key relationship banks with equal stakes and contains an accordion option for an increase up to CHF 600 million. The RCF is structured as a »back-stop« facility for rating purposes to maintain Clariant's liquidity headroom. It contains customary covenants such as negative pledge, cross default, ownership change and restriction on disposals, mergers and subsidiary debt. The Group is required to maintain one financial covenant (debt leverage) that is tested at the end of each financial half year. The RCF has been extended one more year until 16 December 2023.

3.2 – Fair value measurement

IFRS 13, Fair Value Measurement, requires the disclosure of fair value measurements for financial instruments measured at fair value in the balance sheets in accordance with the fair value measurement hierarchy.

The fair value hierarchies are defined as follows:

- **Level 1:** Quoted prices (unadjusted) in active markets for identical assets or liabilities.
- **Level 2:** Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (that is, as prices) or indirectly (that is, derived from prices).
- **Level 3:** Inputs for the asset or liability that are not based on observable market data (that is, unobservable inputs).

3.2.1 – Valuation methods

As per 31 December 2018, the open derivative financial instruments held were valued using the following valuation methods:

Forward exchange rate contracts: The valuation of forward exchange rate contracts are based on the discounted cash flow model, using observable inputs such as interest curves and spot rates.

Exchange rate options: FX options are valued based on a Black-Scholes model, using major observable inputs such as volatility and exercise prices.

Equity investments valued at fair value through OCI: These are usually classified at Level 3. Their valuation is based on multiples of projected earnings and discounted cash flows. The value of one important financial asset is based on a recent transaction.

The financial instruments measured at fair value through profit or loss were all classified as Level 2 (see note 29). There were no transfers between the levels in 2018 and 2017.

3.3 – Hedge Accounting

Derivatives are initially recognized at fair value on the date a derivative contract is entered into and are subsequently remeasured to their fair value at the end of each reporting period. The accounting for subsequent changes in fair value depends on whether the derivative is designated as a hedging instrument, and if so, the nature of the item being hedged. The Group designates certain derivatives as either:

- Hedges of a particular risk associated with the cash flows of recognized assets and liabilities and highly probable forecast transactions (cash flow hedges)
- Hedges of a net investment in a foreign operation (net investment hedges).

At the inception of the hedge relationship, the Group documents the economic relationship between hedging instruments and hedged items including whether changes in the cash flows of the hedging instruments are expected to offset changes in the cash flows of hedged items. The group documents its risk management objective and strategy for undertaking its hedge transactions.

The fair values of derivative financial instruments designated in hedge relationships are disclosed in note 29. Movements in the hedging reserve in shareholders' equity are shown in note 16. The full fair value of a hedging derivative is classified as a non-current asset or liability when the remaining maturity of the hedged item is more than 12 months; it is classified as a current asset or liability when the remaining maturity of the hedged item is less than 12 months. Trading derivatives are classified as a current asset or liability.

· **Cash flow hedges:** The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges is recognized within equity. The gain or loss relating to the ineffective portion is recognized immediately in profit or loss. As long as the hedged cash flow item is probable the cumulative gain or loss on the respective hedge remains in equity and does not get recycled.

Amounts accumulated in equity are reclassified in the periods when the hedged item affects profit or loss, as follows:

· The gain or loss relating to the effective portion of the interest rate/cross currency swaps hedging variable rate or fixed rate borrowings is recognized in profit or loss within finance cost at the same time as the interest expense on the hedged borrowings.

When a hedging instrument expires, or is sold or terminated, or when a hedge no longer meets the criteria for hedge accounting, the cumulative gain or loss that was reported in equity is immediately reclassified to profit or loss.

· **Hedges of net investments** in foreign operations are accounted for similarly to cash flow hedges. Any gain or loss on the hedging instrument relating to the effective portion of the hedge is recognized in other comprehensive income and accumulated within equity. The gain or loss relating to the ineffective portion is recognized immediately in profit or loss.

Gains and losses accumulated in equity are reclassified to profit or loss when the foreign operation is partially disposed of or sold.

3.4 – Capital risk management

The Group's objectives when managing capital are to safeguard the ability to continue as a going concern in order to provide returns for the shareholders and benefits for other stakeholders and to maintain a capital structure suitable to optimize the cost of capital. This includes aspects of the credit rating.

In order to maintain or adjust the capital structure, the Group may adjust the amount of payouts to the shareholders, return capital to the shareholders, issue new shares, or sell assets to reduce debt.

The Group monitors capital on the basis of invested capital as part of the return on invested capital concept. Invested capital is calculated as the sum of total equity as reported in the consolidated balance sheets plus current and non-current financial liabilities as reported in the consolidated balance sheets plus estimated liabilities from operating leases, plus estimated cash needed for operating purposes, less cash and cash equivalents and short-term deposits not needed for operating purposes.

Invested capital for the Group was as follows on 31 December 2018 and 2017 respectively:

CHF m	**2018**	2017
Total equity	2 970	2 939
Total current and non-current financial liabilities	2 240	2 294
Estimated operating lease liabilities	251	500
Less cash and cash equivalents and short-term deposits*	–859	–748
Cash needed for operating purposes	132	128
Invested capital	**4 734**	**5 113**

* Short-term deposits represent deposits over 90 days.

At the end of 2018, Clariant considers the invested capital to be adequate.

4. Critical accounting estimates and judgments

Estimates and judgments are continually evaluated and are based on historical experience and other factors, including expectations on future events that are believed to be reasonable under the circumstances.

The Group makes estimates and takes assumptions concerning the future. The resulting accounting estimates will, by definition, seldom equal the related actual results. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below.

4.1 – Estimated impairment of goodwill, intangibles, and property, plant and equipment

The Group tests annually whether goodwill has suffered any impairment in accordance with the requirements of IAS 36, Impairment of Assets. The recoverable amounts of all cash generating units have been determined based on value-in-use calculations.

The recoverable value of intangibles and property, plant and equipment is also assessed applying value-in-use calculations. These calculations require the use of estimates, in particular in relation to the expected growth of sales, the discount rates, the development of raw material prices and the success of restructuring measures implemented (see notes 5 and 6).

4.2 – Environmental liabilities

The Group is exposed to environmental regulations in numerous jurisdictions. Significant judgment is required in determining the worldwide provision for environmental remediation. The Group constantly monitors its sites to ensure compliance with legislative requirements and to assess the liability arising from the need to adapt to changing legal demands. The Group recognizes liabilities for environmental remediation based on the latest assessment of the environmental situation of the individual sites and the most recent requirements of the respective legislation. Where the final remediation results in expenses that differ from the amounts previously recorded, such differences impact the income statement in the period in which such determination is made (see notes 20 and 33).

4.3 – Income tax and other taxes

The Group is subject to income tax and other taxes in numerous jurisdictions. Significant judgment is required in determining the worldwide provision for income tax and other taxes. There are many transactions and calculations for which the ultimate tax determination is uncertain at the time a liability must be recorded. The Group recognizes liabilities for anticipated tax audit issues based on estimates of whether additional taxes will be due. Where the final tax outcome of these matters is different from the amounts initially recorded, such differences impact the income tax and deferred tax provisions in the period in which such determination is made (see note 9).
As a substantial part of Clariant's activities are based in Germany, this is where the largest tax risks arise.
Some subsidiaries generate tax losses. Often these can be used to offset taxable gains of subsequent periods. The Group constantly monitors the development of such tax loss situations. Based on the business plans for the subsidiaries concerned, the recoverability of such tax losses is determined. In the case that a tax loss is deemed to be recoverable, the capitalization of a deferred tax asset for such a tax loss is then decided.

4.4 – Estimates for the accounting for employee benefits

IAS 19, Employee Benefits, requires that certain assumptions are made in order to determine the amount to be recorded for retirement benefit obligations and pension plan assets, in particular for defined benefit plans. These are mainly actuarial assumptions such as expected future salary increases, long-term increase in health care costs, average life expectancy and discount rates. Substantial changes in the assumed development of any of these variables may significantly change the Group's retirement benefit obligation and pension assets (see note 19).

4.5 – Contingencies

Clariant is regularly confronted with situations where possible obligations arising from past events will only be confirmed by the occurrence or non-occurrence of future events not wholly within the control of the Group or where the amount of the obligation cannot be reliably estimated.
Clariant reviews such situations at each balance sheet and makes judgments based on all information available on it if an outflow of resources can be reliably estimated or not. If this is not possible, a contingency is reported for each material case.

5. Property, plant and equipment

in CHF m	Land	Buildings	Machinery and equipment	Furniture, vehicles, computer hardware	Assets under construction	**Total 2018**
Cost						
As per 1 January	421	1 945	3 121	429	234	6 150
Additions	2	15	54	21	145	237
Disposals	–4	–446	–254	–38	–8	–750
Reclassifications	1	42	102	12	–157	—
Exchange rate differences	–15	–63	–99	–14	–7	–198
At 31 December	**405**	**1 493**	**2 924**	**410**	**207**	**5 439**
Accumulated depreciation and impairment						
As per 1 January	–116	–1 256	–2 207	–321	—	–3 900
Disposals	1	404	219	32	—	656
Depreciation	—	–51	–157	–37	—	–245
Exchange rate differences	4	40	75	12	—	131
At 31 December	**–111**	**–863**	**–2 070**	**–314**	**—**	**–3 358**
Net book value	**294**	**630**	**854**	**96**	**207**	**2 081**

No impairment losses were recorded in 2018. Impairments recognized in 2017 arose as a result of restructuring measures entailing site closures.

As at 31 December 2018, commitments for the purchase of property, plant and equipment concerned various projects mainly in Germany, the Unites States and in China and totalled CHF 73 million (2017: CHF 50 million).

As per 31 December 2018, property, plant and equipment acquired by way of finance lease, with costs of CHF 27 million (2017: CHF 30 million) and a net book value of CHF 15 million (2017: CHF 17 million) were recorded.

Disposals of 2018 include CHF 85 million of the assets (net book value) which are part of the sale of Infrapark Baselland AG (see note 24).

in CHF m	Land	Buildings	Machinery and equipment	Furniture, vehicles, computer hardware	Assets under construction	**Total 2017**
Cost						
As per 1 January	404	1 785	2 746	396	427	5 758
Additions	1	17	59	25	146	248
Acquired in business combinations	—	3	6	–5	5	9
Reclassified to held for sale (see note 24)	–8	–8	–3	—	—	–19
Disposals	–1	–7	–20	–12	—	–40
Reclassifications	3	104	215	11	–333	—
Exchange rate differences	22	51	118	14	–11	194
At 31 December	**421**	**1 945**	**3 121**	**429**	**234**	**6 150**
Accumulated depreciation and impairment						
As per 1 January	–105	–1 180	–1 988	–280	—	–3 553
Reclassified to held for sale (see note 24)	—	2	2	—	—	4
Disposals	—	6	19	9	—	34
Depreciation	—	–51	–145	–35	—	–231
Impairment (see note 26)	—	–1	–2	–2	—	–5
Exchange rate differences	–11	–32	–93	–13	—	–149
At 31 December	**–116**	**–1 256**	**–2 207**	**–321**	**—**	**–3 900**
Net book value	**305**	**689**	**914**	**108**	**234**	**2 250**

Investment properties (Clariant as a lessor in operating leases)
As a result of the continuous efforts to increase efficiency and to optimize the structure of its facilities Clariant sometimes vacates certain production or adminstrative sites. In order to minimize expenses Clariant seeks to find tenants for these facilities.

As a consequence such facilities, which generate income exclusively from rental contracts, are considered as investment property in line with the requirements of IAS40, Investment Property. All investment property is valued at cost less depreciation.

Investment property in Clariant is almost entirely located in Switzerland and Germany. The gross book value of investment property amounted to CHF 627 million on 31 December 2018 (CHF 721 million on 31 December 2017).

Accumulated depreciation on investment property amounted to CHF 457 million on 31 December 2018 (CHF 541 million on 31 December 2017).

The net book value amounted to CHF 170 million on 31 December 2018 (CHF 180 million on 31 December 2017).

Depreciation amounted to CHF 1 million in 2018 (CHF 2 million in 2017).

Income from investment properties amounted to CHF 11 million in 2018 (CHF 16 million in 2017) and is recorded in SG&A in the segment Corporate.

Expected minimum lease income varies between CHF 8 million and CHF 10 million (2017: CHF 7 million and CHF 13 million) per annum for the next five years and amounts to CHF 144 million for later periods (2017: CHF 105 million).

Since all investment property consists of industrial and administrative sites which have been in use for several decades there is no active market which would give information on possible market prices, if such sites were to be sold to a third party. The fair values of the investment properties were therefore determined by way of external appraisals and value-in-use calculations. As of 31 December 2018, the estimated fair value of investment property amounted to CHF 211 million (CHF 223 million on 31 December 2017).

6. Intangible assets

in CHF m	Goodwill	Technology	Customer relationships	Trade names	Other	**Total 2018**
Cost						
As per 1 January	1 512	256	404	111	379	2 662
Additions	—	—	—	—	20	20
Disposals	—	—	—	—	–4	–4
Exchange rate differences	–19	–4	–4	–1	–13	–41
At 31 December	**1 493**	**252**	**400**	**110**	**382**	**2 637**
Accumulated amortization and impairment						
As per 1 January	–232	–161	–204	–86	–204	–887
Disposals	—	—	—	—	3	3
Amortization	—	–16	–17	–8	–39	–80
Exchange rate differences	—	2	1	—	6	9
At 31 December	**–232**	**–175**	**–220**	**–94**	**–234**	**–955**
Net book value	**1 261**	**77**	**180**	**16**	**148**	**1 682**

in CHF m	Goodwill	Technology	Customer relationships	Trade names	Other	**Total 2017**
Cost						
As per 1 January	1 437	223	389	110	379	2 538
Additions	—	4	—	—	27	31
Acquired in business combinations	59	16	17	—	2	94
Disposals	—	—	—	—	–42	–42
Reclassifications	—	6	—	—	–6	—
Exchange rate differences	16	7	–2	1	19	41
At 31 December	**1 512**	**256**	**404**	**111**	**379**	**2 662**
Accumulated amortization and impairment						
As per 1 January	–227	–136	–184	–78	–213	–838
Disposals	—	—	—	—	42	42
Amortization	—	–19	–18	–9	–24	–70
Impairment (see note 26)	–5	–4	–2	—	—	–11
Exchange rate differences	—	–2	—	1	–9	–10
At 31 December	**–232**	**–161**	**–204**	**–86**	**–204**	**–887**
Net book value	**1 280**	**95**	**200**	**25**	**175**	**1 775**

Amortization is allocated to the line in the income statement, which represents the function to which the intangible asset pertains.

In 2018, no impairment losses were recognized. In 2017 impairment losses were recognized for site closures in China.

As per end of 2018, other intangible assets include the carrying value of CHF 57 million (2017: CHF 57 million) capitalized in connection with the REACH regulation and CHF 37 million (2017: CHF 59 million) of capitalized internally generated intangibles.

Impairment test for goodwill. Goodwill is allocated to the Group's cash generating units (CGU). Cash generating units consist of Business Units which are for external reporting purposes reported under the corresponding Business Areas (reportable segments, see note 1.24).

Goodwill is allocated to the following CGUs:

in CHF m	**31.12.2018**	31.12.2017
Industrial & Consumer Specialties	67	69
Masterbatches	176	178
Pigments	12	13
Functional Minerals	146	150
Catalysts	694	704
Oil & Mining Services	166	166
Total net book value	**1 261**	**1 280**

The recoverable amount for all CGUs is determined based on their value-in-use. The value-in-use calculations use cash flow projections based on financial budgets approved by the Board of Directors covering period up to 2021. Beyond this period, growth assumptions of the CGU management are applied for 2022 and 2023. For the terminal value market growth (2.25 %) is assumed. The main assumptions used for cash flow projections are EBITDA in percent of sales and sales growth. The assumptions regarding these two variables are based on Management's past experience and future expectations of business performance. The pre-tax discount rates used are based on the Group's weighted average cost of capital. The assumed pre-tax discount rate was 11.57 % for all cash generating units (2017: 10.78 %). As all CGUs operate in similar geographic areas, have the same source of funds and a similar risk pattern a uniform discount rate is applied to all of them.

For all CGUs it was assumed that they achieve sales growth in line with or higher than market-growth, based on the specific strategic plans for the respective CGUs. It was also assumed that the EBITDA in percent of sales will improve over present performance as a result of the continuous improvement measures implemented. The conclusion was that the net present value of the expected cash flows exceeds the carrying amount of the net assets allocated on a value-in-use basis of all CGUs.

The estimated recoverable amount of the CGU Catalysts exceeds its carrying amount including goodwill by CHF 467 million (2017: CHF 324 million). The recoverable amount would be equal to the carrying amount if the assumed average annual sales growth rate during the planning period were reduced by 2.8 % (2017: 1.9 %), or alternatively, if the operating margin was reduced by 4.3 % of sales (2017: 3.0 %).

7. Investments in associates and joint ventures

in CHF m	2018	2017
As per 1 January	**508**	**516**
Change in the scope of consolidation	23	–104
Additions	2	10
Disposals	–43	–6
Share in profit	71	81
Dilution gain from capital increase	—	22
Revaluation to fair value	45	—
Share in other comprehensive income of associates and joint ventures	—	–3
Dividends received	–50	–45
Reclassified to Financial assets (see note 8)	–173	—
Exchange rate differences	–15	37
At 31 December	**368**	**508**
Thereof joint ventures	108	112

The key financial data of the Group's principal associates is as follows:

INVESTMENTS IN ASSOCIATES:

	Stahl Lux 2 SA		Infraserv GmbH & Co. Höchst KG		Infraserv GmbH & Co. Gendorf KG		Infraserv GmbH & Co. Knapsack KG		Others	
	Luxembourg		Germany		Germany		Germany			
in CHF m	**2018**	2017	**2018**	2017	**2018**	2017	**2018**	2017	**2018**	2017
Summarized financial information										
Interest held %	15%	20%	33%	33%	50%	50%	21%	21%	—	—
Revenue	1 008	744	1 200	1 078	254	253	248	218	417	351
Total comprehensive income	71	107	72	62	25	21	13	15	37	16
Net income	71	107	72	71	25	20	13	15	37	16
Other comprehensive income	—	—	—	-9	—	1	—	—	—	—
Current assets	—	434	334	311	87	80	64	69	246	273
Non-current assets	—	527	628	660	184	188	121	120	110	122
Current liabilities	—	-173	-232	-250	-86	-86	-58	-59	-172	-205
Non-current liabilities	—	-607	-437	-419	-65	-65	-35	-34	-53	-60
Net assets	**—**	**181**	**293**	**302**	**120**	**117**	**92**	**96**	**131**	**130**
Reconciliation of book value										
Book value beginning of period	**159**	**100**	**98**	**98**	**59**	**50**	**20**	**18**	**60**	**65**
Additions		—	—	—	—	—	—	—	2	10
Disposals	-43	—	—	—	—	—	—	—	—	-6
Change in the scope of consolidation	—	—	—	—	—	—	—	—	23	-5
Share in profit for the period	16	26	24	23	13	10	3	3	8	1
Dilution gain from capital increase	—	22	—	—	—	—	—	—	—	—
Revaluation to fair value	45	—	—	—	—	—	—	—	—	—
Share in other comprehensive income	—	—	—	-3	—	—	—	—	—	—
Dividends received	—	—	-24	-28	-9	-6	-3	-3	-6	-8
Reclassified to Financial assets (see note 8)	-173	—	—	—	—	—	—	—	—	—
Foreign exchange rate differences	-4	11	-3	8	-3	5	-1	2	-1	3
Book value end of the period	**0**	**159**	**95**	**98**	**60**	**59**	**19**	**20**	**86**	**60**
Group's Share in net assets	**—**	**36**	**97**	**100**	**60**	**58**	**19**	**20**	**86**	**60**
Fair value adjustment/Goodwill	—	124	—	—	—	—	—	—	—	—
Taxes, Minorities and other adjustments	—	-1	-2	-2	—	1	—	—	—	—
Book value at the end of the period	**—**	**159**	**95**	**98**	**60**	**59**	**19**	**20**	**86**	**60**

In 2014, Clariant sold its Leather Service Business to the Netherlands-based Stahl group for a cash consideration and a 24 % stake in the acquiring group. Stahl is a producer of high-quality chemicals, dyes, and coatings for leather and other applications and has about 1 700 employees.

In 2017, Stahl engaged in a share capital increase, in which Clariant did not participate. As a result Clariant's stake decreased from 24 % to 19.7 % and a dilution gain amounting to CHF 22 million was recognized in the income statement as a part of »Income from associates and joint ventures«.

In December 2018 Clariant sold 5 % of it's 19.7 % participation in Stahl Lux 2 SA at a profit of CHF 14 million, which was classified as an associate until this point in time. Subsequently the remaining stake in Stahl Lux 2 was revaluated to the fair value of CHF 173 million and reclassified to Financial Assets.

The Infraserv companies were set up by the former Hoechst group to cater to the infrastructure needs of its subsidiaries in Germany prior to 1997. The shareholdings in associates summarized under »Others« concern mainly companies specializing in selling Clariant products.

On 31 December 2018, accumulated unrecognized losses amounted to CHF 4 million (2017: CHF 6 million).

The key financial data of the Group's principal joint ventures is as follows:

INVESTMENTS IN JOINT VENTURES:

	Scientific Design Company Inc.		Süd-Chemie India Pvt Ltd.	
	USA		India	
in CHF m	**2018**	2017	2018	2017
Summarized financial information				
Interest held %	50%	50%	–	50%
Revenue	73	78	–	23
Total comprehensive income	14	5	–	5
Net income	14	5	–	5
Current assets	87	81	–	–
Non-current assets	30	29	–	–
Current liabilities	-20	-20	–	–
Non-current liabilities	-7	-7	–	–
Net assets	**90**	**83**	**–**	**–**
Reconciliation of book value				
Book value beginning of period	**112**	**100**	**–**	**85**
Change in scope of consolidation	–	–	–	-99
Share in profit for the period	7	3	–	15
Dividends	-8	–	–	–
Foreign exchange rate differences	-3	9	–	-1
Book value end of the period	**108**	**112**	**–**	**–**
Group's Share in net assets at the end of the period	**45**	**43**	–	–
Fair value adjustment/Goodwill	66	66	–	–
Taxes, Minorities and other adjustments	-3	3	–	–
Book value at the end of the period	**108**	**112**	**–**	**–**

Scientific Design Company Inc. is a producer of ethylene and oxide catalysts headquartered in the United States and has around 140 employees. Co-owner is the Saudi Arabia-based Sabic group.

Süd-Chemie India Pvt Ltd (SCIL) is a producer of syngas, air purification and refinery catalysts. It has around 400 employees and is headquartered in India. It is co-owned by private investors based in India.

As of 1 April 2017, this company became a fully consolidated subsidiary of the Clariant Group, see note 25, Acquisitions. The table shows the activities of SCIL for the first three months of 2017.

8. Financial assets

in CHF m	2018	2017
As per 1 January	50	71
Changes in accounting policies (IFRS 9)	–5	—
Additions	2	—
Fair value adjustment	2	—
Reclassified from Investments in associates and joint ventures (see note 7)	173	—
Repayments and disposals	–6	–27
Exchange rate differences	–5	6
At 31 December	**211**	**50**

Financial assets include loans to joint ventures and a number of small-scale participations in companies, mostly in Germany and in Switzerland, engaged in activities closely related to the ones of Clariant.

In December 2018, Clariant sold 5 % of it's 19.7 % stake in the company Stahl Lux 2 SA, which was classified as an associate until this time. Subsequent to the transaction the remaining shareholdings were reclassified to Financial Assets.

In 2018, the repayment of loans in the amount of USD 5 million (2017: USD 10 million and EUR 12 million) from associates took place.

While loans are carried at amortized cost participations are valued at fair value through OCI. In the prior financial year the group had designated the equity participations as available for sale, as management intends to hold them for the medium or long term.

In 2018 loans extended amounted to CHF 13 million (2017: CHF 20 million). Participations amounted to CHF 198 in 2018 (CHF 30 million in 2017).

9. Taxes

in CHF m	2018	2017
Current income taxes	–133	–96
Deferred income taxes	24	–39
Total taxes	**–109**	**–135**

The main elements contributing to the difference between the Group's overall expected tax expense/rate and the effective tax expense/rate are:

	2018 in CHF m	2018 in %	2017 in CHF m	2017 in %
Income before taxes total	**465**		**437**	
Expected tax expense/rate[1]	**–113**	**24.3**	**–117**	**26.8**
Effect of taxes on items not tax-deductible	–34	7.3	–66	15.1
Effect of utilization and changes in recognition of tax losses and tax credits	1	–0.2	23	–5.3
Effect of tax losses and tax credits of current year not recognized	–6	1.3	–10	2.3
Effect of adjustments to taxes recognized in prior periods	–3	0.6	25	–5.7
Effect of tax exempt income	50	–10.8	62	–14.2
Effect of other items	–4	0.9	–52	11.9
Effective tax expense/rate	**–109**	**23.4**	**–135**	**30.9**

[1] Calculated based on the income before tax of each subsidiary (weighted average).

The 2018 tax rate was helped by transactions with shareholdings of non-consolidated companies and by the recognition of deferred tax assets on losses generated in previous years in France. Additionally the tax rate compares favorably to the one of the prior year, where part of the US tax asset had to be written down as a result of the US tax reform.

The movement of the net deferred income tax balance is as follows:

in CHF m	PPE and intangible assets	Retirement benefit obligations	Tax losses and tax credits	Other accruals and provisions	**Total**	Thereof offset within the same jurisdiction	**Total**
Deferred tax assets at 31 December 2016	156	163	111	6	436	–138	298
Deferred tax liabilities at 31 December 2016	–163	—	—	–8	–171	138	–33
Net deferred tax balance at 1 January 2017	**–7**	**163**	**111**	**–2**	**265**	**—**	**265**
Charged/credited to income	27	–13	5	–58	–39		
Total charged/credited to income statement	**27**	**–13**	**5**	**–58**	**–39**		
Charged/credited to other comprehensive income	—	–36	—	—	–36		
Effect of business combinations	–8	—	9	5	6		
Exchange rate differences	11	6	–2	–9	6		
Net deferred tax balance at 31 December 2017	**23**	**120**	**123**	**–64**	**202**	**—**	**202**
Deferred tax assets at 31 December 2017	192	131	123	108	554	–287	267
Deferred tax liabilities at 31 December 2017	–169	–11	—	–172	–352	287	–65
Net deferred tax balance at 1 January 2018	**23**	**120**	**123**	**–64**	**202**	**—**	**202**
Change in accounting policies (IFRS 9)	—	—	—	1	1	—	1
Net deferred tax balance at 1 January 2018 (adjusted)	**23**	**120**	**123**	**–63**	**203**	**—**	**203**
Charged/credited to income statement	–35	–1	–13	62	13		
Effect of disposals	11	—	—	—	11		
Total charged/credited to income statement	**–24**	**–1**	**–13**	**62**	**24**		
Charged/credited to other comprehensive income	—	—	—	–1	–1		
Exchange rate differences	—	–4	–2	2	–4		
Net deferred tax balance at 31 December 2018	**–1**	**115**	**108**	**—**	**222**	**—**	**222**
Deferred tax assets at 31 December 2018	187	118	108	20	433	–164	269
Deferred tax liabilities at 31 December 2018	–188	–3	—	–20	–211	164	–47
Net deferred tax balance at 31 December 2018	**–1**	**115**	**108**	**—**	**222**	**—**	**222**

Of the deferred tax assets capitalized on tax losses, CHF 53 million refer to tax losses of the US-subsidiaries (2017: CHF 68 million), CHF 7 million to tax losses of the Spanish subsidiaries (2017: CHF 9 million), CHF 6 million to tax losses of the Canadian subsidiaries (2017: CHF 6 million), CHF 10 million to tax losses of the Indian subsidiaries (2017: CHF 7 million), and CHF 3 million to tax losses of the Italian subsidiaries (2017: CHF 6 million). Clariant considers it probable that these tax losses can be recovered.

Deferred income tax liabilities have not been established for withholding tax and other taxes that would be payable on the unremitted earnings of certain foreign subsidiaries, as such amounts are currently regarded as permanently reinvested. These unremitted earnings totaled CHF 2 559 million at the end of 2018 (2017: CHF 2 193 million).

The change compared to the prior year is primarily the result of Group-internal transactions.

The tax losses on which no deferred tax assets are recognized are reviewed for recoverability at each balance sheet date. The largest part of these tax losses arose in France (with a tax rate of 33.3 %), in China (with a tax rate of 25 %) and in Luxembourg (with a tax rate of 26.3 %). At present their recoverability is not considered probable.

Tax losses on which no deferred tax assets were recognized are as follows:

in CHF m	**31.12.2018**	31.12.2017
EXPIRY BY:		
2018	—	27
2019	9	18
2020	25	31
2021	26	33
2022	14	—
after 2022 (2017: after 2021)	333	308
Total	**407**	**417**

Tax credits amounting to CHF 10 million were recognized in 2018. They expire in and after 2023.

Temporary differences on which no deferred tax was recognized amount to CHF 672 million in 2018 (2017: CHF 1 005 million).

10. Inventories

in CHF m	**31.12.2018**	31.12.2017
Raw material, consumables, work in progress	404	402
Finished products	614	550
Total	**1 018**	**952**

in CHF m	**2018**	2017
Movements in write-downs of inventories		
As per 1 January	-41	-37
Additions	-18	-19
Reversals	10	15
Exchange rate differences	2	—
At 31 December	**-47**	**-41**

As at 31 December 2018 and 2017, no inventories were pledged as collateral for liabilities.

The costs for raw materials and consumables recognized as an expense and included in »Costs of goods sold« amounted to CHF 2 935 million (2017: CHF 2 784 million).

11. Trade receivables

in CHF m	**31.12.2018**	31.12.2017
Gross accounts receivable – trade	996	1 144
Gross accounts receivable – associates and joint ventures	26	18
Less: provision for doubtful accounts receivable	-5	-16
Total	**1 017**	**1 146**

The following summarizes the movement in the provision for doubtful accounts receivable:

in CHF m	**2018**	2017
As per 1 January	-16	-30
Charged to the income statement	-13	-18
Amounts used	4	4
Acquired in business combinations	—	-1
Unused amounts reversed	18	29
Exchange rate differences	2	—
At 31 December	**-5**	**-16**

There is no concentration of credit risk with respect to trade receivables, as the Group has a large number of internationally dispersed customers.

The Group applies the IFRS 9 simplified approach to measuring expected credit losses, which uses a lifetime expected loss allowance for all trade receivables within stage 1 and 2. The estimated expected loss rates are based on historical credit losses and are adjusted to reflect current and forward-looking information on macroeconomic factors affecting the ability of the customers to settle the receivables. The Group recognizes impairment of trade receivables in »Selling, general and administrative costs« in the income statement.

The maximum credit risk on trade receivables is equal to their fair value.

Collaterals are only required in rare cases (2018: CHF 2 million, 2017: CHF 2 million).

The loss allowance for trade receivables as at 31 December 2018 and 1 January 2018 (on adoption of IFRS9) was determined as follows:

in CHF m	Current	30 – 60 days overdue	61 – 90 days overdue	More than 90 days overdue	Individually Impaired	Total
31 December 2018						
Expected loss rate (in %)	0.34	1.64	1.77	2.66		
Gross carrying amount trade receivables	947	12	6	57	–	1 022
Loss allowance	**3**	**–**	**–**	**2**	**–**	**5**

in CHF m	Current	30 – 60 days overdue	61 – 90 days overdue	More than 90 days overdue	Individually Impaired	Total
1 January 2018						
Expected loss rate (in %)	0.47	2.00	2.16	2.18		
Gross carrying amount trade receivables	1 060	19	7	67	9	1 162
Loss allowance	**5**	**–**	**–**	**2**	**9**	**16**

The carrying amounts of the Group's trade receivables are denominated in the following currencies:

in CHF m	**31.12.2018**	31.12.2017
EUR	384	410
USD	300	391
CNY	64	89
BRL	45	55
JPY	35	39
INR	39	28
Other	150	134
Total	**1 017**	**1 146**

As of 31 December 2018, »Total trade receivables – net« include an amount of CHF 145 million (2017: CHF 141 million) past due, but not impaired. These relate to a number of customers for whom there is no recent history of default.

12. Other current assets

Other current assets include the following:

in CHF m	**31.12.2018**	31.12.2017
Other receivables	248	264
Current financial assets	66	62
Prepaid expenses and accrued income	52	62
Total	**366**	**388**

Other receivables include, among others, staff loans, deposits and advances, VAT and sales tax receivable.

Other receivables are recognized at amortized cost in the balance sheet.

Current financial assets are mainly made up of notes receivables and short-term loans. These are recognized at amortized cost in the balance sheet. The book value of current financial assets equals their fair value.

Other receivables and other current financial assets are also subject to the impairment requirements of IFRS 9. The identified impairment loss for other receivables was immaterial.

There was no impairment of current financial assets in 2018 and 2017.

Other receivables are denominated in the following currencies:

in CHF m	**31.12.2018**	31.12.2017
CHF	11	26
EUR	92	93
USD	13	15
JPY	3	4
BRL	17	24
CNY	11	21
INR	32	19
Other	69	62
Total	**248**	**264**

Current financial assets are denominated in the following currencies:

in CHF m	**31.12.2018**	31.12.2017
CHF	38	32
USD	11	12
CNY	15	16
EUR	1	2
Other	1	–
Total	**66**	**62**

The maximum exposure to credit risk of other current assets at the reporting date is their fair value.

13. Short-term deposits

Short-term deposits have an original maturity between 90 and 365 days.

They are denominated in the following currencies:

in CHF m	**31.12.2018**	31.12.2017
USD	15	–
GBP	–	37
INR	11	10
Total	**26**	**47**

14. Cash and cash equivalents

in CHF m	**31.12.2018**	31.12.2017
Cash at bank and on hand	716	594
Short-term bank deposits	117	107
Total	**833**	**701**

Cash and cash equivalents are denominated in the following currencies:

in CHF m	**31.12.2018**	31.12.2017
EUR	336	204
USD	171	122
CHF	159	188
GBP	15	22
CNY	3	4
JPY	5	12
INR	50	57
BRL	9	15
Other	85	77
Total	**833**	**701**

The effective average annual interest rate on short-term bank deposits in Swiss francs was –0.38 % (2017: 0.00 %), these deposits have an average maturity of 36 days (2017: 34 days).

The effective average annual interest rate on short-term bank deposits in US-dollars was 2.32 % (2017: 1.43 %), these deposits have an average maturity of 32 days (2017: 30 days).

There were no material short-term bank deposits denominated in currencies other than the Swiss franc and the US-dollar at the end of the reporting period.

The maximum exposure to credit risk on cash and cash equivalents is equal to their book value.

15. Cash flow from operating activities

for the years ended 31 December 2018 and 2017	Notes		2018 in CHF m		2017 in CHF m
Net income			**356**		**302**
Adjustment for:					
Depreciation of property, plant and equipment	5	245		231	
Impairment	26	—		16	
Amortization of intangible assets	6	80		70	
Impairment of working capital		23		4	
Income from associates and joint ventures		–130		–103	
Tax expense	9	109		135	
Net financial income and costs	27	81		65	
Gain/loss from disposals not qualifying as discontinued operations	24	54		–3	
Other non-cash items		–24		37	
Total reversal of non-cash items			**438**		**452**
Dividends received from associates and joint ventures	7		50		45
Payments for restructuring	26		–42		–40
Cash flow before changes in net working capital and provisions			**802**		**759**
Changes in inventories			–156		–125
Changes in trade receivables			71		–101
Changes in trade payables			121		38
Changes in other current assets and liabilities			–39		–46
Changes in provisions (excluding payments for restructuring)			–52		4
Cash generated from operating activities			**747**		**529**
Income taxes paid			–217		–101
Net cash generated from operating activities			**530**		**428**

16. Changes in share capital and treasury shares and changes in non-controlling interests

Registered shares each with a par value of CHF 3.70 (2017: CHF 3.70)	Number of shares 2018	Par value 2018 in CHF m	Number of shares 2017	Par value 2017 in CHF m
Share capital as per 1 January	**331 939 199**	**1 228**	**331 939 199**	**1 228**
Share capital at 31 December	**331 939 199**	**1 228**	**331 939 199**	**1 228**
Treasury shares	–2 250 664	–8	–2 641 579	–10
Outstanding share capital at 31 December	**329 688 535**	**1 220**	**329 297 620**	**1 218**

Treasury shares (number of shares)	2018	2017
Holdings as per 1 January	2 641 579	7 887 728
Shares sold on exercise of put options	—	–800 000
Shares sold to counterparty out of options	—	–3 729 500
Shares sold at market value	—	–200 000
Shares transferred to employees	–390 915	–516 649
Holdings at 31 December	**2 250 664**	**2 641 579**

All shares are duly authorized and fully paid in.

Dividends are paid out as and when declared equally on all shares, excluding treasury shares. The information concerning payments per share to the shareholders are disclosed in the notes to the financial statements of Clariant Ltd.

In accordance with article 5 of the company's Articles of Incorporation, no limitations exist with regard to the registration of shares which are acquired in one's own name and on one's own account. Special rules exist for nominees.

In accordance with article 13 of the company's Articles of Incorporation, each share has the right to one vote.

Significant shareholdings of 3 % or more of total share capital

Based on the notifications received by Clariant and published by SIX Exchange Regulation, as at 31 December 2018 the following shareholders held more than 3 % of voting rights in Clariant Ltd:

Shareholders	Voting rights
SABIC International Holdings B.V., Sittard, The Netherlands, controlled by the Public Investment Fund of Saudi Arabia (PIF), Riyadh, Kingdom of Saudi Arabia[1]	25.67 %[2]
APG Asset Management N.V., Amsterdam, Netherlands	5.01 %
Blue Beteiligungsgesellschaft mbH, Am Holzmaierfeld, 82064 Strasslach-Dingharting (Germany) and Maple Beteiligungsgesellschaft mbH, Am Holzmaierfeld, 82057 Icking (Germany)[3]	3.49 %

[1] As of 31 December 2017, White Tale Holdings LP/40 North Latitude Master Fund Ltd. held 20.00 % and subsequently increased their shareholding to 25.15 %. On 25 January 2018, SABIC International Holdings B.V., Sittard, The Netherlands, controlled by the Public Investment Fund of Saudi Arabia (PIF) Riyadh, Kingdom of Saudi Arabia, acquired, subject to the necessary regulatory approvals, a 24.99 % stake in Clariant Ltd previously held by White Tale Holdings LP, resp. Corvex Holdings LLC, resp. 40 North Latitude Master Fund Ltd. On 17 September 2018, this transaction was closed and thus SABIC has become Clariant Ltd's largest shareholder.

[2] SABIC acquired 24.99 % of the shares of Clariant Ltd on 17 September 2018. The difference corresponds to the amount of treasury shares held by Clariant Ltd which have to be aggregated to the shares held by SABIC solely for regulatory disclosure purposes due to the Governance Agreement entered into by SABIC and Clariant on 17 September 2018.

[3] According to a disclosure notification published on 18 December 2018, a group consisting of Konstantin Winterstein, 80333 Munich, Germany and Elisabeth Prinzessin zu Sayn-Wittgenstein, 80333 Munich, Germany – initially formed on 14 December 2013 and holding 3.73 % partially through Blue Beteiligungsgesellschaft mbH, Strasslach-Dingharting (Germany) and partially through Maple Beteiligungsgesellschaft mbH Icking (Germany) – was dissolved on 12 December 2018 and formed again according to said disclosure notification of 18 December 2018. The 3.73 % previously held by this group was included in the 13.96 % mentioned under footnote 4.

Former shareholders of Süd-Chemie AG[4], who had exchanged their shares against Clariant shares in April 2011 and are related to each other for family or other reasons (especially the Wamsler, Winterstein, Schweighart and Stockhausen families), held a total of 13.96 % of the share capital of Clariant Ltd until this group of shareholders was dissolved according to a discloure notification published on 18 December 2018.

[4] The following former shareholders of Süd-Chemie AG, holding 13.96 % of Clariant's shares, formed a group that was dissolved according to a disclosure notification published on 18 December 2018:

Wilhelm, Dr. Winterstein, Germany
Dolf, Dr. Stockhausen, Switzerland
Axel, Dr. Schweighart, Germany
Rosemarie Schweighart, Germany
Dominique Kraus, Germany
Irene W. Banning, United States
Susanne Wamsler-Singer, Austria
Caroline A., Dr. Wamsler, United States
Amelie Ratjen, Germany
Christof Ratjen, Germany
Christopher Weithauer, Germany
Johanna Bechtle, Germany
Kaspar Bechtle, Germany
Luisa Redetzki, Germany
Karl T. Banning, USA
Schuyler H. Joerger, Unites States
Sophie Isabel Schweighart, Germany
Heidrun Schweighart, Germany
Adriane Hartner, Austria
Konstantin Alfred Winterstein, Germany
Max-Theodor, Dr. Schweighart, Germany
Peter, Dr. Schweighart, Germany
Moritz Ostenrieder, Germany
Christian Ratjen, Germany
Bettina Wamsler, Germany
Pauline Joerger, United States
Marianne Kunisch, Germany
Maximilian Ratjen, Germany
Julius Ratjen, Germany
Elisabeth Prinzessin zu Sayn-Wittgenstein, Germany
Georg A. Weithauer, Germany
Charlotte Bechtle, Germany
Clara Redetzki, Germany
Marie Redetzki, Germany
Sophia P. Joerger, United States
Susanna Maria Schweighart, Germany
Maria Stockhausen, Switzerland

Disclosure notifications during the financial year 2018 reported to the Stock Exchange Disclosure Office pursuant to Art. 120 of the Financial Markets Infrastructure Act (FMIA) as well as further information in relation to disclosure notifications can be found on the SIX Swiss Exchange reporting platform: www.six-exchange-regulation.com/en/home/publications/significant-shareholders.html

On 31 December 2017, the following shareholders held a participation of 3 % or more of the total share capital: White Tale, White Tale Holdings LP, Cayman Islands (Keith Meister; David J. Millstone; David S. Winter), Corvex Holdings LLC, Cayman lslands (Keith Meister), 40 North Latitude Master Fund Ltd., New York, (David J. Millstone; David S. Winter) 20.00 %; Group of former shareholders of Süd-Chemie AG: 13.96 %, thereof (as a separate sub-group): Blue Beteiligungsgesellschaft mbH, Am Holzmaierfeld, 82064 Grossdingharting (Germany), and Maple Beteiligungsgesellschaft mbH, Am Holzmaierfeld, 82064 Grossdingharting (Germany): 3.73 %); APG Asset Management N.V., Amsterdam, Netherlands: 5.01 %; Black Rock Inc., New York: 3.80 %.

On 31 December 2018, Clariant AG itself held 2 250 664 shares in treasury, corresponding to 0.68 % of the share capital.

Distribution to shareholders

On 19 March 2018, the Annual General Meeting of Clariant Ltd approved a distribution from the confirmed capital contribution reserves of CHF 0.50 per share. This was paid out on 26 March 2018 reducing the capital contribution reserves by CHF 165 million.

Non-controlling interests

Effective as of 1 April 2017 Clariant re-negotiated the terms of the joint venture agreement of Süd-Chemie India Ltd (SCIL) with the joint venture partner. As a result the company is now a fully consolidated subsidiary of the Clariant Group and the co-owners' stake of 50 % in the company is reported as a non-controlling interest (see note 25).

At 31 December 2018, non-controlling interests reported are primarily made up of those of the four following companies. They amount to more than 84 % of the minority shares reported:

Clariant Huajin Catalysts (Panjin) Ltd, reported sales in the amount of CHF 31 million in the reporting period and total assets in the amount of CHF 45 million as per 31 December 2018. The non-controlling interests of 40 % of the shares outstanding is held by Northern Huajin Chemical Industry Group Co. Ltd.

Clariant Chemicals (India) Ltd reported sales in the amount of CHF 141 million in the reporting period and CHF 122 million of total assets as per 31 December 2018. The non-controlling interests of 49 % of the shares outstanding is traded on the Bombay Stock Exchange (BSE) in Mumbai.

Clariant Catalysts (Japan) K.K. reported sales in the amount of CHF 158 million in the reporting period and CHF 93 million of total assets as per 31 December 2018. The non-controlling interests of 38.6 % of the shares outstanding are held by Nissan Chemicals Industries Ltd.

In the reporting period, Süd-Chemie India Ltd (SCIL) reported sales in the amount of CHF 140 million and as per 31 December 2018 total assets of CHF 224 million, thereof current assets of CHF 125 million and non-currents assets of CHF 99 million. Total liabilities amounted to CHF 35 million, thereof current liabilities of CHF 24 million and non-current liabilities of CHF 11 million.

As per 31 December 2018, total equity amounted to CHF 189 million. The non-controlling interests of 50 % of the shares outstanding are owned by private shareholders in India.

17. Non-current financial debts

in CHF m	Interest rate in %	Term	Notional amount	**Net amount 31.12.2018**	Net amount 31.12.2017
Straight bond	2.500	2012-2018	250 CHF m	—	250
Straight bond	3.250	2012-2019	285 CHF m	285	285
Certificate of indebtedness	mixed	2015–2020	150 EUR m	169	175
Certificate of indebtedness	1.012	2016-2020	157 EUR m	176	183
Certificate of indebtedness	6 m EURIBOR + 1.05	2016-2020	55 EUR m	63	65
Certificate of indebtedness	0.779	2016-2021	55 EUR m	63	65
Certificate of indebtedness	3 m LIBOR +1.5	2016-2021	166 USD m	163	162
Certificate of indebtedness	2.618	2016-2021	111 USD m	109	108
Straight bond	3.500	2012-2022	175 CHF m	174	174
Certificate of indebtedness	mixed	2015-2023	150 EUR m	169	175
Certificate of indebtedness	6 m EURIBOR +1.1	2016-2023	13 EUR m	15	15
Certificate of indebtedness	1.137	2016-2023	27 EUR m	30	31
Certificate of indebtedness	1.501	2016-2023	73 EUR m	83	86
Straight bond	2.125	2014-2024	160 CHF m	160	160
Certificate of indebtedness	2.010	2016-2026	15 EUR m	16	17
Certificate of indebtedness	1.194	2018-2024	92 EUR m	104	—
Certificate of indebtedness	1.548	2018-2025	102 EUR m	115	—
Certificate of indebtedness	6 m EURIBOR + 0.95	2018-2025	54 EUR m	60	—
Certificate of indebtedness	2.087	2018-2028	17 EUR m	19	—
Total straight bonds and certificates of indebtedness				**1 973**	**1 951**
Liabilities to banks and other financial institutions				**6**	**7**
Obligations under finance leases				**17**	**19**
Subtotal				**1 996**	**1 977**
Less: current portion (see note 22)				**–285**	**–250**
Total				**1 711**	**1 727**
Breakdown by maturity					
			2019		287
			2020	410	434
			2021	344	337
			2022	174	174
			after 2022 (2017: after 2021)	783	495
Total				**1 711**	**1 727**
Breakdown by currency			EUR	1 092	824
			CHF	336	619
			USD	279	278
			Others	4	6
Total				**1 711**	**1 727**
Fair value comparison (including current portion)					
Straight bonds				651	919
Certificates of indebtedness				1 354	1 082
Others				23	26
Total				**2 028**	**2 027**

On 25 September 2018, Clariant issued four certificates of indebtedness with a total amount of EUR 265 million (CHF 299 million). These certificates have the following terms: EUR 92 million for 5.5 years at a fixed interest rate of 1.194 % p.a., EUR 102 million for 7 years at a fixed interest rate of 1.548 % p.a., EUR 54 million for 7 years at a variable interest rate (6-months-Euribor + 0.95 % p.a.), EUR 17 million for 10 years at a fixed interest rate of 2.087 % p.a..

On 26 September 2018, a bond issued in 2012 in the amount of CHF 250 million reached maturity and was repaid.

On 24 January 2017, a bond issued in 2012 in the amount of EUR 500 million (CHF 537 million) reached maturity and was repaid.

On 9 June 2017, a bond issued in 2011 in the amount of CHF 100 million reached maturity and was repaid.

Valuation. Non-current financial debt is recognized initially at fair value, net of transaction costs incurred. Financial debt is subsequently stated at amortized cost. There are no long-term financial liabilities valued at fair value through profit and loss.

Fair values of straight bonds are determined by quoted market prices (Level 1 in the fair value hierarchy).

Certificates of indebtedness and other financial debts are recorded at notional amounts, which are a reasonable approximation of the fair values.

Covenants. For the covenants please refer to note 3.1 Financial risk factors.

Exposure of the Group's borrowings to interest rate changes

- Bonds: the interest rates of all bonds are fixed.
- Certificates of indebtedness: the major part of the existing certificates of indebtedness has a fixed coupon.
- Liabilities to banks and other financial institutions consist of bank loans with fixed interest rates mainly.

Collateral. In 2018 and 2017, no assets were pledged as collateral.

18. Reconciliation of net debt

CHF m	31.12.2017	Movements in Cash flow	Effect of Business Combinations	Exchange rate differences	Other non-cash movements	31.12.2018
Cash and cash equivalents	701	152	—	–20	—	833
Short-term deposits	47	–20	—	–1	—	26
Financial instruments with positive fair values	7	—	—	—	—	7
Total cash and liquid investments	**755**	**132**	**—**	**–21**	**—**	**866**
Non-current financial debt	–1 727	–299	—	30	285	–1 711
Current financial debt	–567	303	—	20	–285	–529
Borrowings and other financial liabilities	**–2 294**	**4**	**—**	**50**	**—**	**–2 240**
Net debt	**–1 539**	**136**	**—**	**29**	**—**	**–1 374**

CHF m	31.12.2016	Movements in Cash flow	Effect of Business Combinations	Exchange rate differences	Other non-cash movements	31.12.2017
Cash and cash equivalents	1 043	–391	58	–9	—	701
Short-term deposits	277	–242	5	7	—	47
Financial instruments with positive fair values	5	2	—	—	—	7
Total cash and cash equivalent	**1 325**	**–631**	**63**	**–2**	**—**	**755**
Non-current financial debt	–1 908	–8	—	–61	250	–1 727
Current financial debt	–957	648	–1	–7	–250	–567
Borrowings and other financial liabilities	**–2 865**	**640**	**–1**	**–68**	**—**	**–2 294**
Net debt	**–1 540**	**9**	**62**	**–70**	**—**	**–1 539**

19. Retirement benefit obligations

Apart from the legally required social security schemes, the Group has numerous independent pension plans. The assets are principally held externally. For certain Group companies however, no independent assets exist for the pension and other non-current employee benefit obligations. In these cases the related liability is included in the balance sheet as part of the non-current liabilities.

Defined benefit post-employment plans. Defined benefit pensions and termination plans cover the majority of the Group's employees. Future obligations and the corresponding assets of those plans considered as defined benefit plans under IAS 19 (revised) are reappraised annually and reassessed at least every three years by independent actuaries. Assets are valued at fair value.

Pension assets for funded defined benefit pension plans are managed according to local rules and legislation in each country.

The actual asset allocation is determined by current and expected economic and market conditions and in consideration of specific asset class risks in the risk profile. For this purpose Asset Liability Matching studies are conducted by third-party experts on a regular basis to ensure that investment strategies for pension assets are in line with the structure of the plan members of the pension plan concerned.

In all countries with funded defined benefit plans the body governing the investment policy is constituted in accordance with local legal requirements. To the extent legally permitted Clariant Corporate exercises influence to ensure that the investment policy is set in a way to serve best the needs of the pension plan and its members.

The largest defined benefit plans are operated in Switzerland, the United Kingdom, the United States and Germany. These plans make up more than 90 % of the total defined benefit obligation.

The most important German plan is unfunded and covers the supplementary pension liabilities for plan members whose salaries exceed the level of the German mandatory social security coverage. Contributions are made primarily by the employer and vary depending on the salary level of the plan members. Benefits are paid out as annual pensions amounting to 20 % of total contributions. Lump sum payments to employees are possible to the extent of the voluntary contributions. For employees having joined or joining in 2011 and later there exists a funded pension plan. Contributions are primarily paid into the plan by the employer and vary depending on the income of the individual plan member. Employees contribute to the plan up to 2 % of pensionable earnings on a voluntary basis, to which the employer contributes an equal amount on top of the regular contributions. Pensions paid by this plan are principally based on the return on plan assets (contributions paid in plus interest), apart from a minimal interest. In addition there exists a smaller, similarly structured funded defined benefit plan for former employees of the Süd-Chemie group, acquired in 2011. All other pension liabilities regarding German staff members are covered by a funded multi-employer plan which is accounted for as a defined contribution plan.

The defined benefit obligation in the United Kingdom is a funded plan covering the pension liabilities of UK employees who joined the company before 31 December 2001 and was closed to further accruals in April 2016. All staff members are now covered by a defined contribution plan. The defined benefit pension plan is fully funded according to legal requirements. Yet, in view of the high number of non-active plan members, additional contributions may be necessary in future years.

In the United States Clariant operates a funded defined benefit pension plan covering the pension liabilities of employees who joined the company before 31 December 2000. Contributions are paid by the employer exclusively. Benefits are paid out as lifetime pensions determined on the basis of a final/career average calculation. Staff members who joined on 1 January 2001 or later are covered by a defined contribution plan. For members of Management whose annual salaries exceed the amount of CHF 275 000 an additional pension scheme is in place in the form of an unfunded defined benefit obligation, which covers the part exceeding this amount. The US pension plan is currently underfunded according to local legal requirements. Additional funding measures in the amount of up to CHF 21 million are scheduled over the next four years.
US-employees transferred to Clariant with the Hoechst Specialty Chemicals business remain insured with Hoechst for their pension claims incurred prior to 30 June 1997.

In Switzerland, Clariant operates a funded defined benefit pension plan that covers the pension liabilities of all employees of the Swiss Clariant companies up to a salary level of CHF 200 000. Both the employer and the employees contribute to the plan, the employer paying two thirds of the total contributions. The pension plan provides lifetime pensions determined based on cumulative savings of the individual plan member and converted into an annual pension at a fixed conversion rate. Lump sum payments are possible up to 40 % of the total individual cumulative savings.
The Swiss pension plan is marked by a shrinking operating basis, and as a result, an increasing share of retired members. Additional funding measures in the amount of CHF 34 million are therefore scheduled over the next seven years.
For members of Management whose annual salaries exceed the amount of CHF 200 000, an additional pension scheme is in place in the form of a funded defined benefit obligation.

Mortality tables
The following mortality tables were used to determine the defined pension obligation of the most important pension plans:

Switzerland	BVG 2015 generation table
Germany	Richttafeln 2018G by Prof. Dr. Klaus Heubeck
UK	SAPS S2 series amount tables (base table)
	CMI Model (2017) (future improvements)
USA	RP 2014 mortality table with projection scale
	MP-2017

Post-employment medical benefits. The Group operates a number of post-employment medical benefit schemes in the United States, Canada and France. The method of accounting for the liabilities associated with these plans is largely equal to the one used for defined benefit pension schemes. These plans are not externally funded, but are recognized as provisions in the balance sheets of the Group companies concerned.

Expenses for net benefits are recorded in the same line and function in which the personnel costs are recorded.

Changes in the present value of defined benefit obligations are as follows:

in CHF m	Pension plans (funded and unfunded)		Post-employment medical benefits (unfunded)	
	2018	2017	**2018**	2017
As per 1 January	2 767	2 729	87	87
Current service cost	40	41	1	1
Past service cost/gain including curtailments	–16	5	—	—
Gain/loss on settlements	—	–2	—	—
Interest costs on obligation	47	47	3	3
Contributions to plan by employees	11	11	—	—
Benefits paid out to personnel in reporting period	–126	–117	–5	–5
Remeasurements:				
Actuarial gain/loss arising from changes in demographic assumptions	7	–16	—	—
Actuarial gain/loss arising from changes in financial assumptions	–108	6	–5	4
Actuarial gain/loss due to experience adjustments	–19	—	–1	–1
Liabilities acquired in a business combination	—	1	—	—
Effect of disposals	–138	—	—	—
Effect of liabilities extinguished on settlements	1	—	—	—
Exchange rate differences	–27	62	—	–2
At 31 December	**2 439**	**2 767**	**80**	**87**

Changes in the fair value of plan assets are as follows:

in CHF m	**2018**	2017
As per 1 January	2 073	1 934
Assets acquired in business combinations	—	1
Interest income on plan assets	35	33
Contributions to plan by employees	11	11
Contributions to plan by employer	44	55
Benefits paid out to personnel in reporting period	–100	–92
Remeasurements:		
Return on plan assets (excluding amount included in interest expense)	–149	111
Effect of disposals	–128	—
Exchange rate differences	–15	20
At 31 December	**1 771**	**2 073**

As at 31 December 2018 and 2017, the pension plan assets did not include any directly held registered shares or bonds issued by Clariant Ltd.

The amounts recognized in the balance sheets are as follows:

in CHF m	Defined benefit pension plans		Post-employment medical benefits		Total	
	31.12.2018	31.12.2017	**31.12.2018**	31.12.2017	**31.12.2018**	31.12.2017
Present value of funded obligations	-1 848	-2 117	—	—	-1 848	-2 117
Fair value of plan assets	1 771	2 073	—	—	1 771	2 073
Overfunding/Deficit	**-77**	**-44**	**—**	**—**	**-77**	**-44**
Present value of unfunded obligations	-591	-651	-80	-87	-671	-738
Net liabilities in the balance sheet	**-668**	**-695**	**-80**	**-87**	**-748**	**-782**

Thereof recognized in:

in CHF m	**31.12.2018**	31.12.2017	**31.12.2018**	31.12.2017	**31.12.2018**	31.12.2017
Retirement benefit obligations	-698	-762	-80	-87	-778	-849
Prepaid pension assets	30	67	—	—	30	67
Net liabilities in the balance sheet for defined benefit plans	**-668**	**-695**	**-80**	**-87**	**-748**	**-782**

The amounts recognized in the income statement and in other comprehensive income are as follows:

in CHF m	Defined benefit pension plans		Post-employment medical benefits		Total	
	2018	2017	**2018**	2017	**2018**	2017
Current service cost	-40	-41	-1	-1	-41	-42
Net interest cost	-12	-14	-3	-3	-15	-17
Past service cost/gain including curtailments	16	-5	—	—	16	-5
Gain/loss on settlements	—	2	—	—	—	2
Components of defined benefit expense reported in the income statement	**-36**	**-58**	**-4**	**-4**	**-40**	**-62**
in CHF m						
Actuarial gain/loss arising from changes in demographic assumptions	-7	16	—	—	-7	16
Actuarial gain/loss arising from changes in financial assumptions	108	-6	5	-4	113	-10
Actuarial gain/loss due to experience adjustments	19	—	1	1	20	1
Return on plan assets (excluding amount included in net interest expense)	-149	111	—	—	-149	111
Components of defined benefit expense reported in other comprehensive income	**-29**	**121**	**6**	**-3**	**-23**	**118**
Total defined benefit expense	**-65**	**63**	**2**	**-7**	**-63**	**56**

The fair value of the plan assets is split into the major assets categories as follows:

in CHF m	31.12.2018	31.12.2017
Equities	310	551
thereof based on quoted market prices	*291*	*536*
Bonds	586	690
thereof based on quoted market prices	*406*	*657*
Cash	102	75
thereof based on quoted market prices	*102*	*75*
Property	242	302
thereof based on quoted market prices	*176*	*235*
Alternative investments	531	455
thereof based on quoted market prices	*160*	*272*
Total fair value of plan assets	**1 771**	**2 073**

The principal actuarial assumptions at the balance sheet dates in percent are as follows:

		2018 in %					2017 in %				
		Group	Most important countries				Group	Most important countries			
		Weighted average	Switzer-land	United Kingdom	United States	Germany	Weighted average	Switzer-land	United Kingdom	United States	Germany
Discount rate		2.0	0.8	2.9	4.4	2.1	1.7	0.6	2.7	3.7	1.8
Future salary increases		1.9	1.5	—	3.5	2.5	1.8	1.5	—	3.0	2.5
Long-term increase in health care costs		6.9	—	—	8.0	—	5.1	—	—	5.9	—
Current average life expectancy for a 65 year old male	in years	18	22	22	21	19	18	22	22	21	19
Current average life expectancy for a 65 year old female	in years	21	23	24	23	24	21	23	24	23	23

A one percentage-point change in health care cost trend rates would have the following effects on the obligation for post-employment medical benefits:

2018 in CHF m	**One percentage point increase**	**One percentage point decrease**
Effect on the aggregate of the service cost and interest cost	1	–1
Effect on defined benefit obligation	6	–5

2017 in CHF m	**One percentage point increase**	**One percentage point decrease**
Effect on the aggregate of the service cost and interest cost	1	–1
Effect on defined benefit obligation	7	–6

A 25 basis-point change in discount rate would have the following effects on the obligation for pension plans:

in CHF m	25 basis point increase		25 basis point decrease	
	2018	2017	**2018**	2017
Effect on defined benefit obligation	–80	–96	83	101

If life expectancy increased by one year, the defined benefit obligation would increase by CHF 98 million (2017: CHF 110 million).

Defined contribution post-employment plans. In 2018, CHF 26 million were charged to the income statement as contributions to defined contribution plans (2017: CHF 26 million).

In Germany, approximately 4 900 Clariant employees are insured in a defined benefit plan which is a multi-employer plan and as such is accounted for as a defined contribution plan. The reason for this accounting practice is that the plan exposes the participating Clariant companies to actuarial risks associated with the current and former employees of other companies which are members of the same pension plan. There is no consistent or reliable basis for allocating the obligation, plan assets and cost to individual companies participating in the plan.

Based on the statutory actuarial calculation of 2017, the pension fund's obligations are fully funded. Also for 2018, it is anticipated that the pension plan liabilities are covered by the respective assets.

In the case where the multi-employer plan faces a situation in which the pension plan liabilities exceed the assets, this can be remedied either by increasing the employer's contributions to the pension plan or by reducing the benefits paid out to the entitled parties. In the case of a reduction of the benefits this must be compensated by the employer according to German legislation. If the pension plan were unwound the remaining funds would be distributed among the plan members. In case there are no plan members left, the remaining funds would be transferred to social institutions.

If Clariant withdrew from the pension fund, all rights and obligations of the employer against the pension plan would remain in force as long as the pension plan continues to render pension services to the group's plan members. Based on the number of plan members (active and passive) Clariant's share in the pension plan amounts to approximately 8 percent.

Clariant's contribution to this pension plan amounted to CHF 16 million in 2018 (CHF 16 million in 2017) and is expected to be CHF 19 million in 2019.

The multi-employer plan originates in the pension plan scheme of the German companies of the former Hoechst group, to which a part of the activities of Clariant pertained until 1997. Several of the companies which were formerly part of the Hoechst Group continue to participate in this multi-employer plan.

in CHF m	Pension plans		Post-employment medical benefits	
	2018	2017	**2018**	2017
Clariant Group regular and supplemental contributions (employer's contributions):				
Actual contributions in 2017		55	—	—
Actual contributions in 2018 (2017: estimated)	44	56	—	—
Estimated contributions in 2019	36	40	—	—
Estimated contributions in 2020	36	49	—	—
Estimated contributions in 2021	37	39	—	—
Estimated contributions in 2022	37	38	—	—
Estimated contributions in 2023	32	—	—	—
Payments to beneficiaries:				
Actual payments in 2017		–117	—	–4
Actual payments in 2018 (2017: estimated)	–126	–124	–4	–6
Estimated payments in 2019	–121	–118	–6	–6
Estimated payments in 2020	–114	–121	–6	–6
Estimated payments in 2021	–117	–123	–6	–6
Estimated payments in 2022	–118	–125	–6	–6
Estimated payments in 2023	–119	—	–6	—
Allocation of defined benefit obligation to plan members (in CHF m):				
Active members	670	848	32	39
Deferred members	287	355	8	6
Retired members	1 482	1 564	40	42
Total funded and unfunded obligations at 31 December	**2 439**	**2 767**	**80**	**87**
Weighted average duration of the defined benefit obligation at the end of reporting period (in years):				
At 31 December	13.6	14.6	10.5	11.3

20. Movements in provisions

in CHF m	Environmental provisions	Personnel provisions	Restructuring provisions	Other provisions	**Total provisions 2018**	Total provisions 2017
As per 1 January	134	170	70	112	486	470
Additions	11	195	15	24	245	363
Effect of business combinations	—	—	—	—	—	1
Disposals	—	–2	—	—	–2	—
Amounts used	–13	–145	–42	–45	–245	–299
Unused amounts reversed	–13	–36	–3	–18	–70	–65
Changes due to the passage of time and changes in discount rates	3	—	—	—	3	5
Exchange rate differences	–8	–8	–1	–4	–21	11
At 31 December	**114**	**174**	**39**	**69**	**396**	**486**
Of which						
– Current portion	34	150	34	53	271	320
– Non-current portion	80	24	5	16	125	166
Total provisions	**114**	**174**	**39**	**69**	**396**	**486**
Expected outflow of resources						
Within 1 year	34	150	34	53	271	320
Between 1 and 3 years	26	15	4	8	53	74
Between 3 and 5 years	17	2	1	4	24	25
Over 5 years	37	7	—	4	48	67
Total provisions	**114**	**174**	**39**	**69**	**396**	**486**

Environmental provisions. Provisions for environmental liabilities are made when there is a legal or constructive obligation for the Group which will result in an outflow of economic resources. It is difficult to estimate the action required by Clariant in the future to correct the effects on the environment of prior disposal or release of chemical substances by Clariant or other parties and the associated costs, pursuant to environmental laws and regulations.

The material components of the environmental provisions consist of the costs to fully clean and refurbish contaminated sites and to treat and contain contamination at sites where the environmental exposure is less severe. The Group's future remediation expenses are affected by a number of uncertainties which include, but are not limited to, the method and extent of remediation and the percentage of material attributable to Clariant at the remediation sites relative to that attributable to other parties.

The environmental provisions reported in the balance sheet concern a number of different obligations, mainly in Germany, Brazil, the United States, Switzerland and Italy.

Provisions are made for remedial work where there is an obligation to remedy environmental damage, as well as for containment work where required by environmental regulations. All provisions relate to environmental liabilities arising in connection with activities that occurred prior to the date when Clariant took control of the relevant site. At each balance sheet date, Clariant critically reviews all provisions and makes adjustments where required.

Personnel provisions. Personnel provisions include holiday entitlements, compensated absences such as sabbatical leave, jubilee, annual leave or other long-service benefits, profit sharing and bonuses. Such provisions are established in proportion to the services rendered by the employee concerned.

Restructuring provisions. Restructuring provisions are established where there is a legal or constructive obligation for the Group that will result in the outflow of economic resources. The term restructuring refers to the activities that have as a consquence staff redundancies and the shutdown of production lines or entire sites. When the Group has approved a formal plan and has either started to implement the plan or announced its main features to the public, a restructuring provision is created.

The restructuring provisions newly added in 2018 concern site closures and headcount reductions in various countries with the largest amounts incurred in the United States, Switzerland, France and Germany.

For further information regarding restructuring measures refer to note 26.

Other provisions. Other provisions include provisions for obligations relating to tax (other than income tax) and legal cases and other items in various countries for which the amount can be reliably estimated.

All non-current provisions are discounted to reflect the time value of money where material. Discount rates reflect current market assessments of the time value of money and the risk specific to the provisions in the respective countries.

21. Trade payables and other liabilities

in CHF m	**31.12.2018**	31.12.2017
Trade payables	750	729
Contract liabilities	65	27
Payables to associates and joint ventures	74	61
Accruals	203	229
Other liabilities	246	249
Total trade payables and other liabilities	**1 338**	**1 295**
Reclassified to non-current liabilities	–72	–79
Total current trade payables and other liabilities	**1 266**	**1 216**

The amount recognized for trade payables is equal to their fair value. Contract liabilities are short term and will be recognized as revenues in the next reporting period.

22. Current financial debts

in CHF m	**31.12.2018**	31.12.2017
Banks and other financial institutions	244	317
Current portion of non-current financial debts (see note 17)	285	250
Total	**529**	**567**
Breakdown by maturity:		
in CHF m	**31.12.2018**	31.12.2017
Up to three months after the balance sheet date	227	255
Three to six months after the balance sheet date	297	57
Six to twelve months after the balance sheet date	5	255
Total	**529**	**567**

On 26 September 2018, a bond issued in 2012 in the amount of CHF 250 million reached maturity and was repaid.

A bond issued in 2012 with a nominal value of CHF 285 million will fall due in 2019 and was therefore reclassified to current financial debts.

Current financial debt is recognized initially at fair value, net of transaction costs incurred. Financial debt is subsequently stated at amortized cost. Except for the derivatives, there are no current financial liabilities valued at fair value through profit and loss.

The fair value of financial debt at banks and other financial institutions approximates its carrying amount due to the short-term nature of these instruments.

23. Segment information

Clariant has grouped its activities into four Business Areas (reportable segments): Care Chemicals (BU ICS), Catalysis (BU Catalysts), Natural Resources (BU Oil & Mining Services, BU Functional Minerals) and Plastics & Coatings (BU Additives, BU Masterbatches, BU Pigments).

Intersegment transactions are entered into under the normal circumstances and terms and conditions that would also be available to unrelated third parties.

Segment assets consist of property, plant and equipment, goodwill, intangible assets, inventories, receivables and investments in associates. They exclude deferred tax assets, financial assets and operating cash. Segment liabilities comprise trade payables. They exclude items such as tax liabilities, provisions, pension liabilities and corporate borrowings. Capital expenditure comprises additions to property, plant and equipment and intangibles.

SEGMENTS in CHF m	Care Chemicals		Catalysis		Natural Resources		Plastics & Coatings		Corporate		Total Group	
	2018	2017	**2018**	2017	**2018**	2017	**2018**	2017	**2018**	2017	**2018**	2017
Segment sales	1 681	1 589	862	767	1 403	1 364	2 736	2 709	—	—	6 682	6 429
Sales to other segments	–16	–14	–1	—	–9	–7	–33	–31	—	—	–59	–52
Total sales	**1 665**	**1 575**	**861**	**767**	**1 394**	**1 357**	**2 703**	**2 678**	**—**	**—**	**6 623**	**6 377**
Operating expenses	–1 414	–1 375	–750	–639	–1 298	–1 223	–2 375	–2 381	–240	–263	–6 077	–5 881
Thereof:												
Income from associates and joint ventures[3]	29	10	17	11	16	5	54	30	14	47	130	103
Gain/loss from disposals not qualifying as discontinued operations	—	—	—	—	—	—	—	1	–54	2	–54	3
Restructuring, impairment and transaction-related costs	–2	–30	–14	–7	–22	–14	–4	–14	–51	–115	–93	–180
Operating income	**251**	**200**	**111**	**128**	**96**	**134**	**328**	**297**	**–240**	**–263**	**546**	**496**
Net financial expenses and taxes											–190	–194
Net income											**356**	**302**
Segment assets	1 158	1 160	1 724	1 780	1 228	1 298	1 746	1 798			5 856	6 036
Segment liabilities	–252	–244	–159	–90	–159	–150	–282	–273			–852	–757
Net operating assets	**906**	**916**	**1 565**	**1 690**	**1 069**	**1 148**	**1 464**	**1 525**	**—**	**—**	**5 004**	**5 279**
Net assets held for sale	**7**	**10**	**5**	**5**	**—**	**4**	**2**	**2**	**1**	**1**	**15**	**22**
Corporate assets without cash									1 244	1 416	1 244	1 416
Corporate liabilities without financial liabilities									–1 919	–2 239	–1 919	–2 239
Net debt (see note 18)									–1 374	–1 539	–1 374	–1 539
Total net assets	**913**	**926**	**1 570**	**1 695**	**1 069**	**1 152**	**1 466**	**1 527**	**–2 048**	**–2 361**	**2 970**	**2 939**
Thereof:												
Investments in PPE and intangibles for the period	61	61	56	36	42	49	75	86	23	47	257	279
Investments in associates and joint ventures at the end of the period	87	64	118	121	9	9	151	154	3	160	368	508
Reconciliation of key figures												
Operating income	251	200	111	128	96	134	328	297	–240	–263	546	496
Add: systematic depreciation of PPE	56	54	55	41	38	36	66	68	30	32	245	231
Add: impairment	—	—	—	1	—	1	—	12	—	2	—	16
Add: amortization of intangible assets	7	6	19	22	23	23	14	10	17	9	80	70
EBITDA[1]	**314**	**260**	**185**	**192**	**157**	**194**	**408**	**387**	**–193**	**–220**	**871**	**813**
Add: restructuring, impairment and transaction-related costs	2	30	14	7	22	14	4	14	51	115	93	180
Less: impairment	—	—	—	–1	—	–1	—	–12	—	–2	—	–16
Less: gain/loss from disposals not qualifying as discontinued operations[2]	—	—	—	—	—	—	—	–1	54	–2	54	–3
Adjusted EBITDA	**316**	**290**	**199**	**198**	**179**	**207**	**412**	**388**	**–88**	**–109**	**1 018**	**974**
Operating income	251	200	111	128	96	134	328	297	–240	–263	546	496
Add: restructuring, impairment and transaction-related costs	2	30	14	7	22	14	4	14	51	115	93	180
Less: gain/loss from disposals not qualifying as discontinued operations	—	—	—	—	—	—	—	–1	54	–2	54	–3
Adjusted operating income	**253**	**230**	**125**	**135**	**118**	**148**	**332**	**310**	**–135**	**–150**	**693**	**673**

[1] EBITDA is earning before interest, tax, depreciation and amortization.

[2] Not including the result of the partial disposal and revaluation of the participation in Stahl.

[3] Includes the effect of the partial disposal and revaluation of the participation in Stahl in the amount of CHF 59 million. The allocation to the Business Areas is as follows: CHF 15 million to Care Chemicals, CHF 8 million to Catalysis, CHF 13 million to Natural Resources and CHF 23 million to Plastics & Coatings.

Reconciliation of segment assets to total assets in CHF m	**31.12.2018**	31.12.2017
Segment assets	5 856	6 036
Segment assets reported as assets held for sale	14	21
Corporate assets reported as assets held for sale	1	1
Corporate assets without cash	1 244	1 416
Cash	833	701
Short-term deposits	26	47
Financial instruments with positive fair values	7	7
Total Assets	**7 981**	**8 229**

in CHF m	Sales[1]		Non-current assets[2]	
	2018	2017	**31.12.2018**	31.12.2017
EMEA	2 803	2 674	2 275	2 438
of which Germany	*778*	*757*	*1 391*	*1 458*
of which Switzerland	*39*	*34*	*490*	*585*
of which MEA	*481*	*480*	*55*	*62*
North America	1 295	1 241	1 205	1 234
of which USA	*1 206*	*1 143*	*1 187*	*1 213*
Latin America	775	830	226	248
of which Brazil	*321*	*355*	*124*	*146*
Asia/Pacific	1 750	1 632	636	663
of which China	*624*	*534*	*177*	*182*
of which India	*237*	*209*	*200*	*217*
Total	**6 623**	**6 377**	**4 342**	**4 583**

[1] Allocated by region of third-party sale's destination.

[2] Non-current assets exclude deferred tax assets and pension plan assets.

All of the Group's segments generate their revenues to the largest extent from the sale of products. These come in such a great variety that a meaningful grouping below the segment information is not possible.

Revenue from services recognized in 2018 amounted to CHF 89 million and mostly were incurred in Business Area Natural Resources.

For a description of the Business Units see note 1.24.

24. Disposals

Activities not qualifying as discontinued operations

In this section, disposals of subsidiaries, associates and activities are reported that do not qualify as discontinued operations in the sense of IFRS 5. The following disposals took place in 2018 and 2017:

On 27 December 2018, Clariant sold its 100 % shares in Infrapark Baselland AG to GETEC heat & power GmbH for a net consideration of CHF 38 million. The loss recorded on the transaction in 2018 amounted to CHF 54 million gross and to CHF 43 million net of tax.

On 30 November 2017, Clariant sold its shares (36.03 %) in New Zealand based Chemcolour Industries (NZ) Ltd. to Azelis Australia PTY Ltd. for a total consideration of CHF 8 million. The profit recorded on the transaction in 2017 amounted to CHF 3 million.

The result from disposals not qualifying as discontinued operations is reported under »Selling, general and administrative costs« in the income statement.

Other assets held for sale

An amount of CHF 15 million relates to property, plant and equipment held for sale in Turkey, Italy and in China (2017: CHF 22 million).

25. Acquisitions

Full consolidation of Süd-Chemie India Ltd. (SCIL)

As of 1 April 2017 Clariant fully consolidated the company SCIL, which was until that time accounted for as a joint venture and as such was valued at equity. Clariant's share in SCIL is 50 %, while the other 50 % are owned by private investors in India.

In view of SCIL's significance for Clariant's Catalysis activities in Asia, management successfully renegotiated the joint venture contracts. The new terms introduced a casting vote for Clariant to direct the relevant activities. The contractual change and the 50 % voting rights resulted in Clariant obtaining control over SCIL. As no consideration was paid, nor any shares were purchased or sold, this transaction is treated as an acquisition without consideration. Prior to the full consolidation Clariant already owned 50 % of SCIL. In a first step this participation was revalued to fair value resulting in an income of CHF 10 million recognized in »Income from associates and joint ventures« in the income statement.

In a second step assets and liabilities of the company as per 1 April 2017 were included in the balance sheet, while the participation in the joint venture was derecognized. The co-owners' share in SCIL is recognized in non-controlling interests. Goodwill, included in non-current assets, amounted to CHF 63 million.

Acquisition of Kel-Tech Inc.

On 1 October 2016, Clariant acquired from Arsenal Capital Partners 100 % of the shares of Kel-Tech Inc. for a total consideration of CHF 223 million, out of which CHF 202 million were paid in 2016 and CHF 21 million were considered as contingent consideration. As the sales goals that would have triggered an earn-out up to a maximum of CHF 35 million were not met in 2017 the respective provision in the amount of CHF 21 million was reversed in the line Sales, General & Administration in the income statement in 2017.

The acquired company is based in Midland, Texas, USA, and is a manufacturer and supplier of specialty chemicals for production, field stimulation and drilling applications in the oil-service business throughout onshore United States. This acquisition pertains to the Business Unit Oil & Mining Services.

Acquisition of X-Chem LLC

On 1 October 2016, Clariant acquired from NCH Corporation the activities of X-Chem LLC in a combined asset and share deal for a total consideration of CHF 140 million. The acquired company is based in Irving, Texas, USA and is a provider of specialty oilfield chemicals for the production, completion and stimulation of oil wells, gas wells and pipelines focused on land and offshore United States. This acquisition pertains to the Business Unit Oil & Mining Services.

In 2017, the provisional fair values of the acquired net assets of X-Chem LLC were adjusted within the measurement period following the acquisition. As a result goodwill increased by CHF 8 million to CHF 22 million compared to CHF 14 million at the acquisition date, mainly as a correction of the value of inventories and property, plant and equipment taken over.

26. Restructuring, impairment and transaction-related costs

in CHF m	2018	2017
Restructuring expenses	**–14**	**–37**
Payments for restructuring	–42	–40
Impairment loss	**—**	**–16**
thereof charged to PPE (see note 5)	—	*–5*
thereof charged to intangible assets (see note 6)	—	*–11*
Transaction-related costs	**–79**	**–127**
Total restructuring, impairment and transaction-related costs	**–93**	**–180**

In order to increase profitability over a sustained period, Clariant implements measures designed to improve the Group's performance. The aim of these efforts is to increase the Group's operating result and to reduce net working capital. The changes made to the processes and structures result in a reduction of headcount across the Group.

Restructuring. In 2018, Clariant recorded expenses for restructuring in the amount of CHF 14 million (2017: CHF 37 million). This concerned restructuring measures mainly in the Unites States, Switzerland, France and in Germany.

Impairment. No impairment losses were recorded in 2018. The one recognized in 2017 relates to site closures in China.

Transaction-related costs comprise expenses incurred in connection with acquisition or disposal projects and also costs incurred in connection with the implementation of internal reorganizational measures.

The total amount of CHF 93 million of Restructuring, impairment and transaction-related costs (2017: CHF 180 million) is reported in the income statement as follows: CHF 11 million in Costs of goods sold (2017: CHF 10 million), CHF 81 million in Selling, general and administrative costs (2017: CHF 158 million), CHF 1 million in Research & Development costs (2017: CHF 8 million) and nil in Income from associates and joint ventures (2017: CHF 4 million expense).

27. Finance income and costs

FINANCE INCOME

in CHF m	**2018**	2017
Interest income	12	12
thereof interest on loans, receivables and deposits	*12*	*12*
Other financial income	7	23
Total finance income	**19**	**35**

FINANCE COSTS

in CHF m	**2018**	2017
Interest expense	–88	–93
thereof effect of discounting of non-current provisions	*–3*	*–5*
thereof net interest component of pension provisions	*–15*	*–17*
Other financial expenses	–12	–7
Total finance costs before currency result	**–100**	**–100**
Currency result, net	—	6
Total finance costs	**–100**	**–94**

Other financial expenses include bank charges and miscellaneous financial expenses.

In 2018 and 2017, no foreign exchange gains pertaining to the ineffective part of hedges on net investments were recognized in the income statement.

Interest expense, other than the effect of discounting non-current provisions and the interest component of pension provisions, pertain to financial debts measured at amortized cost.

Interest costs capitalized on qualifying assets for 2018 were less than CHF 1 million (2017: CHF 4 million).

28. Earnings per share (EPS)

Earnings per share are calculated by dividing the Group net income by the average number of outstanding shares (issued shares less treasury shares).

	2018	2017
Total net income attributable to shareholders of Clariant Ltd undiluted and diluted (CHF m)	**337**	**277**
Weighted average number of shares outstanding		
As per 1 January	328 310 895	323 712 538
Effect of transactions with treasury shares on weighted average number of shares outstanding	1 303 080	4 598 357
Weighted average number of shares outstanding at 31 December	**329 613 975**	**328 310 895**
Adjustment for granted Clariant shares	833 033	1 704 035
Weighted average diluted number of shares outstanding at 31 December	**330 447 008**	**330 014 930**
Basic earnings per share attributable to shareholders of Clariant Ltd (CHF/share)	**1.02**	**0.84**
Diluted earnings per share attributable to shareholders of Clariant Ltd (CHF/share)	**1.02**	**0.84**

The dilution effect is triggered by the effect of Clariant shares granted as part of the share-based payment plan, which have not yet vested. To calculate this dilutive potential it is assumed that they vested on 1 January of the respective period.

The effect of the services still to be rendered during the vesting period were taken into consideration.

Diluted earnings per share are calculated adjusting the weighted average number of ordinary shares outstanding to assume conversion of all dilutive potential ordinary shares.

In 2018, a payout of CHF 0.50 per share was made out of the capital contribution reserves (see note 16).

29. Derivative financial instruments

Risk management (hedging) instruments and off-balance sheet risks. Clariant uses forward foreign exchange rate and option contracts, currency options as well as other financial instruments to hedge the Group's risk exposure to volatility in interest rates, currencies and prices and to manage the return on cash and cash equivalents. Risk exposures from existing assets and liabilities as well as anticipated transactions are managed centrally.

Interest rate management. It is the Group's policy to manage the costs of interest using fixed and variable rate debt and interest-related derivatives.

Foreign exchange management. To manage the exposure to the fluctuations in foreign currency exchange rates, the Group follows a strategy of hedging both balance sheet and revenue risk, partially through the use of forward contracts and currency swaps in various currencies. In order to contain costs, the Group does not hedge the entire exposure.

The following tables show the contract or underlying principal amounts and the respective fair value of derivative financial instruments by type at the year-end.

The contract or underlying principal amounts indicate the volume of business outstanding at the balance sheet date and do not represent the amount at risk.

DERIVATIVE FINANCIAL INSTRUMENTS

in CHF m	Contract or underlying principal amount		Positive fair values		Negative fair values	
	31.12.2018	31.12.2017	**31.12.2018**	31.12.2017	**31.12.2018**	31.12.2017
Interest-rate related instruments						
Interest-rate swaps	163	162	6	5	—	—
Cross-currency swaps	172	—	—	—	-1	—
Currency related instruments						
Forward foreign exchange rate contracts	112	111	1	2	-1	-1
Total derivative financial instruments	**447**	**273**	**7**	**7**	**-2**	**-1**

The fair value of these derivative financial instruments is recorded in Other current assets in the balance sheet in the case of a positive value or in Current financial debts in the case of a negative value and if the instruments expire within the next twelve months.

If the remaining lifetime exceeds twelve months, the value is recorded in Financial assets in case it is positive and in Non-current financial debts in case it is negative.

DERIVATIVE FINANCIAL INSTRUMENTS BY MATURITY

in CHF m	**31.12.2018**	31.12.2017
Breakdown by maturity:		
Up to one month after the balance sheet date	34	27
More than one and up to three months after the balance sheet date	61	75
More than three and up to twelve months after the balance sheet date	16	9
More than one and up to five years after the balance sheet date	336	162
Total derivative financial instruments	**447**	**273**

DERIVATIVE FINANCIAL INSTRUMENTS BY CURRENCY

in CHF m	**31.12.2018**	31.12.2017
USD	266	265
EUR	172	—
JPY	9	8
Total derivative financial instruments	**447**	**273**

FINANCIAL INSTRUMENTS EFFECTIVE FOR HEDGE-ACCOUNTING PURPOSES

in CHF m	**31.12.2018**	31.12.2017
Interest-rate swaps	**6**	**5**
Notional amount (USD)	163	162
Maturity date	05.08.2021	05.08.2021
Hedge ratio	1:1	1:1
Change in fair value of hedging instruments since 1 January	1	–
Change in fair value of hedged item	-1	–
Cross-Currency Swaps	0	–
Notional amount (EUR)	56	–
Maturity date	25.03.2024	–
Hedge ratio	1:1	–
Change in fair value since 1 January	–	–
Change in fair value of hedged item	–	–
Cross-Currency Swaps	**-1**	–
Notional amount (EUR)	116	–
Maturity date	25.09.2025	–
Hedge ratio	1:1	–
Change in fair value since 1 January	-1	–
Change in fair value of hedged item	1	–
Notional amount of hedges of net investments in foreign entities:		
Borrowings denominated in foreign currencies	-1 354	-1 083
EUR amount	-1 082	-813
USD amount	-272	-270
Hedge ratio	1:1	1:1

In 2015, Clariant issued four certificates of indebtedness amounting to EUR 300 million (see note 17). They were designated as a hedge of a net investment in some of Clariant's European subsidiaries. The unrealized foreign exchange rate gain resulting from the translation of these certificates of indebtedness into Swiss francs amounted to CHF 13 million for 2018 (2017: CHF 29 million gain) and is recorded in the cumulative translation difference in shareholders' equity.

In 2016, Clariant issued seven certificates of indebtedness amounting to EUR 395 million and two certificates of indebtedness amounting to USD 277 million (see note 17). These certificates were also designated as a hedge of a net investment in some of Clariant's European and US-American subsidiaries. The unrealized foreign exchange rate result calculated from the translation of these certificates of indebtedness into Swiss francs amounted to a gain of CHF 17 million (2017: CHF 38 million gain) for the EUR positions and to a loss of CHF 2 million (2017: CHF 12 million loss) for the USD positions and is recorded in the cumulative translation difference in shareholders' equity.

In 2018, Clariant issued four certificates of indebtedness amounting to EUR 265 million (see note 17). EUR 112.5 million of these certificates were designated as a hedge of a net investment in some of Clariant's European subsidiaries. The rest of EUR 152.5 million were exchange with cross currency swap into Swiss francs. The unrealized foreign exchange rate result calculated from the translation of the certificates of indebtedness into Swiss francs amounted to a gain of CHF 0.2 million and is recorded in the cumulative translation difference in shareholders' equity.

Clariant is hedging the interest rate risk resulting from the certificates of indebtedness in the amount of USD 277 million issued at a variable interest rate. For this purpose interest rate swaps amounting to USD 166 million have been established in 2016. Their clean price amounted to a positive CHF 6 million for 2018 (2017: positive CHF 5 million). They are accounted for as a cash flow hedge and as a consequence the result was recorded in other comprehensive income.

The hedge effectiveness is assessed at the beginning of the hedging relationship, and by recurring prospective effectiveness tests. Thus it is ensured, that there exists an economic relationship between the underlying transaction and the hedging instrument.

The group enters into interest rate and cross currency swaps that have identical critical terms as the hedged item, such as reference rate, reset dates, payment dates, maturities and notional amount. The group does not hedge 100% of its loans, therefore the hedged item is identified as a proportion of the outstanding loans up to the notional amount of the swaps. As all critical terms matched during the year, the economic relationship was 100% effective.

Hedge ineffectiveness for interest rate/cross currency swaps is assessed using the following principles:
The focus is on the credit value/debit value adjustment on the interest rate/cross currency swaps which is not matched by the loan, and differences in critical terms between the interest rate/cross currency swaps and loans. The Cross-Currency basis spread as per end of December 2018 was CHF 1 173 002. There was no ineffectiveness during 2018 in relation to the interest rate/cross currency swaps. Clariant has chosen the cost of hedging approach for the newly entered cash flow hedging relationship. The cross-currency basis spread is not part of the hedging relationship.

30. Employee participation plans

Under the Group Senior Management – Long-Term Incentive Plan (GSM-LTIP) a certain percentage of the actual bonus is granted to the plan participants in the form of registered shares of Clariant Ltd (investment shares). These shares vest immediately upon grant, but are subject to a three-year blocking period. The plan participants receive an additional share free of cost (matching share) for each investment share held at the end of the blocking period.

These shares were granted for the first time in 2011, based on the performance achieved in the base year 2010. Similar plans were launched in all subsequent years. The number of shares not yet vested and thus disclosed are the matching shares already granted.

For the first time in 2013, the Performance Share Unit (PSU) Plan was introduced for all senior managers to replace the former Tradable Option Plan. The term of Clariant's Performance Share Unit Plan is a three-year vesting period. The vesting is conditional upon achievement of the performance targets at the end of the vesting period. If the performance targets are achieved, each PSU will be converted into one Clariant share.

A new grant took place in September 2018. The review of the target achievements (vesting criteria) for this plan will be held in summer 2021 and vesting is scheduled to take place in September 2021.

The expense recorded in the income statement spreads the costs of each grant over the measurement period and the vesting period. Assumptions are made concerning the forfeiture rate which is adjusted during the vesting period so that at the end of the vesting period there is only a charge for the vested amounts.

In 2018, CHF 3 million were credited to the income statement for equity-settled share-based payments (2017: expense of CHF 9 million). Some accruals in equity for share based payments were reversed, as the key performance indicators were not met.

As of 31 December 2018, the total carrying value of liabilities arising from equity-settled share-based payments, entirely recognized in equity, is CHF 14 million (2017: CHF 25 million).

As per 31 December 2017 and 2018, no further options were outstanding for members of the management and the executive committee.

SHARES FOR MEMBERS OF MANAGEMENT AND THE EXECUTIVE COMMITTEE

Base year	Granted	Vesting in		Share price at grant date	**Number 31.12.2018**	Number 31.12.2017
2014	2015	2018		19.71	–	171 123
2015	2015	2018		19.70	–	5 000
2015	2015	2018		17.39	–	13 813
2015	2015	2018		19.10	–	409 521
2015	2016	2019		16.98	192 237	227 725
2016	2016	2019		16.84	469 603	533 997
2016	2016	2019		16.87	5 000	5 000
2016	2017	2020		18.67	186 293	230 379
2017	2017	2020		22.11	376 974	432 613
2017	2017	2020		18.74	12 831	12 831
2017	2017	2020		19.15	11 799	11 799
2017	2018	2021		22.82	136 409	–
2018	2018	2021		23.58	369 349	–
2018	2018	2021		21.47	3 960	–
2018	2018	2021		24.11	2 074	–
2018	2018	2022		20.38	8 587	–
2018	2018	2020		20.38	8 587	
Total					**1 783 703**	**2 053 801**

	Weighted average exercise price	Shares 2018	Weighted average exercise price	Options 2017	Shares 2017
Shares/options outstanding at 1 January	16.50	2 053 801	16.50	660 243	2 173 777
Granted		801 436		—	996 690
Exercised/distributed*		–390 915	18.67	–646 843	–516 649
Cancelled/forfeited		–680 619		–13 400	–600 017
Outstanding at 31 December	**18.09**	**1 783 703**	**16.50**	**—**	**2 053 801**
Exercisable at 31 December					
Fair value of shares/options outstanding in CHF		32 267 178			55 966 064

* Options exercised in 2017 included 355 800 options pertaining to the 2011 and 2012 option plans, which were sold by the plan participants in the market. In the meantime all option plans have expired.

The fair value of shares granted during 2018 is CHF 10 million (2017: CHF 20 million) calculated based on market value of shares at grant date.

No options were granted in 2018 and 2017.

31. Personnel expenses

in CHF m	2018	2017
Wages and salaries	–1 114	–1 116
Social welfare costs	–295	–264
Shares and options granted to directors and employees	3	–9
Pension costs – defined contribution plans	–26	–26
Pension costs – defined benefit plans	–24	–44
Other post-employment benefits	–1	–1
Total personnel expenses	**–1 457**	**–1 460**

32. Related party transactions

Clariant maintains business relationships with related parties. One group consists of the associates and joint ventures, of which the most important ones are described in note 7. The most important business with these companies is the purchase of services by Clariant (e.g. energy and rental of land and buildings) in Germany, the rendering of services to the Stahl group following the disposal of the Leather Business and the rendering of services to Global Amines.

The second group of related parties is key management comprising the Board of Directors and the Executive Committee. The information required by the ordinance against excessive compensation in stock exchange-listed companies regarding the emoluments for the members of the Board of Directors and the Executive Committee is disclosed in the Compensation Report.

More information on the relationship with the Board of Directors is given in the chapter **Corporate Governance** (non-audited).

The third group of related parties are the pension plans of major subsidiaries. Clariant provides services to its pension plans in Switzerland, the United Kingdom, and the United States. These services comprise mainly administrative and trustee services. The total costs in 2018 of these services is CHF 1 million (2017: CHF 1 million), of which approximately half is charged back to the pension plans. The number of full-time employees corresponding to these is approximately four (2017: approximately four).

The fourth group of related parties are all companies pertaining to the SABIC group, who is a 24.99 % shareholder of Clariant (see note 16). The most important business done with these companies is the sale and purchase of chemical products.

TRANSACTIONS WITH RELATED PARTIES

in CHF m	**2018**	2017
Income from the sale of goods to related parties	88	47
thereof to joint ventures	*1*	*1*
thereof to associates	*37*	*46*
thereof to SABIC companies	*50*	—
Income from the rendering of services to related parties	41	40
thereof to associates	*41*	*40*
Expenses from the purchase of goods from related parties	-34	-29
thereof from joint ventures	—	*-2*
thereof from associates	*-22*	*-27*
thereof from SABIC companies	*-12*	—
Expenses from services rendered by related parties	-220	-210
thereof by associates	*-220*	*-210*
Expense from the purchase of property, plant and equipment from related parties	-6	-5
thereof from associates	*-6*	*-5*
Expense from lease contracts with related parties	-7	-7
thereof with associates	*-7*	*-7*

PAYABLES AND RECEIVABLES WITH RELATED PARTIES

in CHF m	**31.12.2018**	31.12.2017
Receivables from related parties	26	18
thereof from associates	*14*	*18*
thereof from SABIC companies	*12*	—
Allowance for amounts overdue from joint ventures	—	-2
Payables to related parties	70	61
thereof to associates	*65*	*61*
thereof to SABIC companies	*5*	—
Loans to related parties	12	17
thereof to associates	*12*	*17*
Guarantees to third parties on behalf of related parties[1]	74	74
thereof on behalf of joint ventures	*74*	*74*

[1] The guarantee extended on behalf of a related party concerns a bank loan to a US joint venture.

TRANSACTIONS WITH KEY MANAGEMENT

in CHF m	**2018**	2017
Salaries and other short-term benefits	11	9
Post-employment benefits	3	3
Share-based payments	2	3
Total	**16**	**15**

There are no outstanding loans by the Group to any members of the Board of Directors or Executive Committee.

33. Commitments and contingencies

Leasing commitments. The Group leases land, buildings, machinery and equipment, furniture and vehicles under fixed-term agreements. The leases have varying terms, escalation clauses, and renewal rights.

Commitments arising from fixed-term operating leases mainly concern buildings in Germany and in the United States. The most important partners for operating leases of buildings in Germany are the Infraserv companies. There exist no particular renewal options other than annual prolongations in case there is no explicit termination of the lease contract.

Expected expenses for operating leases breakdown by maturities as follows:

in CHF m	**31.12.2018**	31.12.2017[1]
2018	—	63
2019	61	45
2020	48	30
2021	37	23
2022	33	18
2023	27	—
After 2023 (2017:after 2022)	54	34
Total	**260**	**213**

[1] adjusted

Expenses for operating leases were CHF 90 million in 2018 (2017: CHF 88 million, adjusted).

Guarantees. No guarantees on behalf of third parties were issued in 2018 and 2017.

Purchase commitments. In the regular course of business, Clariant enters into relationships with suppliers whereby the Group commits itself to purchase certain minimum quantities of materials in order to benefit from better pricing conditions. These commitments are not in excess of current market prices and reflect normal business operations.

Clariant is engaged in contracts to buy a minimum quantity of ethylene for the next seven years and in contracts to buy a minimum quantity of propylenoxide in the years 2019 – 2020, and other materials in the following two years. This implies a total purchase commitment of about CHF 1.20 billion (2017: CHF 1.12 billion).

Contingencies. Clariant operates in countries where political, economic, social, legal, and regulatory developments can have an impact on the operational activities. The effects of such risks on the Company's results, which arise during the normal course of business, are not foreseeable and are therefore not included in the accompanying financial statements.

In the aftermath of the procedure to acquire subsequent to the acquisition of Süd-Chemie, the 1.36 % of shares still in possession of third parties (squeeze-out) at the time, several minority shareholders initiated appraisal proceedings to reassess the adequacy of the cash compensation paid to the minority shareholders. Clariant opines that the cash compensation agreed is fair and complies with all legal and economic requirements. The court of first instance has decided on an increase of the cash compensation from EUR 125.26 by EUR 7.04 to EUR 132.30 EUR per share. Clariant and several plaintiffs have contested this court decision. The appraisal proceedings is currently pending in the second instance. At this time it cannot be determined to what extent these proceedings will lead to additional liabilities.

In 2017, the European Commission (Antitrust) initiated an investigation on Clariant and some of its competitors active in the ethylene purchasing sector in some member states. The investigation is ongoing; should antitrust violations be brought up against Clariant by the European Commission, it can impose significant fines that may affect the Group's result and cash flow with an amount that may be material.
Given the ongoing nature of the investigation and the uncertainties associated with them, management has concluded that the amount of such fine cannot be determined as of 31 December 2018 as a reliable estimate is dependent on numerous factors which have not been defined as of the approval day of the financial statements.
This assessment is supported by external advisors.

In the ordinary course of business, Clariant is involved in lawsuits, claims, investigations and proceedings, including product liability, intellectual property, commercial, environmental, and health and safety matters. Although the outcome of any legal proceedings cannot be predicted with certainty, management is of the opinion that, apart from those cases where a provision has already been recognized, there are no such matters pending which would likely have any material adverse effect in relation to its business, financial position, or results of operations.

Environmental risks. Clariant is exposed to environmental liabilities and risks relating to its past operations, principally in respect of remediation costs. Provisions for non-recurring remediation costs are made when there is a legal or constructive obligation and the costs can be reliably estimated. It is difficult to estimate the action required by Clariant in the future to correct the effects on the environment of prior disposal or release of chemical substances by Clariant or other parties, and the associated costs, pursuant to environmental laws and regulations. The material components of the environmental provisions consist of costs to fully clean and refurbish contaminated sites and to treat and contain contamination at sites where the environmental exposure is less severe.

34. Exchange rates of principal currencies

Rates used to translate the consolidated balance sheets (closing rate):

	31.12.2018	31.12.2017
1 USD	0.98	0.98
1 EUR	1.13	1.17
1 BRL	0.25	0.29
1 CNY	0.14	0.15
100 INR	1.41	1.53
100 JPY	0.90	0.87

Sales-weighted average exchange rates used to translate the consolidated income statements and consolidated statements of cash flows:

	2018	2017
1 USD	0.98	0.99
1 EUR	1.15	1.11
1 BRL	0.27	0.31
1 CNY	0.15	0.15
100 INR	1.43	1.52
100 JPY	0.89	0.88

35. Important subsidiaries

Country	Company name	Currency	Share-/paid in capital (in thousands)	Partici-pation in %	Holding/ Finance/ Service	Sales	Production	Research
Argentina	Clariant (Argentina) SA, Lomas de Zamora	ARS	54 605	100.0		■	■	
	Clariant Plastics & Coatings (Argentina), Lomas de Zamora	ARS	1 090	100.0		■	■	
Australia	Clariant (Australia) Pty Ltd, Notting Hill	AUD	1 902	100.0	■	■	■	
	Clariant Plastics & Coatings Australia Pty Ltd, Notting Hill	AUD	2 500	100.0	■	■		
Austria	Clariant Plastics & Coatings (Österreich) GmbH, Vienna	EUR	1 000	100.0		■		
Belgium	Clariant Plastics & Coatings Belgium SA, Louvain-La-Neuve	EUR	1 000	100.0		■	■	
Brazil	Clariant S.A., São Paulo	BRL	184 863	100.0	■	■	■	
	Clariant Administração de Bens Ltda., São Paulo	BRL	7 696	100.0	■	■	■	
	Companhia Brasileira de Bentonita Ltda, São Paulo	BRL	17 470	100.0		■	■	
	Consórcio CCPN, Rio de Janeiro	BRL	26 113	100.0		■	■	
	Clariant Plastics & Coatings Brasil Indústria Química Ltda., São Paulo	BRL	100 850	100.0		■	■	■
British Virgin Islands	Clariant Clearwater Technologies Ltd, Tortola	USD	6	100.0	■			
Canada	Clariant (Canada) Inc., Toronto	CAD	10 415	100.0		■	■	
	Clariant Plastics & Coatings Canada Inc., Toronto	CAD	1	100.0		■	■	
Chile	Clariant (Chile) Ltda., Maipú-Santiago de Chile	CLP	15	100.0		■	■	
	Clariant Plastics & Coatings (Chile) Ltda. Maipú-Santiago de Chile	CLP	3 842	100.0		■	■	
China	Clariant (China) Ltd., Hong Kong	HKD	93 250	100.0	■			
	Clariant Bohai Pigments Preparations (Tianjin) Ltd., Tianjin	CNY	49 176	90.0		■	■	■
	Clariant Chemicals (China) Ltd., Shanghai	CNY	210 014	100.0		■	■	■
	Clariant Chemicals (Guangzhou) Ltd., Guangzhou	CNY	70 345	100.0		■	■	
	Clariant Chemicals (Huizhou) Ltd., Daya Bay, Huizhou	CNY	183 039	100.0		■	■	
	Clariant China Holding Limited, Hong Kong	HKD	67 251	100.0	■			
	Clariant Huajin Catalysts (Panjin) Ltd., Panjin City	CNY	69 511	60.0		■	■	
	Clariant Masterbatches (Beijing) Ltd., Beijing	CNY	55 059	100.0			■	
	Clariant Masterbatches (Shanghai) Ltd., Shanghai	CNY	26 087	100.0		■	■	
	Clariant Redhill Bentonite (Liaoning) Ltd., Jianping	CNY	28 525	100.0		■	■	
	Clariant Specialty Chemicals (Zhenjiang) Co., Ltd., Zhenjiang	CNY	149 503	100.0		■	■	
	Clariant Bentonite (Jiangsu) Co., Ltd., Zhenjiang	CNY	79 058	100.0		■	■	
	Jiangsu Süd-Chemie Performance Packaging Material Co., Ltd., Changshu	CNY	44 266	100.0		■	■	
	Clariant Coatings (Shanghai) Ltd., Shanghai	CNY	104 260	100.0		■	■	
	Clariant Chemicals Technology (Shanghai) Ltd., Shanghai	CNY	13 810	100.0	■			
Colombia	Clariant Colombia S.A., Cota (Cundinamarca)	COP	2 265	100.0		■	■	
	Clariant Plastics & Coatings (Colombia), S.A.S., Cota (Cundinamarca)	COP	21 506	100.0		■	■	
Finland	Clariant Masterbatches (Finland) Oy, Vantaa	EUR	169	100.0		■		
France	Clariant Plastics & Coatings (France), Choisy-le-Roi	EUR	1 561	100.0		■	■	
	Clariant Production (France), Choisy-le-Roi	EUR	6 273	100.0	■	■	■	■
	Clariant Services (France), Choisy-le-Roi	EUR	21 200	100.0	■			
	CRM International S.A.S., Puget-sur-Argens	EUR	650	100.0		■		
	Clariant Healthcare Packaging, Choisy-le-Roi	EUR	5 570	100.0		■	■	■
Germany	Navigance GmbH, Frankfurt a.M.	EUR	102	100.0		■	■	■
	Clariant Plastics & Coatings (Deutschland) GmbH, Frankfurt a.M.	EUR	149	100.0	■	■	■	■
	Clariant Produkte (Deutschland) GmbH, Frankfurt a.M.	EUR	9 348	100.0	■	■	■	■
	Clariant SE, Frankfurt a.M.	EUR	916	100.0	■	■	■	
	Clariant Verwaltungsgesellschaft mbH, Frankfurt a.M.	EUR	2 560	100.0	■			
	Süd-Chemie IP GmbH & Co. KG, Munich	EUR	803	100.0	■			
Great Britain	Clariant Distribution UK Limited, Yeadon, Leeds	GBP	500	100.0	■			
	Clariant Plastics & Coatings (UK) Ltd, Yeadon, Leeds	GBP	500	100.0		■		

Country	Company name	Currency	Share-/paid in capital (in thousands)	Partici-pation[1] in %	Holding/ Finance/ Service	Sales	Production	Research
	Clariant Oil Services UK Ltd, Yeadon, Leeds	GBP	400	100.0		■	■	■
	Clariant Production UK Ltd, Yeadon, Leeds	GBP	500	100.0	■	■	■	
	Clariant Services UK Ltd, Yeadon, Leeds	GBP	500	100.0	■			
Greece	Süd-Chemie Hellas Monoprosopi EPE, Adamas, Milos	EUR	548	100.0		■	■	
Guatemala	Clariant (Guatemala) S.A., Guatemala City	GTQ	14 000	100.0		■	■	
	Clariant Specialties (Guatemala), S.A., Guatemala City	GTQ	100	100.0		■		
India	Clariant Chemicals (India) Ltd, Thane	INR	230 818	51.0		■	■	
	Clariant India Private Limited, New Delhi	INR	1 700	100.0	■	■	■	
	Süd-Chemie India Pvt. Ltd, Binanipuram	INR	9 623	50.0		■		■
	Clariant Medical Specialties India Limited, Mumbai	INR	282 697	100.0		■	■	
Indonesia	PT. Clariant Indonesia, Tangerang	IDR	267 577	100.0	■	■	■	
	PT. Clariant Kujang Süd-Chemie Catalysts, Cikampek	USD	3 447	53.9		■	■	
	PT. Clariant Plastics & Coatings Indonesia, Cibodas	USD	96 220	100.0		■	■	
	PT. Clariant Plastics & Coatings, Cibodas	USD	10 282	100.0		■		
	PT. Clariant Specialties Indonesia, Tangerang	IDR	4 803	100.0		■		
	PT. Clariant Adsorbents Indonesia, Cileungsi, Bogor	IDR	12 375	100.0		■	■	
Ireland	Clariant Plastics & Coatings (Ireland) Limited, Naas	EUR	411	100.0		■	■	
Italy	Clariant (Italia) S.p.A., Milano	EUR	36 000	100.0	■			
	Clariant Plastics & Coatings (Italia) S.p.A., Milano	EUR	3 000	100.0		■	■	■
	Clariant Prodotti (Italia) S.p.A., Milano	EUR	1 000	100.0		■	■	■
	Società Sarda di Bentonite S.r.l., Santa Giusta	EUR	2 050	100.0		■	■	
	SQE Olivene S.r.l., Milano	EUR	10	100.0		■		
Japan	Clariant (Japan) K.K., Tokyo	JPY	450	100.0		■	■	■
	Clariant Catalysts (Japan) K.K., Tokyo	JPY	544	61.5	■	■	■	■
	Clariant Plastics & Coatings (Japan) K.K., Tokyo	JPY	250	100.0		■	■	■
Korea	Clariant Plastics & Coatings (Korea) Ltd., Pohang, Gyeongbuk	KRW	707	100.0		■	■	
	Clariant (Korea) Ltd., Pohang, Gyeongbuk	KRW	6 361	100.0		■	■	
Luxemburg	Clariant Finance (Luxembourg) S.A., Luxemburg	EUR	82 030	100.0	■			
Malaysia	Clariant (Malaysia) Sdn Bhd, Kuala Lumpur	MYR	12 347	100.0		■		
	Clariant Masterbatches (Malaysia) Sdn Bhd, Petaling Jaya	MYR	2 000	60.0		■	■	
	Clariant Oil Services (Malaysia) Sdn Bhd, Selangor	MYR	137	48.9		■		
	Clariant Specialty Chemical (M) Sdn Bhd, Shah Alam	MYR	3 300	100.0	■	■		
Mexico	Clariant (Mexico) S.A. de C.V., Ecatepec de Morelos	MXN	22 189	100.0	■	■	■	■
	Clariant Productos Químicos, S.A. de C.V., Ecatepec de Morelos	MXN	2 475	100.0	■			
	Clariant Plastics & Coatings México, S.A. de C.V., Ecatepec de Morelos	MXN	916	100.0	■	■	■	■
	Clariant Servicios Integrales México, S.A. de C.V., Ecatepec de Morelos	MXN	3	100.0	■			
Morocco	Clariant (Maroc) S.A., Casablanca	MAD	107 669	100.0		■		
Netherlands	Clariant Participations (The Netherlands) B.V., Maastricht	EUR	20	100.0		■		
New Zealand	Clariant (New Zealand) Limited, Auckland	NZD	1 000	100.0		■	■	
Norway	Clariant Oil Services Scandinavia AS, Bergen	NOK	4 725	100.0		■		
Pakistan	Clariant Chemical Pakistan (Pvt) Ltd, Karachi-Korangi	PKR	1 130 226	100.0		■	■	
Peru	Clariant (Perú) S.A., Lima	PEN	20 454	100.0	■	■	■	
	Clariant Plastics & Coatings (Perú) S.A.C., Lima	PEN	2 010	100.0		■		
Poland	Clariant Plastics & Coatings (Polska) Spolka z o.o., Konstantynów Łódzki	PLN	29 000	100.0		■	■	
	Clariant Poland Spolka z.o.o., Konstantynów Łódzki	PLN	3 000	100.0		■		
	Clariant Services (Poland) SP. z o.o., Łódź	PLN	10 000	100.0	■			
Qatar	Clariant Qatar W.L.L., Mesaieed	QAR	60 000	65.0		■	■	
Romania	Clariant Products Ro Srl, Bucarest	RON	105 261	100.0	■	■		
Russia	Clariant (RUS) LLC, Moscow	RUB	16 200	100.0		■		
Saudi Arabia	Clariant Masterbatches (Saudi Arabia) Ltd, Riyadh	SAR	50 000	53.0		■	■	
Singapore	Clariant (Singapore) Pte. Ltd., Singapore	SGD	3 500	100.0	■	■	■	■

Country	Company name	Currency	Share-/paid in capital (in thousands)	Partici-pation[1] in %	Holding/ Finance/ Service	Sales	Production	Research
	Clariant South East Asia Pte. Ltd., Singapore	SGD	1 560	100.0	■	■		
South Africa	Clariant Sasol Catalysts Ltd., Chloorkop, Gauteng	ZAR	1 417	80.0		■		
	Clariant Southern Africa (Pty) Ltd. Chloorkop, Gauteng	ZAR	6	100.0	■	■	■	
	Clariant Plastics & Coatings Southern Africa (Pty) Ltd., Chloorkop, Gauteng	ZAR	70 000	100.0		■	■	
Spain	Clariant Ibérica Producción S.A., El Prat de Llobregat	EUR	6 023	100.0	■	■	■	■
	Clariant Ibérica Servicios S.L., El Prat de Llobregat	EUR	358	100.0	■			
	Clariant Masterbatch Ibérica S.A., Sant Andreu de la Barca	EUR	2 525	100.0		■	■	■
Sweden	Clariant Plastics & Coatings Nordic AB, Malmö	SEK	3 200	100.0		■	■	
	Clariant Production Sweden AB, Mölndal	SEK	500	100.0		■		
Switzerland	Clariant Consulting AG, Muttenz	CHF	200	100.0	■			
	Clariant Chemical Consulting AG, Muttenz	CHF	100	100.0	■			
	Clariant International AG, Muttenz	EUR	92 181	100.0	■	■	■	
	Clariant Oil Services AG, Muttenz	CHF	300	100.0	■			
	Clariant Reinsurance AG, Muttenz	CHF	3 000	100.0	■			
	EBITO Chemiebeteiligungen AG, Muttenz	CHF	202	100.0	■			
	Clariant Produkte (Schweiz) AG, Muttenz	CHF	5 000	100.0	■	■	■	
	Clariant Additives AG, Muttenz	CHF	5 000	100.0		■	■	
	Clariant Plastics & Coatings AG, Muttenz	EUR	18 961	100.0	■	■	■	
Taiwan	Clariant Chemicals (Taiwan) Co., Ltd., Taipei	TWD	23 888	100.0		■		
	Clariant Specialty Chemicals (Taiwan) Co., Ltd., Taipei	TWD	36 000	100.0		■		
Thailand	Clariant (Thailand) Ltd., Bangkok	THB	250 000	100.0		■		
	Clariant Masterbatches (Thailand) Ltd., Chonburi	THB	325 000	100.0		■	■	■
Turkey	Clariant (Türkiye) A.S., Gebze	TRY	17 538	100.0		■	■	
	Clariant (Türkiye) Boya Ve Kimyevi Sanayi Ve Ticaret A.S., Gebze	TRY	8 562	100.0		■	■	
UAE	Clariant (Gulf) FZE, Jebel Ali, Dubai	AED	1 000	100.0		■		
	Clariant Plastics & Coatings (UAE) FZE, Jebel Ali, Dubai	AED	45 000	100.0	■	■		
Ukraine	Clariant Ukraine LLC, Severodonetsk	UAH	28 688	100.0		■	■	
USA	Clariant Corporation, Charlotte, NC	USD	749 500	100.0	■	■	■	■
	Clariant Plastics & Coating USA Inc., Charlotte, NC	USD	50	100.0		■	■	■
	Kel-Tech, Inc., Midland	USD	273 192	100.0		■	■	
Venezuela	Clariant Venezuela, S.A., Maracay	VES	1	100.0		■	■	
	Clariant Plastics & Coatings Venezuela, S.A., Maracay	VES	1	100.0		■	■	

[1] The participation in % reflects the capital and voting rights in %.

36. Events subsequent to the balance sheet date

There were no major events subsequent to the balance sheet date.

Report of the statutory auditor

to the General Meeting of Clariant Ltd

Muttenz

Report on the audit of the consolidated financial statements

Opinion

We have audited the consolidated financial statements of Clariant Ltd and its subsidiaries (the Group), which comprise the consolidated balance sheet as at 31 December 2018 and the consolidated income statement, consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the consolidated financial statements (pages 1 to 64) give a true and fair view of the consolidated financial position of the Group as at 31 December 2018 and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with the International Financial Reporting Standards (IFRS) and comply with Swiss law.

Basis for opinion

We conducted our audit in accordance with Swiss law, International Standards on Auditing (ISAs) and Swiss Auditing Standards. Our responsibilities under those provisions and standards are further described in the "Auditor's responsibilities for the audit of the consolidated financial statements" section of our report.

We are independent of the Group in accordance with the provisions of Swiss law and the requirements of the Swiss audit profession, as well as the IESBA Code of Ethics for Professional Accountants, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

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Our audit approach

Overview

Overall Group materiality: CHF 30 million



We concluded full scope audit work at 18 reporting units in nine countries. Our audit scope addressed over 67% of the Group's revenue. In addition, specified procedures were performed on a further two reporting units in two countries representing a further 1% of the Group's revenue.

We performed analytical procedures on the remaining components.

As key audit matters the following areas of focus have been identified:

- Management's assumptions and estimates used in the impairment test for goodwill
- Cut-off for revenue recognition
- Investigation by the European Commission in the ethylene purchasing market

Materiality

The scope of our audit was influenced by our application of materiality. Our audit opinion aims to provide reasonable assurance that the consolidated financial statements are free from material misstatement. Misstatements may arise due to fraud or error. They are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the consolidated financial statements.

Based on our professional judgement, we determined certain quantitative thresholds for materiality, including the overall Group materiality for the consolidated financial statements as a whole as set out in the table below. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures and to evaluate the effect of misstatements, both individually and in aggregate, on the consolidated financial statements as a whole.

Overall Group materiality	CHF 30 million
How we determined it	2.5% of the Group's EBITDA weighted at 75%, and 1% of the Group's total assets weighted at 25%
Rationale for the materiality benchmark applied	We chose EBITDA as the benchmark because management assesses its profitability mainly based on this measure of profit and we took the Group's assets into consideration since the chemical industry is highly capital intensive, operating at a lower net profit margin compared with other industries.

We agreed with the Audit Committee that we would report to them misstatements above CHF 1.5 million identified during our audit as well as any misstatements below that amount which, in our view, warranted reporting for qualitative reasons.

Audit scope

We tailored the scope of our audit in order to perform sufficient work to enable us to provide an opinion on the consolidated financial statements as a whole, taking into account the structure of the Group, the accounting processes and controls, and the industry in which the Group operates.

From 142 reporting units, we identified 18 reporting units (components) to be the largest contributors to the Group's financial statements (amounting to 67% of the Group's revenue, addressing all geographical areas of the Group's business). These reporting units were subject to a full scope audit by local PwC network firms. In addition to in-person meetings, we held regular calls during all audit phases to discuss material audit topics with the component auditors of the most significant reporting units. Further audit procedures were performed by the central Group audit team on certain Group functions (including taxation, treasury, ongoing investigations and litigation, and information technology) and the Group consolidation. Of the Group's revenue, 1% was addressed through specified audit procedures. In addition, two PwC network firms performed specific audit procedures related to sales and procurement and to the financial closing cycle at the Group's shared service centres on behalf of PwC Switzerland, and assisted other PwC network firms.

Key audit matters

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Management's assumptions and estimates used in the impairment test for goodwill

Key audit matter	*How our audit addressed the key audit matter*
We consider the valuation of goodwill to be a key audit matter because of the significant scope for judgement with respect to assumptions concerning the future results of the businesses and the discount rates applied to future cash flow forecasts. Specifically, we focused on goodwill relating to the Catalysts business unit, which amounts to CHF 694 million, as the risk of impairment is higher for this unit compared with other business units. Please refer to page 19 (Critical accounting estimates and judgments, 4.1 Estimated impairment of goodwill, intangibles, and property, plant and equipment), and page 24 (Goodwill allocation) in the notes.	We evaluated and challenged management's assumptions as described on page 19 (Critical accounting estimates and judgments, 4.1 Estimated impairment of goodwill and property, plant and equipment) in the notes to the consolidated financial statements. Management followed a clearly documented process for forecasting future cash flows, which was subject to timely oversight and challenges by the Board of Directors and which was consistent with the business plans as approved by the Board of Directors. We compared the actual results of the year under review with the figures used to make the forecasts in the prior year in order to assess with hindsight whether any of the assumptions underlying the forecasts might have been too optimistic. In some cases, actual performance was found to be lower than forecast. Management analysed the underlying drivers and considered actual revenue growth rates and operating margins against those in the business plans prepared in the year under review and included them in the new business plans. We discussed with the business unit leaders management's assumptions regarding revenue, long-

	term growth rates and profit margins. We involved PwC's own valuation specialists to assess the model and the weighted average cost of capital (WACC) used. The WACC was assessed using comparable industry peers and data available from external sources. In addition, we assessed for reasonableness the expectations of movements in working capital and of investments in property, plant and equipment. We found the assumptions to be balanced and reasonable. We re-performed thorough sensitivity analyses on the key assumptions to ascertain the extent of change in those assumptions that either individually or collectively would be required for the goodwill to be impaired. We discussed the results of our audit work as well as the headroom of the sensitivity analyses with management, the Audit Committee and the Board of Directors. On the basis of the procedures performed and the evidence obtained, we identified no significant issues with respect to the assumptions used in the impairment test for goodwill.

Cut-off for revenue recognition

Key audit matter	*How our audit addressed the key audit matter*
There is a risk that revenue is not recognised in accordance with the requirements of IFRS, mainly with regard to the timing of revenue recognition, which depends on the transfer of control of the goods. Invoices are usually raised by the systems when the goods are shipped, which may not be in line with the detailed contractual terms for the transfer of control. Management has a standardised process in place to identify sales transactions where control is transferred after the balance sheet date. This process allowed management to recognise revenue in the appropriate period. We consider this to be a key audit matter due to the number of large transactions that occur close to year-end and the potential impact of the cut-off date of these transactions on the consolidated financial statements.	We tested management's approach for recognising revenue in the appropriate period. We tested revenue transactions and the timing of these transactions by examining third party documents and the contractual delivery terms. We tested the system and the related inputs that support management's approach to ensuring that revenue transactions are recorded in the appropriate period. On the basis of the procedures performed and the evidence obtained, we identified no significant issues with respect to revenue cut-off.

Investigation by the European Commission in the ethylene purchasing market

Key audit matter	*How our audit addressed the key audit matter*
Since July 2017, Clariant has been part of an ongoing investigation by the European Commission into alleged infringements of competition law in the ethylene purchasing market. Clariant is cooperating fully with the authorities. The eventual outcome of the investigation is uncertain both in terms of the further course of the proceedings and the magnitude of fines, if any, which might be imposed. The investigation is ongoing and it has not been possible for the Group to make a reliable estimate of the amount of any liability that could arise from these proceedings; therefore, no provision has been recorded by management. Accordingly, unexpected adverse outcomes could significantly impact the Group's reported profit, cash flow and balance sheet position. Please refer to page 19 (Critical accounting estimates and judgments, 4.5 Contingencies), and pages 60 to 61 (Commitments and contingencies) in the notes.	We discussed the status of the ongoing investigation with in-house and external legal counsel and evaluated the relevant correspondence and minutes of the Board of Directors' and management meetings. We obtained independent letters and procedural documents from external legal counsel to confirm our understanding of the status and their assessment of the investigation. We also used internal PwC legal specialists to assist us in evaluating the status of the investigation and the appropriateness of the assumptions taken and in assessing the position taken by management and the Board of Directors. We discussed this assessment with management, the Audit Committee and the Board of Directors and we obtained written representations from the company in relation to the case. As set out in the notes to the consolidated financial statements, the outcome of the pending investigation is dependent on the outcome of future developments and therefore the exposure of Clariant Ltd, as assessed by management and the Board of Directors, is subject to inherent uncertainty. On the basis of the procedures performed and the information obtained, we are satisfied that the approach taken by management and the Board of Directors was appropriate.

Other information in the integrated report

The Board of Directors is responsible for the other information in the integrated report. The other information comprises all information included in the integrated report, but does not include the consolidated financial statements, the stand-alone financial statements and the remuneration report of Clariant Ltd and our auditor's reports thereon.

Our opinion on the consolidated financial statements does not cover the other information in the integrated report and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information in the integrated report and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of the Board of Directors for the consolidated financial statements

The Board of Directors is responsible for the preparation of the consolidated financial statements that give a true and fair view in accordance with IFRS and the provisions of Swiss law, and for such internal control as the Board of Directors determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the Board of Directors is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Auditor's responsibilities for the audit of the consolidated financial statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Swiss law, ISAs and Swiss Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

A further description of our responsibilities for the audit of the consolidated financial statements is located at the website of EXPERTsuisse: http://expertsuisse.ch/en/audit-report-for-public-companies. This description forms part of our auditor's report.

Report on other legal and regulatory requirements

In accordance with article 728a paragraph 1 item 3 CO and Swiss Auditing Standard 890, we confirm that an internal control system exists which has been designed for the preparation of consolidated financial statements according to the instructions of the Board of Directors.

We recommend that the consolidated financial statements submitted to you be approved.

PricewaterhouseCoopers AG

Rolf Johner

Audit expert
Auditor in charge

Michael Scheibli

Audit expert

Basel, 11 February 2019

Review of trends

FIVE-YEAR GROUP OVERVIEW 2014–2018

		2018	2017	2016	2015	2014
Segment sales	CHF m	**6 682**	**6 429**	**5 883**	**5 827**	**6 142**
Change relative to preceding year						
in Swiss francs	%	4	9	1	–5	1
in local currency	%	5	9	2	3	5
Group sales[1]	CHF m	**6 623**	**6 377**	**5 847**	**5 807**	**6 116**
Change relative to preceding year						
in Swiss francs	%	4	9	1	–5	1
in local currency	%	5	9	2	3	5
Operating income before exceptionals	CHF m	**693**	**673**	**622**	**596**	**585**
Change relative to preceding year	%	3	8	4	2	2
as a % of sales		10.5	10.6	10.6	10.3	9.6
Operating income	CHF m	**546**	**496**	**512**	**496**	**525**
Change relative to preceding year	%	10	–3	3	–6	12
as a % of sales		8.2	7.8	8.8	8.5	8.6
EBITDA	CHF m	**871**	**813**	**785**	**767**	**923**
Change relative to preceding year	%	7	4	2	–17	16
as a % of sales		13.2	12.7	13.4	13.2	15.1
Adjusted EBITDA	CHF m	**1 018**	**974**	**887**	**853**	**867**
Change relative to preceding year	%	5	10	4	–2	1
as a % of sales		15.4	15.3	15.2	14.7	14.2
Net income	CHF m	**356**	**302**	**263**	**239**	**217**
Change relative to preceding year	%	18	15	10	10	—
as a % of sales		5.4	4.7	4.5	4.1	3.5
Investment in property, plant and equipment	CHF m	**237**	**248**	**297**	**374**	**310**
Change relative to preceding year	%	–4	–16	–21	21	6
as a % of sales		4	4	5	6	5
Personnel costs	CHF m	**1 457**	**1 460**	**1 383**	**1 345**	**1 435**
Change relative to preceding year	%	*0*	6	3	–6	2
as a % of sales		22	23	24	23	23
Employees at year-end	number	17 901	18 135	17 442	17 213	17 003
Change relative to preceding year	%	–1	4	1	1	–6

[1] Including trading.

Financial statements of Clariant Ltd, Muttenz

FINANCIAL STATEMENTS OF CLARIANT LTD, MUTTENZ

Clariant Ltd balance sheets at 31 December 2018 and 2017

	Notes	31.12.2018 in CHF	in %	31.12.2017 in CHF	in %
Assets					
Current assets					
Cash and cash equivalents	3	430 800 195		336 563 078	
Short-term deposits	3	14 760 000		—	
Other short-term receivables	4	94 393 774		42 517 548	
Accrued income and prepaid expenses		4 133 901		2 108 929	
Total current assets		**544 087 870**	**9.4**	**381 189 555**	**6.8**
Non-current assets					
Loans to Group companies		3 317 144 872		3 393 215 108	
Other financial assets		783 840		763 089	
Shareholdings in Group companies	5	1 918 488 220		1 813 746 020	
Intangible assets		11 925 337		14 822 458	
Total non-current assets		**5 248 342 269**	**90.6**	**5 222 546 675**	**93.2**
Total assets		**5 792 430 139**	**100.0**	**5 603 736 230**	**100.0**
Liabilities and Equity					
Liabilities					
Current liabilities					
Other current non-interest bearing liabilities	6	157 549 349		74 254 368	
Other current interest bearing liabilities	7	358 706 814		251 960 656	
Current provision		105 766 882		106 293 620	
Accrued expenses		5 240 846		4 580 963	
Total current liabilities		**627 263 891**	**10.8**	**437 089 607**	**7.8**
Non-current liabilities					
Non-current interest bearing liabilities to third parties	12	1 689 219 203		1 713 692 662	
Non-current interest bearing liabilities to Group companies	12	588		319 112	
Total non-current interest bearing liabilities	**12**	**1 689 219 791**	**29.2**	**1 714 011 774**	**30.6**
Total liabilities		**2 316 483 682**		**2 151 101 381**	
Equity					
Share capital	**8,11**	**1 228 175 036**		**1 228 175 036**	
Reserves from capital contribution[1]	9,11	2 275 558 464		2 440 230 643	
Reserves from retained earnings[2]	9,11	–1 264 297 991		–1 264 297 991	
Total statutory capital reserves	**11**	**1 011 260 473**		**1 175 932 652**	
Voluntary retained earnings	11	1 096 660 186		924 527 225	
Total reserves	**9,11**	**2 107 920 659**		**2 100 459 877**	
Profit for the financial year		180 640 353		172 132 961	
Treasury shares	**10,11**	**–40 789 591**		**–48 133 025**	
Total equity		**3 475 946 457**	**60.0**	**3 452 634 849**	**61.6**
Total equity and liabilities		**5 792 430 139**	**100.0**	**5 603 736 230**	**100.0**

[1] In 2012, the Swiss Federal Tax Administration confirmed qualifying capital contribution reserves of approximately CHF 1.7 billion (as per 31 December 2018 due to distributions still amounting of approximately CHF 1.1 billion). For further information see also note 9 to the financial statements of Clariant Ltd.

[2] This amount corresponds to capital contribution reserves formerly offset with losses. For further information see also note 9 of the financial statements of Clariant Ltd.

CLARIANT LTD INCOME STATEMENTS

for the years 2018 and 2017

	Notes	2018 in CHF	2017[1] in CHF
Income			
Income from shareholdings in Group companies		255 470 345	126 203 482
Income from interest on loans to Group companies		70 189 485	66 079 573
Other financial income		9 307 141	31 753 971
Reversal of devaluations on shareholdings and other income related to Group Companies	5	170 399 000	108 600 000
Other income		15 057 211	12 767 386
Total income		**520 423 182**	**345 404 412**
Expenses			
Financial expenses		50 479 234	50 276 996
Administrative expenses		59 804 521	56 485 096
Devaluations of shareholdings and other expenses related to Group companies	5	224 935 908	101 600 000
Exchange rate differences net		471 720	-39 703 891
Other expenses		3 078 337	3 305 026
Taxes		1 013 109	1 308 224
Total expenses		**339 782 829**	**173 271 451**
Profit for the financial year		**180 640 353**	**172 132 961**

[1] adjusted (see note 2)

Notes to the financial statements of Clariant Ltd

1. Accounting policies

Introduction. The statutory financial statements of Clariant Ltd comply with the regulations on financial accounting of the Swiss Code of Obligations.

Revenue recognition. Interest income is recognized on a time proportion basis, taking into account the principal outstanding and the effective rate over the period to maturity, when it is determined that such income will accrue to the company. Dividends are recognized when the right to receive payment is established.

Exchange rate differences. Balance sheet items denominated in foreign currencies are converted at year-end exchange rates. Realized exchange gains and losses as well as unrealized exchange losses are recorded in the income statement.

Intangible assets. Patents are capitalized at cost and amortized on a straight-line basis to the income statement over their estimated useful lives with a maximum of 20 years. Capital increase costs are directly charged to the income statement.

The Board of Directors approved the stand-alone financial statements of Clariant Ltd for issue on 11 February 2019. It will be subject to approval by the Annual General Meeting of Shareholders scheduled for 1 April 2019.

2. Basis of preparation

The statutory financial statements of Clariant Ltd have been prepared according to the provisions of the Swiss Law on Accounting and Financial Reporting (32nd title of the Swiss Code of Obligations).

The result of exchange rate gains and losses are presented net in the line «exchange rate differences net». Exchange rate losses were previously reported under financial expenses. The prior year amounts were adjusted accordingly.

Clariant Ltd has no employees, except the members of the Board of Directors of the Clariant Group.

3. Cash and cash equivalents and short-term deposits

Cash and cash equivalents amounts to CHF 430 800 195 at the end of 2018 compared with CHF 336 563 078 at the end of 2017 and comprise cash in hand denominated mainly in euro and in Swiss francs and to a lesser extent in other currencies.
Short-term deposits amount to CHF 14 760 000 at the end of 2018 compared to nil at the end of 2017 and include short-term deposits with an original maturity between 90 and 365 days.

4. Other short-term receivables

Other short-term receivables amount to CHF 94 393 774 at the end of 2018 compared to CHF 42 517 548 at the end of 2017. They comprise third-party receivables of CHF 294 570 (compared to CHF 390 432 at the end of 2017) and intragroup receivables for CHF 94 099 204 (compared with CHF 42 127 116 at the end of 2017).

5. Shareholdings in Group companies

Shareholdings in Group companies are reviewed on a yearly basis to assess their cash generating capabilities by applying either a mixed calculation method based on the equity value and the net result or, alternatively, the discounted cash flow model. In that review, the investments are classified and grouped in terms of sales and Business Areas.

The following shareholdings in Group companies were valued using the discounted cash flow method: Clariant S.A. (Brazil) and Clariant Finance (Luxembourg) S.A.

At the end of 2018, shareholdings in Group companies amount to CHF 1 918 488 220 compared to CHF 1 813 746 020 at the end of 2017. After this review, the following was recorded in the income statement: A reversal of devaluation of CHF 170 399 000 (2017: CHF 108 600 000) in »Reversal of devaluations on shareholdings and other income related to Group Companies« and a devaluation of CHF 224 935 908 (2017: CHF 101 600 000) in »Devaluations of shareholdings and other expenses related to Group Companies«.

On 14 December 2018 Clariant Ltd received as a distribution in kind from capital contribution reserves from its' subsidiary Clariant Plastics & Coatings Ltd the 100% participation in Clariant Plastics & Coatings USA Inc. in the amount of CHF 156 883 039. The shareholdings were subsequently invested in Clariant Corporation as a capital contribution in kind.

In the year 2018, CHF 82 million of hidden reserves were reversed (2017: CHF 58 million).

The table below shows the shareholdings directly held by Clariant Ltd.

Country	Company name		Capital interest (%)	Voting rights (%)	Capital interest (%)	Voting rights (%)
			2018	2018	2017	2017
Brazil	Clariant S.A.	São Paulo	46.32%	46.32%	46.32%	46.32%
Canada	Clariant (Canada) Inc.	Toronto	100.00%	100.00%	100.00%	100.00%
China	Clariant (China) Ltd.	Hong Kong	100.00%	100.00%	100.00%	100.00%
Colombia	Clariant (Colombia) S.A.	Cota (Cundinamarca)	5.13%	5.13%	5.13%	5.13%
Ecuador	Clariant (Ecuador) S.A.	Quito	0.03%	0.03%	0.03%	0.03%
France	Clariant Services (France)	Choisy-le-Roi	43.00%	43.00%	43.00%	43.00%
Germany	Clariant Verwaltungsgesellschaft mbH	Frankfurt a.M.	100.00%	100.00%	100.00%	100.00%
Great Britain	Clariant Services UK Ltd	Yeadon, Leeds	100.00%	100.00%	100.00%	100.00%
Guatemala	Clariant Specialties (Guatemala) S.A.	Guatemala City	10.00%	10.00%	10.00%	10.00%
Japan	Clariant (Japan) K.K.	Tokyo	100.00%	100.00%	100.00%	100.00%
	Clariant Catalysts (Japan) K.K.	Tokyo	61.45%	61.45%	61.45%	61.45%
Korea	Clariant Plastics & Coatings (Korea) Ltd.	Pohang, Gyeongbuk	17.50%	17.50%	17.50%	17.50%
	Clariant (Korea) Ltd.	Pohang, Gyeongbuk	17.50%	17.50%	17.50%	17.50%
Luxembourg	Clariant Finance (Luxembourg) S.A.	Luxembourg	100.00%	100.00%	100.00%	100.00%
Morocco	Clariant (Maroc) S.A.	Casablanca	0.05%	0.05%	0.05%	0.05%
Mexico	Clariant (Mexico) S.A. de C.V.	Ecatepec de Morelos	99.99%	99.99%	99.99%	99.99%
	Clariant Plastics & Coatings Mexico S.A. de C.V.	Ecatepec de Morelos	99.99%	99.99%	99.99%	99.99%
Norway	Clariant Oil Services Scandinavia AS	Bergen	100.00%	100.00%	100.00%	100.00%
Peru	Clariant (Perú) S.A.	Lima	0.23%	0.23%	0.23%	0.23%
Singapore	Clariant South East Asia Pte. Ltd.	Singapore	100.00%	100.00%	100.00%	100.00%
South Africa	Clariant Southern Africa (Pty) Ltd.	Chloorkop, Gauteng	100.00%	100.00%	100.00%	100.00%
Spain	Clariant Ibérica Servicios S.L.	El Prat de Llobregat	85.03%	85.03%	85.03%	85.03%
	Clariant Ibérica Produccion S.A.	El Prat de Llobregat	35.00%	35.00%	–	–
Sweden	Clariant Production Sweden AB	Mölndal	100.00%	100.00%	100.00%	100.00%
Switzerland	Clariant Plastics & Coatings AG	Muttenz	100.00%	100.00%	100.00%	100.00%
	Clariant Reinsurance AG	Muttenz	100.00%	100.00%	100.00%	100.00%
	Clariant International AG	Muttenz	100.00%	100.00%	100.00%	100.00%
	Clariant Oil Services AG	Muttenz	80.00%	80.00%	80.00%	80.00%
	Clariant Chemical Consulting AG	Muttenz	100.00%	100.00%	100.00%	100.00%
	Clariant Prime AG	Muttenz	100.00%	100.00%	–	–
Thailand	Clariant (Thailand) Ltd.	Bangkok	100.00%	100.00%	100.00%	100.00%
Turkey	Clariant (Türkiye) A.S.	Gebze	100.00%	100.00%	100.00%	100.00%
UAE	Clariant (Gulf) FZE	Dubai	100.00%	100.00%	100.00%	100.00%
USA	Clariant Corporation	Charlotte	100.00%	100.00%	100.00%	100.00%

For further details on shareholdings indirectly held by Clariant Ltd, see note 35, Important subsidiaries on pages 62– 64 of this report.

6. Other current non-interest-bearing liabilities

Other current non-interest-bearing liabilities amount to CHF 157 549 349 at the end of 2018 compared to CHF 74 254 368 at the end of 2017. They comprise third-party liabilities of CHF 29 081 357 (compared to CHF 20 900 445 at the end of 2017) and intragroup liabilities of CHF 128 467 992 (compared with CHF 53 353 923 at the end of 2017).

Liabilities to other Group companies mainly comprise shareholder costs payable to Clariant International Ltd.

7. Other current interest-bearing liabilities

Other current interest bearing liabilities amount to CHF 358 706 814 at the end of 2018 compared to CHF 251 960 656 at the end of 2017. They comprise third-party liabilities of CHF 285 000 000 (compared to CHF 250 000 000 at the end of 2017) and intragroup liabilities of CHF 73 706 814 (compared with CHF 1 960 656 at the end of 2017).

On 26 September 2018, a bond issued in 2012 with a nominal value of CHF 250 million fell due and was repaid.

On 9 June 2017 a bond issued in 2011 in the amount of CHF 100 million reached maturity and was repaid.

A bond issued in 2012 with a nominal value of CHF 285 million will fall due in 2019 and was therefore reclassified to current financial debts.

Since 16 December 2016, Clariant Ltd has an agreement for a CHF 500 million five-year multi-currency revolving credit facility (RCF) with two one-year extension options. The RCF is structured as a club deal with ten key relationship banks with equal stakes and contains an accordion option for an increase up to CHF 600 million. The RCF is structured as a »back-stop« facility for rating purposes to maintain Clariant's liquidity headroom. It contains customary covenants such as negative pledge, cross default, ownership change and restriction on disposals, mergers and subsidiary debt. The Group is required to maintain one financial covenant (debt leverage) that is tested at the end of each financial half year. The RCF has been extended one more year until 16 December 2023.

The intragroup liabilities comprise the cash pool accounts and current accounts between Group companies.

8. Share capital

Capital issued	**31.12.2018**	**31.12.2017**
Number of registered shares each with a par value of CHF 3.70 (2017: CHF 3.70)	331 939 199	331 939 199
In CHF	1 228 175 036	1 228 175 036

Conditional capital	**31.12.2018**	**31.12.2017**
Number of registered shares each with a par value of CHF 3.70 (2017: CHF 3.70)	3 811 886	3 811 886
In CHF	14 103 978	14 103 978

9. Reserves

General reserves must be at least 20 % of the share capital of Clariant Ltd as this is the minimum amount required by the Swiss Code of Obligations. As from 2011, if certain conditions are met, qualifying capital contributions made to Clariant Ltd by its shareholders since 1997 can be distributed without being subject to Swiss withholding tax. Qualifying capital contribution reserves of approximately CHF 1.7 billion are confirmed by the Swiss Federal Tax Administration (SFTA).

The SFTA is of the opinion that capital contribution reserves which were formerly offset with losses of CHF 1.26 billion will not qualify as capital contribution reserves anymore (even if compensated with newly generated retained earnings). The Swiss Administrative Court confirmed the SFTA's view in a particular case (decision of 4 June 2015, A-6072/2013), whilst the Swiss Supreme Court (as the highest Swiss court level) has up to now not dealt with this question. Clariant Ltd does not unconditionally share the above mentioned opinion. This is why potential capital contribution reserves are also documented as capital contribution reserves in the balance sheet.

10. Treasury shares

	2018	2017
Holdings at 1 January	**2 641 579**	**7 887 728**
Shares sold on exercise of put options	—	–800 000
Shares sold to counterparty out of options	—	–3 729 500
Shares sold at fair market value	—	–200 000
Shares transferred to employees and Board of Directors	–390 915	–516 649
Holdings on 31 December	**2 250 664**	**2 641 579**

Each registered share has a par value of CHF 3.70 (2017: CHF 3.70).

In 2018 and 2017 no shares were bought.

In 2018 no shares were sold. The average price of shares sold in 2017 was CHF 17.32.

The profit or loss from the sale of own shares is recorded in the income statement as other finance income or other expenses.

11. Reconciliation of equity

in CHF	Share capital	Statutory capital reserves		Voluntary retained earnings	Treasury shares	Net income	**Total**
		from capital contribution[1]	from retained earnings[2]				
Balance 31 December 2017	**1 228 175 036**	**2 440 230 643**	**–1 264 297 991**	**924 527 225**	**–48 133 025**	**172 132 961**	**3 452 634 849**
Reclassification of profit carryforward to voluntary retained earnings				172 132 961		–172 132 961	—
Reclassification		–164 672 179		164 672 179			—
Distribution				–164 672 179			–164 672 179
Changes in treasury shares					7 343 434		7 343 434
Profit for the financial year						180 640 353	180 640 353
Balance 31 December 2018	**1 228 175 036**	**2 275 558 464**	**–1 264 297 991**	**1 096 660 186**	**–40 789 591**	**180 640 353**	**3 475 946 457**

[1] In 2012, the Swiss Federal Tax Administration confirmed qualifying capital contribution reserves of approximately CHF 1.7 billion (as per 31 December 2018 due to distributions still amounting of approximately CHF 1.1 billion). For further information see also note 9 to the financial statements of Clariant Ltd.

[2] This amount corresponds to capital contribution reserves formerly offset with losses. For further information see also note 9 to the financial statements of Clariant Ltd.

12. Financial liabilities

in CHF	Interest rate	Term	**Amount 31.12.2018**	Amount 31.12.2017
Non-current interest-bearing liabilities to third parties				
Certificate of indebtedness	mixed	2015–2020	169 083 496	175 350 264
Certificate of indebtedness	mixed	2015–2023	169 080 925	175 276 977
Certificate of indebtedness	2.010	2016–2026	16 344 289	16 936 684
Certificate of indebtedness	1.137	2016–2023	29 871 285	30 981 205
Certificate of indebtedness	6 m EURIBOR + 1.1	2016–2023	14 653 856	15 198 847
Certificate of indebtedness	0.779	2016–2021	62 560 872	64 891 252
Certificate of indebtedness	1.501	2016–2023	82 849 245	85 866 895
Certificate of indebtedness	1.012	2016–2020	176 409 004	182 884 804
Certificate of indebtedness	6 m EURIBOR + 1.05	2016–2020	62 560 476	64 859 731
Certificate of indebtedness	2.618	2016–2021	108 740 800	112 469 944
Certificate of indebtedness	3 m LIBOR + 1.5	2016–2021	163 354 136	168 976 059
Certificate of indebtedness	1.194	2018–2024	103 703 407	—
Certificate of indebtedness	1.548	2018–2025	115 539 055	—
Certificate of indebtedness	6 m EURIBOR + 0.95	2018–2025	60 305 799	—
Certificate of indebtedness	2.087	2018–2028	19 162 558	—
Straight bond	3.250	2012–2019	285 000 000	285 000 000
Straight bond	2.500	2012–2018	—	250 000 000
Straight bond	3.500	2012–2022	175 000 000	175 000 000
Straight bond	2.125	2014–2024	160 000 000	160 000 000
Total straight bonds and certificates of indebtedness			**1 974 219 203**	**1 963 692 662**
Other current interest-bearing liabilities to Group companies			—	1 960 656
Total interest-bearing liabilities			**1 974 219 203**	**1 965 653 318**
Less: Other current interest bearing liabilities			–285 000 000	–251 960 656
Total non-current interest bearing liabilities to third parties			**1 689 219 203**	**1 713 692 662**
Non-current interest–bearing liabilities to Group companies				
Financial liabilities to Clariant Oil Service Ltd	0.750	—	588	319 112
Non-current interest–bearing liabilities to Group companies			**588**	**319 112**
Total non-current interest bearing liabilities			**1 689 219 791**	**1 714 011 774**
Breakdown by maturity				
one to five years			1 214 164 683	1 229 751 166
more than five years			475 055 108	484 260 608
Total non-current interest–bearing liabilities			**1 689 219 791**	**1 714 011 774**

On 25 September 2018 Clariant issued four certificates of indebtedness with a total amount of EUR 265 million (CHF 299 million). These certificates have the following terms: EUR 92 million for 5.5 years at a fixed interest rate of 1.194 % p.a., EUR 102 million for 7 years at a fixed interest rate of 1.548 % p.a., EUR 54 million for 7 years at a variable interest rate (6-months Euribor + 0.95 % p.a.), EUR 17 million for 10 years at a fixed interest rate of 2.087 % p.a..

On 26 September 2018 a bond issued in 2012 in the amount of CHF 250 million reached maturity and was repaid.

On 9 June 2017, a bond issued in 2011 in the amount of CHF 100 million reached maturity and was repaid.

A bond issued in 2012 with a nominal value of CHF 285 million will fall due in 2019 and was therefore reclassified to current financial debts.

13. Contingent liabilities

in CHF m	**Outstanding liabilities 31.12.2018**	Outstanding liabilities 31.12.2017
Outstanding liabilities as guarantees in favor of Group companies	379	404

Clariant Ltd belongs to the Swiss value-added tax (VAT) group of Clariant, and thus carries joint liability to the Swiss federal tax authority for value-added tax.

In 2017, the European Commission (Antitrust) initiated an investigation on Clariant and some of its competitors active in the ethylene purchasing sector in some member states. The investigation is ongoing; should antitrust violations be brought up against Clariant by the European Commission, it can impose significant fines that may affect the Group's, and thus of Clariant AG as the ultimate parent company's result and cash flow with an amount that may be material.

Given the ongoing nature of the investigation and the uncertainties associated with them, management has concluded that the amount of such fine cannot be determined as of 31 December 2018 as a reliable estimate is dependent on numerous factors which have not been defined as of the approval date of the financial statements. This assessment is supported by external advisors.

14. Shareholdings of members of the Board of Directors and the Executive Committee

1. Board of Directors

SHARES HELD

Name	**Number of shares granted**[1] **for 2018**	**Value of shares granted**[1] **for 2018**	Number of shares granted for 2017	Value of shares granted for 2017	**Number of privately held shares 31.12.2018**	Number of privately held shares 31.12.2017
Hariolf Kottmann[2]	6 875[4]	137 500	See EC Overview		404 267[5]	See EC Overview
Günter von Au	6 354	127 080	5 962	150 004	58 507	52 212
Evelin Saupper	5 000	100 000	3 975	100 011	15 309	11 334
Carlo G. Soave	5 000	100 000	3 975	100 011	36 063	32 088
Peter Steiner	5 000	100 000	3 975	100 011	9 309	5 334
Claudia Suessmuth Dyckerhoff	5 000	100 000	3 975	100 011	10 409	6 434
Susanne Wamsler	5 000	100 000	3 975	100 011	976 741	969 516[3]
Konstantin Winterstein	5 000	100 000	3 975	100 011	6 077 824	6 019 849
Abdullah Mohammed Alissa	2 292	45 840	—	—	—	—
Dr. Khaled Homza Nahas	2 750	55 000	—	—	—	—
Calum MacLean	2 292	45 840	—	—	—	—
Geoffery Merszei	2 292	45 840	—	—	—	—
former BoD members[6]	—	175 000	11 925	300 033	—	107 414
Total	**52 855**	**1 232 100**	**41 737**	**1 050 103**	**7 588 429**	**7 204 181**

[1] The number of shares granted for the period from annual general meeting to annual general meeting (April to March) as part of the BoD share program will be determined after the balance sheet date. The number disclosed is based on the amount of an estimated fair value of the shares at the grant date. Therefore corrections for the prior-year period were necessary.

[2] Board of Directors' compensations is extended only since retirement as CEO and appointment as Chairman of the Board of Directors.

[3] Thereof: 240 271 held by »The Honoré T. Wamsler Trust«

[4] Pro rata as of 16 October 2018 in his function as Chairman of the BoD.

[5] This amounts includes corrections from non-transaction related internal calculation errors in previous years. Additional 29 295 PSUs still in vesting from grants received as CEO.

[6] Former BoD members include Rudolf Wehrli and Peter Chen who left 16 October 2018. Pro rata cash payment for 2018 instead of shares.

No options were granted to members of the Board of Directors for the years 2018 and 2017, nor did any member of the Board of Directors hold any options in those years.

For detailed information regarding emoluments of the Board of Directors and the Executive Committee, please refer to the Compensation Report.

2. Executive Committee

SHARES HELD

Name	**Number of shares granted**	**Value of shares granted**	Number of shares granted[1]	Value of shares granted[1]	**Number of shares within vesting period**	Number of shares within vesting period	**Number of privately held shares**	Number of privately held shares
	for 2018	**for 2018**	for 2017	for 2017	**31.12.2018**	31.12.2017	**31.12.2018**	31.12.2017
Hariolf Kottmann	542[3]	13 648	51 965	1 168 858	29 295	143 171	—[2]	447 421
Ernesto Occhiello	—	—	—	—	—	—	—	—
Britta Fuenfstueck[5]	—	—	28 592	644 004	—	44 020	—	7 406
Hans Bohnen[4]	—	—	—	—	25 084	—	87 247	—
Patrick Jany	14 844	373 772	28 592	644 004	79 368	80 569	394 713	378 996
Christian Kohlpaintner	14 844	373 772	28 594	644 049	79 368	80 569	320 853	305 135
Total	**30 230**	**761 192**	**137 743**	**3 100 915**	**213 115**	**348 329**	**802 813**	**1 138 958**

[1] Correction needed due to adjustments of the final share price at grant date.

[2] No EC member at 31 December 2018 any longer, please refer to BoD overview.

[3] Pro rata grant due to retirement as CEO.

[4] Hans Bohnen became EC member in October 2018, therefore no shares granted as EC member for 2018. Number of shares within vesting period result from prior LTIP grants in senior leadership roles at Clariant.

[5] All unvested grants forfeited upon termination.

No options were granted to members of the Executive Committee for the years 2018 and 2017, nor did any member of the Executive Committee hold any options in those years.

For detailed information regarding emoluments of the Board of Directors and the Executive Committee, please refer to the Compensation Report.

15. Voting and legal registration limitations

In accordance with article 5 of the Articles of Incorporation, no limitations exist with regard to registration of shares which are acquired in one's own name and on one's own account. Special rules exist for nominees.

In accordance with article 13 of the Articles of Incorporation, each share has the right to one vote.

16. Significant shareholdings of 3 % or more of total share capital

Based on the notifications received by Clariant and published by SIX Exchange Regulation, as at 31 December 2018 the following shareholders held more than 3 % of voting rights in Clariant Ltd:

Shareholders	Voting rights
SABIC International Holdings B.V., Sittard, The Netherlands, controlled by the Public Investment Fund of Saudi Arabia (PIF), Riyadh, Kingdom of Saudi Arabia[1]	25.67 %[2]
APG Asset Management N.V., Amsterdam, Netherlands	5.01 %
Blue Beteiligungsgesellschaft mbH, Am Holzmaierfeld, 82064 Strasslach-Dingharting (Germany) and Maple Beteiligungsgesellschaft mbH, Am Holzmaierfeld, 82057 Icking (Germany)[3]	3.49 %

[1] As of 31 December 2017, White Tale Holdings LP/40 North Latitude Master Fund Ltd. held 20.00 % and subsequently increased their shareholdings to 25.15 %. On 25 January 2018, SABIC International Holdings B.V., Sittard, The Netherlands, controlled by the Public Investment Fund of Saudi Arabia (PIF) Riyadh, Kingdom of Saudi Arabia, acquired, subject to the necessary regulatory approvals, a 24.99 % stake in Clariant Ltd previously held by White Tale Holdings LP, resp. Corvex Holdings LLC, resp. 40 North Latitude Master Fund Ltd. On 17 September 2018, this transaction was closed and thus SABIC has become Clariant Ltd's largest shareholder.

[2] SABIC acquired 24.99 % of the shares of Clariant Ltd on 17 September 2018. The difference corresponds to the amount of treasury shares held by Clariant Ltd which have to be aggregated to the shares held by SABIC solely for regulatory disclosure purposes due to the Governance Agreement entered into by SABIC and Clariant on 17 September 2018.

[3] According to a disclosure notification published on 18 December 2018, a group consisting of Konstantin Winterstein, 80333 Munich, Germany and Elisabeth Prinzessin zu Sayn-Wittgenstein, 80333 Munich, Germany – initially formed on 14 December 2013 and holding 3.73 % partially through Blue Beteiligungsgesellschaft mbH, Strasslach-Dingharting (Germany) and partially through Maple Beteiligungsgesellschaft mbH Icking (Germany) – was dissolved on 12 December 2018 and formed again according to said disclosure notification of 18 December 2018. The 3.73 % previously held by this group was included in the 13.96 % mentioned under footnote 4.

Former shareholders of Süd-Chemie AG[4], who had exchanged their shares against Clariant shares in April 2011 and are related to each other for family or other reasons (especially the Wamsler, Winterstein, Schweighart and Stockhausen families), held a total of 13.96 % of the share capital of Clariant Ltd until this group of shareholders was dissolved according to a disclosure notification published on 18 December 2018.

[4] The following former shareholders of Süd-Chemie AG, holding 13.96 % of Clariant's shares, formed a group that was dissolved according to a disclosure notification published on 18 December 2018:

Wilhelm, Dr. Winterstein, Germany
Dolf, Dr. Stockhausen, Switzerland
Axel, Dr. Schweighart, Germany
Rosemarie Schweighart, Germany
Dominique Kraus, Germany
Irene W. Banning, United States
Susanne Wamsler-Singer, Austria
Caroline A., Dr. Wamsler, United States
Amelie Ratjen, Germany
Christof Ratjen, Germany
Konstantin Alfred Winterstein, Germany
Max-Theodor, Dr. Schweighart, Germany
Peter, Dr. Schweighart, Germany
Moritz Ostenrieder, Germany
Christian Ratjen, Germany
Bettina Wamsler, Germany
Pauline Joerger, United States
Marianne Kunisch, Germany
Maximilian Ratjen, Germany
Julius Ratjen, Germany
Christopher Weithauer, Germany
Johanna Bechtle, Germany
Kaspar Bechtle, Germany
Luisa Redetzki, Germany
Karl T. Banning, USA
Schuyler H. Joerger, Unites States
Sophie Isabel Schweighart, Germany
Heidrun Schweighart, Germany
Maria Stockhausen, Switzerland
Elisabeth Prinzessin zu Sayn-Wittgenstein, Germany
Georg A. Weithauer, Germany
Charlotte Bechtle, Germany
Clara Redetzki, Germany
Marie Redetzki, Germany
Sophia P. Joerger, United States
Susanna Maria Schweighart, Germany
Adriane Hartner, Austria

Disclosure notifications during the financial year 2018 reported to the Stock Exchange Disclosure Office pursuant to Art. 120 of the Financial Markets Infrastructure Act (FMIA) as well as further information in relation to disclosure notifications can be found on the SIX Swiss Exchange reporting platform: www.six-exchange-regulation.com/en/home/publications/significant-shareholders.html

On 31 December 2017, the following shareholders held a participation of 3 % or more of the total share capital: White Tale, White Tale Holdings LP, Cayman Islands (Keith Meister; David J. Millstone; David S. Winter), Corvex Holdings LLC, Cayman lslands (Keith Meister), 40 North Latitude Master Fund Ltd., New York, (David J. Millstone; David S. Winter) 20.00 %; Group of former shareholders of Süd-Chemie AG: 13.96 %, thereof (as a separate sub-group): Blue Beteiligungsgesellschaft mbH, Am Holzmaierfeld, 82064 Grossdingharting (Germany), and Maple Beteiligungsgesellschaft mbH, Am Holzmaierfeld, 82064 Grossdingharting (Germany): 3.73 %); APG Asset Management N.V., Amsterdam, Netherlands: 5.01 %; Black Rock Inc., New York: 3.80 %.

At 31 December 2018, Clariant AG itself held 2 250 664 shares in treasury, corresponding to 0.68 % of the share capital.

17. Events subsequent to the balance sheet date

There were no major events subsequent to the balance sheet date.

Appropriation of available earnings

The Board of Directors proposes to appropriate the profit of 2018 of Clariant Ltd in the amount of CHF 180 640 353 as follows.

Annual result	in CHF
Carried forward from previous year	0
Profit for the year 2018	180 640 353
Total available earnings	**180 640 353**

Appropriation	in CHF
Voluntary retained earnings as at 31 December 2018	1 096 660 186
Transfer to voluntary retained earnings	180 640 353
Voluntary retained earnings as at 1 January 2019	1 277 300 539
Balance to be carried forward	0
Distribution of CHF 0.55 per share from reserves from capital contribution[1]	**181 500 000**

[1] Depending on the number of issued shares on the date of the distribution. Shares held by Clariant Ltd or its subsidiaries are not entitled to a distribution and are not taken into account. The distribution amount is therefore expected to be in the region of CHF 181 500 000.

Distribution of reserves from capital contribution

The Board of Directors proposes a distribution from the confirmed capital contribution reserves of CHF 0.55 per share (following reclassification of the full distribution amount from reserves from capital contribution to voluntary retained earnings).

Report of the statutory auditor
to the General Meeting of Clariant Ltd
Muttenz

Report on the audit of the financial statements

Opinion
We have audited the financial statements of Clariant Ltd, which comprise the balance sheet as at 31 December 2018, income statement and notes for the year then ended, including a summary of significant accounting policies.

In our opinion, the financial statements (pages 72 to 82) as at 31 December 2018 comply with Swiss law and the company's articles of incorporation.

Basis for opinion
We conducted our audit in accordance with Swiss law and Swiss Auditing Standards. Our responsibilities under those provisions and standards are further described in the "Auditor's responsibilities for the audit of the financial statements" section of our report.

We are independent of the entity in accordance with the provisions of Swiss law and the requirements of the Swiss audit profession and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Our audit approach

Overview



Overall materiality: CHF 23 million

We tailored the scope of our audit in order to perform sufficient work to enable us to provide an opinion on the financial statements as a whole, taking into account the structure of the entity, the accounting processes and controls, and the industry in which the entity operates.

As key audit matters the following areas of focus have been identified:

- Investigation by the European Commission in the ethylene purchasing market
- Valuation of shareholdings in Group companies

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Materiality

The scope of our audit was influenced by our application of materiality. Our audit opinion aims to provide reasonable assurance that the financial statements are free from material misstatement. Misstatements may arise due to fraud or error. They are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

Based on our professional judgement, we determined certain quantitative thresholds for materiality, including the overall materiality for the financial statements as a whole as set out in the table below. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures and to evaluate the effect of misstatements, both individually and in aggregate, on the financial statements as a whole.

Overall materiality	CHF 23 million
How we determined it	0.4% of total assets
Rationale for the materiality benchmark applied	We chose total assets as the benchmark because, in our view, it is the most relevant measure for the activities of Clariant Ltd as a holding company.

We agreed with the Audit Committee that we would report to them misstatements above CHF 1 million identified during our audit as well as any misstatements below that amount which, in our view, warranted reporting for qualitative reasons.

Audit scope

We designed our audit by determining materiality and assessing the risks of material misstatement in the financial statements. In particular, we considered where subjective judgements were made; for example, in respect of significant accounting estimates that involved making assumptions and considering future events that are inherently uncertain. As in all of our audits, we also addressed the risk of management override of internal controls, including among other matters consideration of whether there was evidence of bias that represented a risk of material misstatement due to fraud.

Report on key audit matters based on the circular 1/2015 of the Federal Audit Oversight Authority

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Investigation by the European Commission in the ethylene purchasing market

Key audit matter	*How our audit addressed the key audit matter*
Since July 2017, Clariant has been part of an ongoing investigation by the European Commission into alleged infringements of competition law in the ethylene purchasing market. Clariant is cooperating fully with the authorities. The eventual outcome of the investigation is uncertain both in terms of the further course of the	We discussed the status of the ongoing investigation with in-house and external legal counsel and evaluated the relevant correspondence and minutes of the Board of Directors' and management meetings. We obtained independent letters and procedural documents from external legal counsel to confirm our understanding of the status and their assessment of the investigation. We also used internal PwC legal specialists to assist us in evaluating the status of the investigation and the

proceedings and the magnitude of fines, if any, which might be imposed.

The investigation is ongoing and it has not been possible for Clariant Ltd to make a reliable estimate of the amount of any liability that could arise from these proceedings; therefore, no provision has been recorded by management. Accordingly, unexpected adverse outcomes could significantly impact Clariant Ltd's reported profit and balance sheet position.

Please refer to pages 79 (Contingent liabilities, note 13) in the notes.

appropriateness of the assumptions taken and in assessing the position taken by management and the Board of Directors. We discussed this assessment with management, the Audit Committee and the Board of Directors and we obtained written representations from the company in relation to the case.

As set out in the notes to the financial statements, the outcome of the pending investigation is dependent on the outcome of future developments and therefore the exposure of Clariant Ltd, as assessed by management and the Board of Directors, is subject to inherent uncertainty.

On the basis of the procedures performed and the information obtained, we are satisfied that the approach taken by management and the Board of Directors was appropriate.

Valuation of shareholdings in Group companies

Key audit matter	*How our audit addressed the key audit matter*
We consider the valuation of shareholdings in Group companies to be a key audit matter due both to the significant scope for judgement involved with respect to the assumptions and the discount rates applied for the valuations, and to the significance of these investments on the balance sheet. Please refer to pages 74 to 75 (Shareholdings in Group companies, note 5).	We evaluated and challenged management's assumptions and the discount rates applied for valuation purposes. We assessed management's process in grouping together certain investments and the application of generally accepted valuation methods to calculate their value. We tested the calculation method and we compared the input figures used with the Group's accounting records. We also compared the actual results of the year under review with the figures included in the forecasts in the prior year in order to assess with hindsight whether any of the assumptions underlying the forecasts might have been too optimistic. We assessed the assumptions relating to the forecasts and found them to be consistent with actual developments and reasonable. We involved PwC valuation specialists to assess the discount rate by comparing the rates with market information. We found the assumptions and the discount rates to be appropriate and reasonable.

Responsibilities of the Board of Directors for the financial statements

The Board of Directors is responsible for the preparation of the financial statements in accordance with the provisions of Swiss law and the company's articles of incorporation, and for such internal control as the Board of Directors determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors is responsible for assessing the entity's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the entity or to cease operations, or has no realistic alternative but to do so.

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Swiss law and Swiss Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

A further description of our responsibilities for the audit of the financial statements is located at the website of EXPERTsuisse: http://expertsuisse.ch/en/audit-report-for-public-companies. This description forms part of our auditor's report.

Report on other legal and regulatory requirements

In accordance with article 728a paragraph 1 item 3 CO and Swiss Auditing Standard 890, we confirm that an internal control system exists which has been designed for the preparation of financial statements according to the instructions of the Board of Directors.

We further confirm that the proposed appropriation of reserves complies with Swiss law and the company's articles of incorporation. We recommend that the financial statements submitted to you be approved.

PricewaterhouseCoopers AG

Rolf Johner
Audit expert
Auditor in charge

Michael Scheibli
Audit expert

Basel, 11 February 2019

Forward-looking statements

Forward-looking statements contained herein are qualified in their entirety as there are certain factors that could cause results to differ materially from those anticipated. Investors are cautioned that all forward-looking statements involve risks and uncertainty. In addition to the factors discussed above, among the factors that could cause actual results to differ materially are the following: the timing and strength of new product offerings; pricing strategies of competitors; the company's ability to continue to receive adequate products from its vendors on acceptable terms, or at all, and to continue to obtain sufficient financing to meet its liquidity needs; and changes in the political, social and regulatory framework in which the company operates or in economic or technological trends or conditions, including currency fluctuations, inflation and consumer confidence, on a global, regional, or national basis.

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CLARIANT

GRI Report 2018

what is precious to you?

Introduction

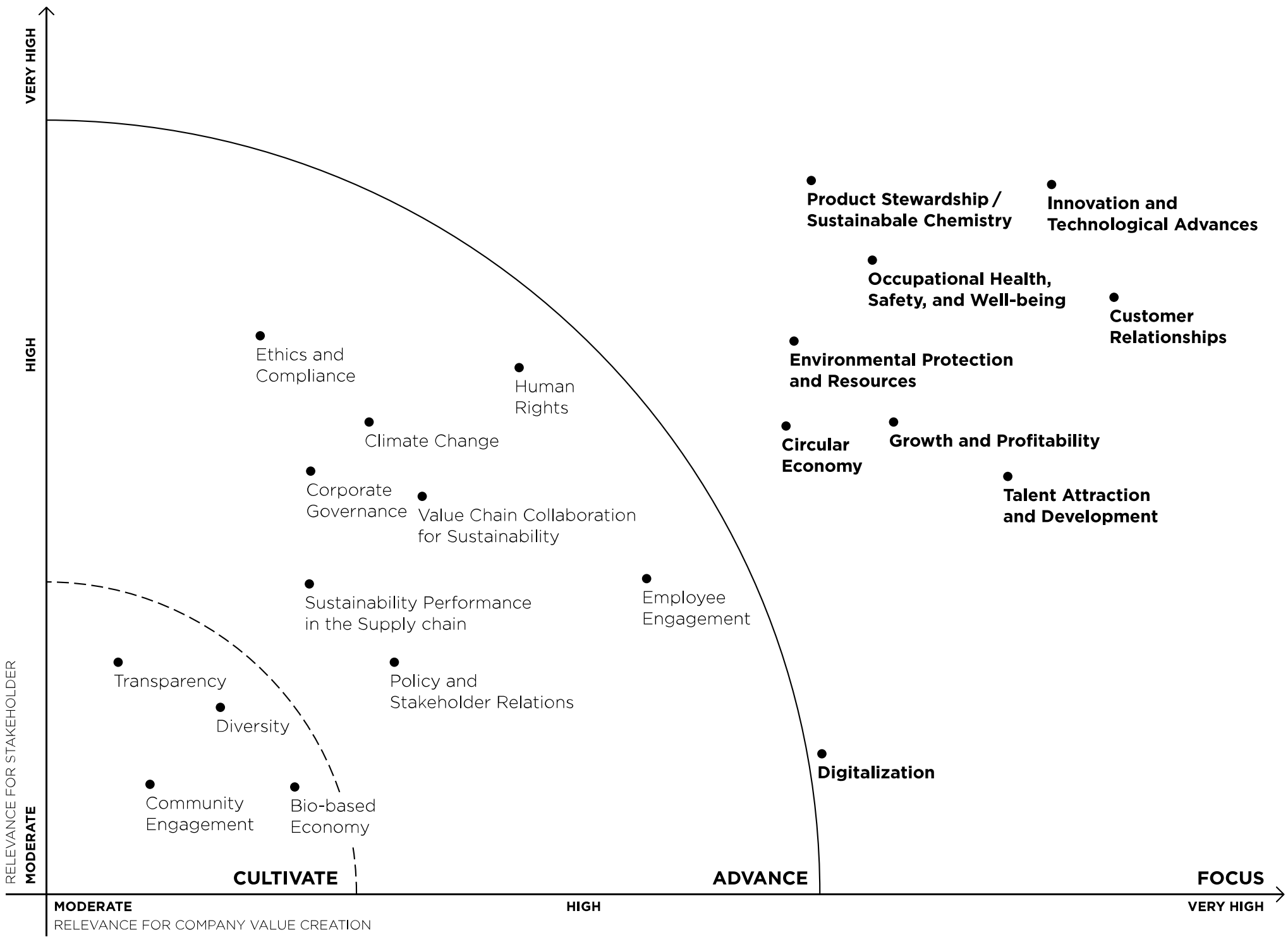
As one of the world's leading specialty chemicals companies, Clariant creates value with innovative and sustainable solutions. By deeply ingraining sustainability throughout its corporate reporting suite, the company communicates openly and transparently with all stakeholders about its financial and non-financial value creation.

The GRI Report 2018 is integral to this reporting suite, providing comprehensive insights into Clariant's sustainable value creation. For each material topic in the »Focus« and »Advance« categories—as presented in the materiality matrix below—the company outlines a management approach according to the GRI Standards, as well as the corresponding, topic-specific GRI disclosures.[1]

For a more in-depth overview of Clariant's holistic approach to financial and non-financial value creation, please refer to the Integrated Report 2018. Comprehensive information on financial results can be found in the online Financial Report. Details on governance and compensation are available in the online Corporate Governance Report and the Compensation Report.

Read more: Integrated Report, Materiality

Clariant Materiality Matrix



[1] For the material topic »Corporate Governance,« the information is not presented in a management approach, as it is reported in detail in the online Corporate Governance Report. Information about the material topic »Value Chain Collaboration for Sustainability« is covered by several other topics. Therefore, no separate management approach is presented in this report.

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GRI Report 2018

MOST MATERIAL TOPICS – FOCUS

Innovation and Technological Advances

GRI 103:2016 Management Approach

103-1 Explanation of the material topic and its boundary

A strong focus on innovation and Research & Development is the first of the five pillars of Clariant's strategy to become the globally leading company for specialty chemicals. By leveraging technology and expertise, Clariant tackles emerging macro-trends to stay ahead in dynamic markets, creates high-performing solutions for rapidly changing customer needs, and drives profitable growth in all its businesses.

Innovation also supports Clariant's second strategic pillar—adding value with sustainability—by continuously improving Clariant's sustainability performance, enhancing the company's ability to create long-term value for its stakeholders. Sustainability likewise promotes innovation by meeting the increasing demand for sustainable solutions, which spurs growth and higher financial results.

Living a culture of innovation is also an increasingly important factor in employer branding, helping Clariant attract and retain talent.

103-2 The Management Approach and its components

As of January 1, 2019, a newly established Innovation Committee oversees all innovation activities at Clariant. Under the lead of the Chief Technology Officer, the Innovation Committee comprises representatives from the Business Units (Heads of Innovation, Heads of Marketing & Innovation, Innovation Champions), key functions from Group Technology & Innovation and New Business Development, the Head of Clariant Innovation Excellence, the Head of the Technology & Innovation Office, and a representative from Corporate Planning & Strategy.

The charter of the Innovation Committee outlines its focus: It reviews the innovation strategy at the corporate level and within each Business Unit; defines corporate growth fields and technology focus fields; and coordinates innovation activities across Business Units. Moreover, it steers Clariant's innovation portfolio to maximize pipeline value and pipeline delivery. The Innovation Committee is ultimately responsible for ensuring best practice application in innovation, intellectual property management, and adherence to Clariant's Technology & Innovation governance. It is also tasked with fostering open innovation, which includes the acquisition of public funding, and strengthening Clariant's position as industry leader in R&D and innovation. The objective is to achieve a growth rate through innovation of 2–3% per annum, with 1–2% sales growth through top line innovation only.

Research & Development activities are bundled in the department Group Technology and Innovation (GTI) and structured along four technology platforms: Chemistry & Materials, Biotechnology, Catalysis, and Process Technology. GTI collaborates closely with the Business Units to ensure that technology push and market pull go hand in hand. This setup is complemented by New Business Development (which explores business opportunities beyond the current scope of Clariant's Business Units), Group Engineering (which is responsible for the management and execution of capital investment projects), and Group Intellectual Property Management (which secures the generated value through intellectual property protection).

Clariant Innovation Excellence (CIX) supports the Business Units in innovation management and new business creation according to the Group-wide Idea-to-Market (I2M) process. The process encompasses scouting global trends and ideas, scoping out customer needs, executing product development, commercializing products, and monitoring product performance. With its Innovation Management experts, CIX provides Clariant's businesses with an elaborate toolbox and hands-on guidance for discovering and incubating new business opportunities and for managing innovation projects from ideation to efficient execution, commercialization, and the launch of new solutions.

Read more: Integrated Report, Idea to Market and Innovation and Technological Advances

103-3 Evaluation of the Management Approach

Clariant strives to realize a local currency growth rate of 2–3% through innovation, with a target of 1–2% sales growth from top line innovation alone. After achieving this target already in 2017, Clariant also met the expectations in 2018 and grew by more than 3% through innovation. Nevertheless, the Strategic Management Process 2018 unveiled untapped potential for Clariant's innovation portfolio management and stringent allocation of funds towards attractive business opportunities. Business Units will further focus their resources and budgets on identified customer-centric and macro-trends-derived opportunities, thus raising innovation's contribution to profitable growth and the return on technology and innovation spend. The innovation governance was also adjusted and the Innovation Committee, with a new functional reporting structure, was introduced, which is effective as of January 1, 2019. The Innovation Committee is responsible for maximizing the value of Clariant's innovation pipeline and pipeline delivery.

Customer Relationships

GRI 103:2016 Management Approach

103-1 Explanation of the material topic and its boundary

Clariant is committed to creating added value for customers by delivering innovative, competitive, and sustainable solutions. Engaging with customers is essential to understand their needs and create continuous, profitable growth. After taking significant steps in recent years to turn Clariant from a product-driven to a customer-centric organization, Clariant aims to further improve the customer experience and increase interactions to uncover new business opportunities.

103-2 The Management Approach and its components

To strengthen customer-centricity throughout the organization, Clariant established the Commercial Excellence initiative in 2011. It emphasizes continuous improvement in customer engagement and sales operations through ongoing dialog with existing customers, new prospects, and other partners along the value chain. Commercial Excellence is part of Group Excellence Services, an integral element of Clariant's Business Services units, which report to the Executive Committee. It supports the Business Units in developing and implementing actionable commercial growth plans and accompanies a growing number of projects on customer segmentation, cost-to-serve analysis, and customer engagement, as well as value-based pricing and selling initiatives that drive both performance and the bottom line. In addition, Commercial Excellence supports systematic capability building with a »Commercial Curriculum« for professionals in commercial and leadership functions.

In 2017, Clariant initiated the »Leading Marketing Organization« (LMO) initiative in order to further integrate marketing within the Business Units. Each Business Unit developed a tailored marketing organization structure with clearly assigned responsibilities, supporting the organization in enhancing customer-centricity. In every Business Unit, a global Head of Marketing now leads a dedicated team of marketing professionals. To identify and capture profitable growth opportunities, marketing teams work closely with technical sales functions.

To strengthen exchange between marketing professionals, Clariant also established a new Marketing Advisory Board in 2018. It consists of the Business Units' Marketing Heads and the Head of Commercial Excellence, who will convene regularly to share best practices and drive further development of strategic marketing processes, tools, and capabilities, and thus ensure continuous improvement of the marketing organizations.

After introducing a marketing essentials training in 2018, an advanced marketing training program that supports capacity-building and realizing the full potential of the new organizations in all Business Units will be launched in 2019.

Read more: Integrated Report, Market to Customer

103-3 Evaluation of the Management Approach

In addition to the feedback received from customer interactions throughout the year, Clariant conducts a biennial survey to monitor customer satisfaction. This survey is critical to learn about customers' perception of Clariant as a supplier and business partner, and it provides an invaluable outside-in perspective to improve touchpoints along the entire customer journey. The most recent customer satisfaction survey was conducted in 2018.

Read more: Integrated Report, Customer Relationships

Clariant tracks several indicators to monitor the success of its approach to marketing and customer engagement. One of the most important indicators is the additional margin generated from Marketing Excellence projects (commercial margin), which gives a good indication of how well Clariant translates customer insights into profitable growth. Since 2014, this indicator has grown substantially from CHF 2 million to CHF 12.8 million in 2018, underscoring that Clariant is moving in the right direction toward true customer-centricity.

GRI 418:2016 Customer Privacy

418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data

In 2018, Clariant received no complaints from outside parties or regulatory bodies regarding data breaches of customer privacy or loss of customer data. Similarly, Clariant is not aware of any identified leaks, thefts, or losses of customer data.

Product Stewardship / Sustainable Chemistry

GRI 103:2016 Management Approach

103-1 Explanation of the material topic and its boundary

Protecting customers, consumers, and the environment by providing safer and more sustainable solutions is one of Clariant's top priorities.

Product stewardship is a legal prerequisite for a chemicals company. It adds value to Clariant's portfolio by providing all required information to ensure the safe use and handling of its products as well as compliance with national and international regulations, and by preventing reputational or legal damages. In addition, product stewardship supports Clariant's business through active communication with customers on product safety for their applications, thereby playing an important role in supporting business and environmental and health protection.

As sustainability leadership requires moving beyond compliance and current standards, Clariant steers its product portfolio towards more sustainable and innovative solutions considering all three dimensions of sustainability: people, planet, and performance. For Clariant, embedding sustainability aspects in product development and other business processes is a must. Driven by societal demand and policy attention, customers and markets are increasingly aware of and sensitive to sustainability aspects. By proactively screening its products and innovation projects against strict and forward-looking sustainability criteria, Clariant aims to develop more sustainable and innovative solutions that support long-term value creation.

Product stewardship and sustainable chemistry applies to all product cycles from cradle to grave, as impacts can result from all phases of product development, operations, and downstream value chains.

103-2 The Management Approach and its components

Clariant's approach to product stewardship is globally oriented and ensures that local and regional product stewardship teams play an integral role in the Global Product Stewardship organization and support business and external customer communication on all regulatory issues regarding the management of chemicals.

Clariant's product stewardship practices are embedded in the innovation process, guaranteeing that chemical safety is considered throughout the entire product life cycle. Regulatory compliance and communication to customers on the safe use and management of the products are thus ensured when placing products on the market.

Regulatory Compliance
Clariant monitors and assesses the impact of changes in chemical management regulations worldwide in order to be prepared for any shifts in the regulatory landscape. Proximity to regulatory bodies and participation in expert groups and associations support proactive management. Ensuring regulatory compliance also includes substance registration with relevant regional and national authorities and supply chain communication on product safety.

European Union Registration, Evaluation, Authorization, and Restriction of Chemicals (EU REACH) Targets
Clariant is fully committed to the REACH targets. After successfully registering all relevant chemicals before the May 2018 deadline, the company ensures that all product dossiers are kept up to date. During the next phase of REACH – the evaluation of the registration dossiers and registered substances – Clariant maintains the cooperation with regulatory bodies, such as the European Chemicals Agency (ECHA) and EU member states.

Clariant goes beyond mere compliance: Its Global Toxicology & Ecotoxicology Group has initiated and co-developed in a Cefic (European Chemical Industry Council) LRI (Long-Range Research Initiative) project the so-called AMBIT tool – an open IT-based system on a predictive toxicity model. AMBIT helps predict the properties of one chemical using the known properties of similar chemicals. The European Chemicals Agency (ECHA) supports this tool by giving access to non-confidential registration data.

Policies and Guidelines
As a signatory to the Responsible Care® Declaration, Clariant supports the Responsible Care® Global Charter. Clariant embedded the Responsible Care® principles in its Sustainability Policy, underlining the company's strong commitment and leadership in sustainable chemistry, and promoted the program in several countries. Reflecting the holistic approach in fulfilling the Responsible Care® principles, Clariant's Global Product Stewardship Organization takes care of the health, safety, environmental, and other regulatory aspects of the company's portfolio throughout product life cycles, following clear guidelines and process descriptions.

Clariant adheres to the Precautionary Principle and takes a proactive approach to ensure the health and safety of people and the environment, while designing more sustainable and innovative products.

Product Portfolio Sustainability Screening
Beyond product safety, a sustainability screening is mandatory for all major product developments at Clariant. Under the Portfolio Value Program (PVP), Clariant systematically assesses its product portfolio for strengths and weaknesses in terms of sustainability comparing its per-

formance against alternatives on the market and against defined sustainability risks and benefits. The product portfolio, which includes all existing products and the innovation pipeline, is screened for sustainability performance on 36 criteria that consider the entire life cycle and all three dimensions of sustainability: people, planet, and performance. Clariant awards products that show an excellent sustainability profile based on the PVP criteria with its EcoTain® label. These products are nominated by Business Units and undergo the scrutiny of an internal EcoTain® panel, comprised of Corporate Sustainability & Regulatory Affairs (which includes relevant product stewardship experts), Group Technology & Innovation, and Group Communications. In 2018, 24 products were awarded the EcoTain® label, bringing the total number of Clariant products branded with the sustainability excellence label to 193.

By participating in the development of a Product Portfolio Steering Framework of the World Business Council for Sustainable Development (WBCSD), Clariant supported the development of a set of sustainability indicators for evaluating product portfolios in the chemical industry. The initiative supported bringing best practice forward in evaluating product portfolios from a sustainability perspective and encourages companies to adopt methodologies for evaluating and steering their product portfolio towards increasing sustainability based on facts, market, and stakeholder expectations.

Read more: Integrated Report, Product Stewardship/Sustainable Chemistry

103-3 Evaluation of the Management Approach

Clariant developed the Portfolio Value Program (PVP) and EcoTain® label in close cooperation with external stakeholders. Customers, suppliers, scientists, non-governmental organizations, policymakers, and authorities were consulted in workshops and dialogs and provided valuable feedback. The stakeholders appreciated the focus on continuous improvement, transparency, and the inclusive consultation process. They also valued the PVP approach for being focused, balanced, and ambitious. They commended the 36 criteria for being comprehensive and fit for purpose.

In addition, Clariant received an independent third-party assurance statement on the PVP/EcoTain® system from PricewaterhouseCoopers (PwC) in December 2015. In 2018, Clariant had the number of EcoTain® products verified by PwC.

The overall evaluation of the management approach includes internal controls, PVP progress-tracking dashboards, benchmarking against peers using external references, such as the Dow Jones Sustainability Index, as well as participation in external networks, discussions, and report reviews.

GRI 416:2016 Customer Health and Safety

416-1 Assessment of the health and safety impacts of product and service categories

✔ PwC	2017	**2018**
Percentage of significant product and service categories for which health and safety impacts are assessed for improvement[1]	80%	80%

[1]Assessments are performed as part of the Portfolio Value Program (PVP) screening mentioned under 103-3.

Read more: Integrated Report, Product Stewardship/Sustainable Chemistry

416-2 Incidents of non-compliance concerning the health and safety impacts of products and services

In 2018, there were no fines, penalties, or warnings resulting from incidents of non-compliance with regulations or voluntary codes concerning information and labeling of products and services.

GRI 417:2016 Marketing and Labeling

417-1 Requirements for product and service information and labeling

Clariant fosters permanent contact with customers, who are supported in the application and use of Clariant's products. Laboratories are available to solve any specific problems. The service offering also features comprehensive product information, particularly in respect to optimum and safe application, health risks, waste disposal, and handling of packaging.

Safety data sheets containing the relevant substance data, information on safe handling and storage of products, and measures in the event of incidents such as product spillages/release and fire are provided by Clariant to all parties involved in the handling of the substances. Clariant has a close relationship with its customers and provides all REACH-relevant information about the supply chain through an IT tool. With this, every Clariant customer is able to securely receive REACH-relevant information on the specific products they have purchased. Comprehensive customer support services ensure compliance with the high communication requirements set by REACH regarding the use of products in the customer chain.

417-2 Incidents of non-compliance concerning product and service information and labeling

In 2018, there were no fines, penalties, or warnings resulting from incidents of non-compliance with regulations or voluntary codes concerning information and labeling of products and services.

417-3 Incidents of non-compliance concerning marketing communications

In 2018, Clariant had no complaints or legal actions concerning compliance with legal provisions on unfair competition or marketing communications.

Occupational Health, Safety, and Well-being

GRI 103:2016 Management Approach

103-1 Explanation of the material topic and its boundary

Occupational health, safety, and well-being add value to Clariant by minimizing the risk of harm to both people and the environment and reducing potential liabilities for the company. Processes regarding occupational safety are top priorities for Clariant to ensure seamless manufacturing operations, protect the health and safety of Clariant's employees, and meet legal and reputation-

al requirements. Failing to meet requirements has a direct negative impact on staff morale, labor costs, and productivity, as well as on operational costs. Moreover, negative incidents of occupational health, safety, and well-being have a detrimental effect on the company's brand image.

As a global employer, Clariant is committed to promoting a healthy culture at the workplace, acknowledging the physical and mental well-being of its employees as a prerequisite for engagement and performance. The company aims to create an environment that encourages employees to actively self-manage their health and achieve an adequate work-life balance.

Occupational health, safety, and well-being are relevant for all Clariant businesses, including management-controlled joint ventures. The impacts of this topic occur within Clariant's own operations.

103-2 The Management Approach and its components

Clariant's Corporate Environmental Safety and Health Affairs (ESHA) Department and ESHA experts in all regions, countries, Service Units, and Business Units are responsible for managing occupational health and safety. Managing the well-being of Clariant's employees is a shared responsibility of the well-being experts, the Corporate Human Resources Department, and the regional and local human resources departments.

Clariant is focused on its goal of zero accidents and its desire to embed process safety into the daily life of all operations. Milestones are defined on Group, Business Unit, and regional levels, and progress toward zero accidents is linked to top management bonuses. A zero-accident goal also reflects the company's focus on the people dimension, one of Clariant's brand values.

To ensure operational health, safety, and well-being, Clariant has several policies and guidelines in place, including an Employment Standards Policy, which underscores Clariant's commitment to global workplace rights and acknowledges its social responsibility toward all employees. Clariant's Sustainability Policy also contains a section on the safety and security of employees and the environment. Several additional guidelines cover a large number of safety and security issues, such as fire and explosion precautions, the handling of hazardous substances, and the identification of risks associated with chemical production. In addition, Clariant adheres to the Precautionary Principle when dealing with risks where scientific understanding is incomplete.

In 2007, Clariant launched the AvoidingAccidents@Clariant program, underscoring its commitment to the occupational health, safety, and well-being of its employees. Under the umbrella of the program, Clariant rolled out multifaceted trainings and tools to achieve the zero-accidents objective. These include, for example, safe behavior trainings, safety leadership improvements, safety checks, safety days, and safety weeks. In addition, Clariant has a Learning Management System (LMS), which is used to provide, steer, and monitor various programs such as occupational health and safety-related e-Learnings, webinars, and workshops. Furthermore, according to the »Protection from Hazards to Health« guideline, the area responsible is tasked with informing workers and contractors about any specific hazard and training them on specific standard operating procedures and work instructions.

As part of Clariant's Audit Program, internal experts from corporate ESHA and the Integrated Group System Management (IGSM) regularly visit sites to check process safety standards by assessing the facilities and establishing corrective measures to tackle the main risks. Process Hazard Analyses (PHAs) are conducted periodically by competent personnel at the sites. The PHAs are reviewed at least every five years and updated in case of modifications. Whenever modifications are done in the facilities, management of change procedures are applied, ensuring that no new or additional risks are introduced without being assessed and controlled.

Clariant's »Safety Counts!« cards also play an important role in ensuring health and safety by providing employees with an opportunity to report critical safety situations and the circumstances that led to them. Employees can also submit their proposals to improve occupational health, safety, and well-being in suggestion boxes. Furthermore, they have access to an Integrity Line hosted by an external service provider, where they can raise their complaints anonymously and around the clock. The system guarantees that concerns are dealt with by representatives of Group Compliance.

The promotion of workplace health and well-being is a local responsibility that each Clariant region addresses with tailored programs. Exceptions are the company-wide family-friendly policy and standards that ensure a healthy and safe working environment for all employees. Further, Clariant's Employee Assistance Program offers free counseling by external specialists in case of stress (regardless of work-related or not), burnout, personal crisis, drug addiction, or other challenging circumstances. Certain locations implemented voluntary programs to support employees to quit smoking. For drug addiction, Clariant established a procedure for treatment through medical plans and in-hospital care, if necessary. Flexible working arrangements can be made and apply to both work-related stress management and unrelated, extenuating circumstances. Clariant performs an assessment of health habits and special health issues of all employees and updates local programs based on these findings.

To protect employees from work-related hazards, every workplace at Clariant is subject to a systematic assessment that includes workplace ergonomics, illumination, noise, indoor air quality, humidity, and temperature. Clear minimum requirements are defined for each factor, and measures to redesign the workplace are taken if these requirements are not met. Since balance between work and family life significantly contributes to the well-being of employees, Clariant also offers a wide range of flexible working arrangements, such as flextime, part-time, or working from home. Further benefits designed to enhance the work-life balance of its employees include healthy meals in the cafeterias, the provision of fitness facilities and contributions to external fitness programs, childcare facilities and contributions to external childcare, support for employees who care for elderly family members, as well as access to nutrition counseling and health checks.

The health of employees is regularly examined by Clariant. Depending on the workplace, extensive health checks are carried out in order to detect signs of illness as early as possible. For some activities, special health certificates and vaccinations are required, and special attention is paid to ensure that these are obtained and given. Medical health professionals anonymously report issues noticed through personal health checks of employees, for example, from blood or urine monitoring, to either the local ESHA organization or the area responsible depending on local laws. The reported information is used to review the mandatory workplace risk assessments required by »Protection from Hazards to Health.« Clariant ensures medical confidentiality. Initial workplace risk assessments define whether or not personal health monitoring is a necessary measure.

To further support Clariant's local activities and promote a shared culture of health and well-being, the company plans to initiate a global policy to provide a framework for new ways of working, including agile and mobile work.

Read more: Integrated Report, Occupational Health, Safety, and Well-being

103-3 Evaluation of the Management Approach

To evaluate the effectiveness of the management approach, Clariant monitors several key performance indicators on a regular basis: Lost Time Accident Rate (LTAR) and Restricted Work cases are continuously and globally reported on a monthly basis. Recorded Injuries are reported quarterly, and Occupational Illnesses are tracked continuously and reported globally on an annual basis. Safety Deviations are continuously monitored at respective sites and quarterly on a global level.

Furthermore, Clariant monitors all Process Safety Events (PSEs). All reported PSEs are assessed quarterly and published in Corporate ESHA dashboards. When Clariant identifies a trend in Process Safety Events that must be corrected, the corresponding units are contacted and instructed to take corrective measures.

GRI 403:2018 Occupational Health and Safety

403-1 Occupational health and safety management system

Clariant's occupational health and safety management system is externally certified and based on the international standard OHSAS 18001 (Occupational Health and Safety Assessment Series). It applies to all employees and contractors where Clariant controls the workplace. For workplaces that Clariant does not control, the management system only applies to Clariant's employees.

403-2 Hazard identification, risk assessment, and incident investigation

The internal Clariant guideline »Protection from Hazards to Health« serves to avoid work-related illnesses and regulates the identification of occupational health hazards for all workplaces. The guideline includes defined revision criteria and cycles. For the control measures, the STOP principle has to be applied, which defines the hierarchy of measures to be taken in case of an incident. A comprehensive internal audit system ensures the quality and triggers continuous improvement.

To report work-related hazards or near-miss incidents, Clariant's employees can either approach their supervisors directly or utilize an online system at some sites. If employees identify a hazardous situation, they are permitted and encouraged to stop the activity and report to their superior. The application of this rule is part of the »Avoiding Accidents@Clariant« training.

After a work-related incident, Clariant conducts an investigation to identify corrective actions and to avoid reoccurrence. Specific methodologies are provided and described in Clariant's investigation guide. According to internal processes, Lost Time Accident and Restricted Work case reports are only closed if an appropriate investigation report is available and filed. The decision to close a report is made on the Group level by an assigned member of Corporate ESHA.

403-3 Occupational health services

Read more: Management Approach, Occupational Health, Safety, and Well-being

403-4 Worker participation, consultation, and communication on occupational health and safety

94% of staff employed per capita in production are represented by a safety committee. Taking the workforce as a whole (production, procurement, sales, and management), 83% of staff per capita are also represented. At Clariant, safety issues are also addressed in committees that do not primarily deal with this topic.

A working group is established if there is a need for new internal standards or to update existing ones. The resulting draft is sent to the different stakeholders in Clariant's Business Units and regions to solicit feedback. Feedback and requests for revisions are duly considered before the standard is finalized and approved. The relevant information is subsequently published in the Group Management System (GMS) database and on SharePoint.

403-5 Worker training on occupational health and safety

Read more: Management Approach, Occupational Health, Safety, and Well-being

403-6 Promotion of worker health

Read more: Management Approach, Occupational Health, Safety, and Well-being

403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships

Read more: Management Approach, Occupational Health, Safety, and Well-being

403-8 Workers covered by an occupational health and safety management system

✔ PwC	2017	**2018**
Percentage of employees covered by an occupational health and safety management system	100%	100%
Percentage of employees covered by an occupational health and safety management system that has been internally audited	100%	100%
Percentage of employees covered by an occupational health and safety management system that has been externally audited or certified	100%	100%

403-9 Work-related injuries

✔ PwC	2017	**2018**
Number of fatalities as a result of work-related injury	2[1]	0
Rate of fatalities as a result of work-related injury (per 200 000 hours)	0.00529	0
Number of high-consequence work-related injuries (excluding fatalities)	0	2
Rate of high-consequence work-related injuries (excluding fatalities) (per 200 000 hours)	0	0.011
Number of recordable work-related injuries	302	248
Rate of recordable work-related injuries (per 200 000 hours)	1.57	1.31
Number of hours worked	38 134 000	37 796 000

[1]Fatalities disclosure includes employees and contractors

Additional indicators:

✔ PwC	2015	2016	2017	**2018**
Occupational accidents with at least one day's work lost	32	37	38	28
male	32	35	34	28
female	0	2	4	0
Lost time accident rate (LTAR)[1]	0.17	0.19	0.2	0.15
male	0.17	0.18	0.18	0.15
female	0	0.01	0.02	0
Lost time accident rate (LTAR)[1] for contractors	0.34	0.46	0.21	0.24
Lost time accidents by supervised (non-Clariant) workers (included in the overall number of occupational accidents)	3	2	2	6
male	3	2	1	6
female	0	0	1	0
Lost workdays (LWD) caused by occupational accidents	1 161	1 955	1 135	988
male	1 001	1 865	1 051	983
female	160	90	84	5
Lost workday rate (LWDR)	6.2	9.8	5.95	5.23

[1]Occupational accidents with at least one day's work lost relative to 200 000 hours of work.

✔ PwC	2017		2018	
	Male	Female	**Male**	**Female**
Occupational accidents with at least one day's work lost	34	4	28	0
Europe	17	1	14	0
Greater China	1	0	0	0
India	0	0	1	0
Japan	1	0	0	0
Latin America	10	1	7	0
Middle East/Africa	2	1	1	0
North America	3	1	4	0
Southeast Asia/Pacific	0	0	1	0

✔ PwC	2017		2018	
	Male	Female	**Male**	**Female**
Occupational accidents of contractors, with at least one day's work lost	8	0	10	0
Europe	4	0	4	0
Greater China	0	0	0	0
India	3	0	1	0
Japan	0	0	0	0
Latin America	1	0	4	0
Middle East/Africa	0	0	1	0
North America	0	0	0	0
Southeast Asia/Pacific	0	0	0	0

403-10 Work-related ill health

✔ PwC	2017	2018
Number of cases of recordable work-related ill health	0	1
male	0	1
female	0	0

Environmental Protection and Resources

GRI 103:2016 Management Approach

103-1 Explanation of the material topic and its boundary

Environmental protection and resources encompasses pollution prevention, waste management, energy and water use, and ecosystem protection. Clariant currently focuses on the impacts of its own operations, which can be controlled and monitored directly. Potential effects along supply chains are also considered.

Pollution Prevention
Clariant is fully committed to sustainability, as reflected in its ongoing efforts to protect the environment by conserving natural resources and preventing pollution. Its pollution-prevention approach includes a clear commitment to reduce air emissions and minimize the discharge of harmful pollutants into water bodies. It adds value to the company by minimizing the risk of harming human health and the environment while also reducing potential liabilities and negative impacts on the company's brand image.

Waste Management
Clariant's waste management approach adds value by reducing the risk of environmental harm as well as costs associated with waste production. These efforts are in line with Clariant's commitment to sustainability and lend credibility to our operations around the world.

At Clariant, the prevention of waste takes priority over recycling or disposal. Therefore, every effort is made during the development and manufacturing of products to ensure that as little waste as possible is generated, while unavoidable production waste is recycled or disposed of properly. Each type of waste is recorded and precisely analyzed, and proper disposal must be proven and documented in internal records. It is important to know which plant generated the waste, what amounts accrued during what period, what properties the waste components have, whether the waste can be classified as hazardous, and how it can be recycled or disposed of.

Energy
Managing energy is paramount for Clariant in order to conserve resources and be cost-efficient. Clariant's energy management aims to minimize emissions and greenhouse effects from energy use, and acknowledge the development and implications of climate change. Clariant aims to improve energy efficiency in its operations, but also strives for high standards in its value chain. Ultimately, Clariant's customers profit from solutions that enable them to significantly save energy.

Water
Water management is a key topic for the chemical industry, as water is used in numerous production processes and as an ingredient for certain products. The majority of production sites are located in areas with sufficient and stable water availability. To also ensure continuous operations in areas under water stress, introducing measures that reduce water consumption and increase water reuse is essential. Clariant prioritizes actions that increase water use efficiency, ensure proper water management, and address potential risks, particularly in areas under water stress.

Clariant uses water for a variety of purposes in the production of chemical products, resulting in the release of wastewater effluents. Clariant adheres to local regulatory requirements regarding discharge limits at all sites. Production wastewater is often subjected to multi-stage chemical-physical pre-treatment before being routed to biological wastewater treatment plants. This multi-step treatment approach and constant monitoring guarantee that discharged wastewater does not negatively impact ecosystems. Water that is only used for cooling is monitored and directly released into rivers. To prevent pollution of the intake water through undetected leaks in the

cooling system, the cooling water and rainwater are constantly analyzed at the individual sites as an additional safety measure. If contamination is discovered, discharge into rivers (or other receiving water bodies) is prevented by various on-site containment systems.

Protection of Ecosystems
Ecosystems provide a variety of critical goods and services to companies like Clariant, such as clean water, energy, recreational areas, and protection from flooding. Companies can negatively impact the ecosystems on which they depend and must therefore take great care in monitoring and remedying these impacts in order to maintain ecosystem services.

Since most of Clariant's sites are located in industrial areas, ecosystems are usually not impacted. If negative impacts can potentially occur, Clariant monitors parameters such as air emissions and water quality in areas adjacent to production sites. Where possible, the monitoring is extended along the value chain.

Protection of ecosystems also encompasses Clariant's use of renewable raw materials, specifically palm oil, and primarily impacts the Business Unit Industrial & Consumer Specialties and the mining activities of the Business Unit Functional Minerals.

103-2 The Management Approach and its components

The corporate Environmental Safety and Health Affairs (ESHA) unit and its specialized teams within Business Units and country organizations are responsible for managing environmental protection and resources. While they set and monitor the standards, the full operational responsibility lies with each site, which also nominates a responsible person for day-to-day operational ESHA topics.

Corporate Sustainability & Regulatory Affairs also supports the businesses with strategic and operational activities, for example by providing input to product screenings and customer requests.

By 2025, Clariant wants to achieve significant improvements on six major parameters compared to the base year 2013. With respect to produced goods (per ton), Clariant aims to reduce energy consumption and direct CO_2 emissions by 30%, greenhouse gas emissions, water consumption, and waste volume by 35%, and wastewater volume by 40%.

Clariant has an environmental management system based on ISO 14001 in place. As required by ISO 14001, Clariant defined a process landscape and established environmental guidelines that focus on emissions, waste, and wastewater. In addition, Clariant conducts environmental impact and aspect assessments and participates in the ISO 14001 audit process. One of the most important aspects of this is the continuous improvement process (CIP), which is supported by Clariant's Excellence program. Clariant follows ISO 50001 guidance for its energy management approach.

Clariant abides by the principles of the Responsible Care® Global Charter, which was initiated by the members of the International Council of Chemical Associations (ICCA) to create a global vision and highlight the commitment of the industry to continuous improvement in the environmental, health, and safety performance of chemical producers worldwide. Furthermore, Clariant adheres to its Sustainability Policy, Code of Conduct, Internal ESHA Management System, ESHA Guidelines and Guides, internal audits, and bylaws of the Executive Committee. The ESHA guidelines contain several common principles for environmental protection, including prioritizing measures that avoid or minimize negative environmental impacts over pollution control (end of pipe) measures.

In 2018, Clariant's investments and expenditures in the areas of environment, safety, and health protection (ESH) amounted to CHF 12.6 million (2017: CHF 8 million), representing an increase of 58% compared to the previous year.

Pollution Prevention

Clariant implemented several measures to improve its performance regarding pollution prevention. Air emissions and wastewater quality of all sites are monitored closely at the corporate level. Parameters tracked for air emissions include volatile organic compounds (VOCs), sulfur oxides (SO_x), nitrogen oxides (NO_x), and particulate matter. For assessing wastewater quality, biological and chemical oxygen demands (BOD and COD, respectively), as well as total organic content (TOC), suspended solids, heavy metals, nitrogen compounds, and phosphorus are recorded. All Clariant production sites strictly comply with local regulatory requirements regarding air and water emissions limits.

Waste Management

At Clariant, the prevention of waste takes priority over recycling or disposal. Therefore, every effort is made during the development and manufacturing of products to ensure that as little waste is generated as possible. Unavoidable production waste is recycled or disposed of properly. Each type of waste is recorded and precisely analyzed and described. Proper disposal must be proven and documented in internal records. Clariant's environmental performance has improved continuously over recent years thanks to ongoing efforts at individual sites and global programs. At the site level, waste generation is minimized by comprehensive planning and high-quality standards.

Energy

The main governing programs at Clariant to minimize energy consumption and increase energy efficiency are eWATCH, Clariant Excellence, and the YEE initiative.

The eWATCH program is a three-dimensional energy efficiency and management approach that combines an operating system, management system, and employee system to reduce operational costs at production sites. The Clariant Energy Intelligence Guide (CEIG), a component of the eWATCH Employee System, supports careful management of the company's energy demand. This guide combines information, advice, best practices, and successful optimization projects, as well as key figures and tools that support energy efficiency, enabling users to systematically improve the energy efficiency of equipment.

An important component of the Operational Excellence program is the Clariant Production System (CPS). The CPS's goal is to achieve optimal productivity and financial performance in the production units of all Business Units by identifying, developing, and implementing good practices across all production sites. Implementing the CPS leads to improvements in safety, productivity, conversion costs, energy consumption, and product quality.

The Clariant Production System's Yield, Energy, Environment (YEE) initiative increases yields, improves energy efficiency, and reduces waste streams by analyzing specific production processes or production units to create a comprehensive picture of energy optimization. Since inception in 2012, YEE led to savings of more than CHF 50 million. In 2018, YEE allowed for cost savings of CHF 6 million.

Water

Clariant is one of eleven partners in the European INSPIREWATER project, which is exploring innovative solutions for industrial water management. The project includes developing a pilot wastewater treatment plant in the water-limited region of Tarragona, Spain, with the aim of achieving zero liquid discharge. Knowledge obtained from this project can be transferred to other Clariant sites, particularly those located in water-stressed areas. Furthermore, Clariant engaged in internal quality audits, which are a central element of the ESHA management system, supporting the external environmental management certification according to ISO 14001.

Protection of Ecosystems

To guarantee sustainable sourcing of palm oil-based oleo chemicals, Clariant began certifying the key production sites that process palm oil-derived raw materials under the sustainability certification scheme of the Roundtable on Sustainable Palm Oil (RSPO). By 2016, it achieved its goal of certifying all sites that manufacture products with palm oil-based raw materials (i.e., Clariant's personal and home care products). In 2018, Clariant worked intensively to broaden its RSPO mass balance-certified product portfolio for the personal and home care markets in Europe, Asia, North America, and Latin America. This helps Clariant's customers comply with increasing demand for certified-palm ingredients in the end-consumer markets.

As a member of the »Sustainable Palm Oil and Traceability in Sabah« (SPOTS) initiative, Clariant also implements specific action plans regarding the sustainability of the palm oil supply chain. These include working on the transparency of supply chains and providing support services to independent smallholders to improve their income and quality of life.

Read more: Integrated Report, Progress toward environmental targets 2025

Read more: Integrated Report, Environmental protection and resources

103-3 Evaluation of the Management Approach

Clariant annually collects ESHA key figures to monitor ESHA performance and efficiency improvements. Clariant's Project Tracking Tool (CPTT) is used as a central tool for tracking the progress toward objectives, such as the 2025 targets.

For example, Clariant strengthened its water risk management in 2017 by establishing an annual water risk assessment for sites operating under high water stress. By systematically mapping water risks with a comprehensive tool, the Aqueduct Water Risk Map developed by the World Resources Institute, a facility's overall water risk score (a combination of quantity, quality, regulatory, and reputational risks) is calculated and the facilities that rank as medium to high risk are short-listed. Based on this initial assessment, Clariant refined the Aqueduct analysis by performing a more detailed internal risk assessment. Relevant sites reported on impacts and emerging risks according to certain classifications and categories, allowing Clariant to identify the sites with water risks that could have a substantial impact on operations, revenue, or expenditure. Further, in order to develop an in-depth understanding of risks and to make sure a systematic water risk management process is in place, a pilot water risk management project was started in 2018 in Santa Clara, Mexico. Following the pilot study, specific water-related goals will be developed for sites identified as having water risks.

Clariant established the Target 2025 Group to exchange knowledge between stakeholders in the Business and Service Units on projects undertaken to reduce environmental impacts. At the same time, Clariant instituted its Clariant Excellence program, which has clear targets for resource savings. Moreover, ideation workshops were coordinated by Corporate ESHA in collaboration with various Business Units to identify bottlenecks and generate new ideas to achieve the 2025 targets. The participants in these ideation workshops were the operations managers from the production sites, who were the main stakeholders in implementing the strategies at site level.

GRI 302:2016 Energy

302-1 Energy consumption within the organization / 302-2 Energy consumption outside of the organization / 302-3 Energy intensity

✔ PwC	2015	2016	2017	**2018[1]**
Total energy consumption within the organization (in m kWh)	2 866	2 950	3 245	3 209
Relative energy consumption (in kWh/t production)	782	720	706	739

[1]Every three years, Clariant validates environmental data from all production sites. The last full reporting campaign was in 2017. In interim years, including 2018, the reduced reporting scope comprises the larger sites responsible for 95% of production.

✔ PwC	2017	**2018[1]**
Total fuel consumption within the organization (in m kWh)	**1 777**	**1 781**
Oil	87	83
Natural gas	1 231	1 254
Diesel	57	54
Energy crops (bagasse/briquettes)	122	121
Coal + Waste	280	269
Total electricity consumption (in m kWh)	**844**	**768**
Total steam consumption from outside the organization (in m kWh)	**626**	**660**

[1]See footnote under the previous table.

Clariant's plants require energy primarily in the form of steam, electricity, and heat. Electricity is mainly used for drives in electric motors in mixers, pumps, and other process-engineering equipment. Measurement and control technology, as well as lighting, also requires electricity. Clariant uses natural gas for heating dryers, firing furnaces, and generating electricity and steam in its own power plants. Clariant uses steam to heat reactors and separators, such as distillation columns. The resulting condensate is, whenever possible, used for heating purposes. Across the Group, Clariant records the total energy consumption, independently of whether it has been internally produced or externally procured. Small energy procurements, such as transport services during business trips, are not recorded. In Clariant's overall energy balance, these numbers are insignificant.

Direct energy consumption (i.e., the use of primary energy sources) takes place at Clariant's sites and mainly for process heat- and steam-generation purposes. The main primary energy source is natural gas; coal is only used as an energy source in very few locations and Clariant is in the process of finding alternatives where possible. Indirect use of energy is from the consumption of electricity and steam from external sources in lieu of Clariant's own energy generation. Electricity and steam procured from 3rd parties are produced with a mix of different primary energies. Clariant endeavors, however, to increase the share of energy obtained from renewable sources on an ongoing basis.

To estimate the relative energy consumption per ton of production, Clariant accounts for all the energy it consumes.

302-4 Reduction of energy consumption

In 2018, Clariant managed to save 92.3 m kWh through its eWATCH and YEE programs. For information about the eWATCH and YEE programs refer to:

Read more: Management Approach, Environmental Protection and Resources

302-5 Reductions in energy requirements of products and services

Clariant evaluates the energy consumption of products through its Portfolio Value Program, which includes the innovation pipeline. For more information, please see the section on the Portfolio Value Program on Clariant's website.

GRI 303:2018 Water and Effluents

303-1 Interactions with water as a shared resource

One of the main auxiliary materials for the chemical industry is water. Foremost, it is used as a coolant and as process water in production. Of the 49 million m^3 of Clariant's total water quantity purchased in 2018, about 70% was used for the cooling of its production plants, 20% for production processes, and 10% as a product component or for steam/ice generation, irrigation, or sanitary purposes. The water supplies, especially at large production sites, are primarily guaranteed with river water supplied via 3rd parties. Before being discharged into the piping system at each site, the river water is cleaned using various filter systems. Remaining amounts are obtained from the respective local water grids, but not in volumes that would significantly impair the water system.

Clariant is a chemical company with a long-standing history, and some of its production sites are more than a hundred years old. New locations were chosen because of the required infrastructure in already existing industrial settlements. For these reasons, Clariant's properties for plants and office buildings are located today almost exclusively in industrial parks or appropriate commercial districts. Clariant systematically tracks water-related impacts and engages with stakeholders where necessary to deal with specific water-related impacts.

With regard to plants located next to rivers, Clariant implements strict environmental regulations so that its activities have no registrable impact on the surrounding flora and fauna. The wastewater produced by Clariant in the year under review had no measurable impact on biodiversity. Clariant mostly operates plants in integrated industrial sites without sensitive adjacent areas.

The importance of water management differs according to the local conditions. Therefore, the production sites set their own targets regarding the water footprint whenever relevant. Moreover, monitoring of regulatory developments takes place in the regions and countries.

303-2 Management of water discharge-related impacts

At some Clariant locations, cooling water is guided into circulatory systems, where the temperature is again lowered after use in recooling plants. This environmentally compatible cooling method is used in plants where technically possible. In 2018, it saved 123 million m^3 of industrial water, which would otherwise have been additionally procured. Clariant provides general rules for minimum standards for quality of effluent discharge to all its sites. The effluent before discharge is subject to adequate treatment and is regularly monitored. The discharge limits set by local authorities are strictly adhered to.

303-3 Water withdrawal

✔ PwC	2017	**2018[1]**
Total volume of water withdrawn (in m m^3)	**49**	**49**
Surface water	7.6	8.0
Groundwater	9.1	8.9
Seawater	0.1	0.1
Produced water	0.1	0.1
Third-party water	32.1	31.9

[1]Every three years, Clariant validates environmental data from all production sites. The last full reporting campaign was in 2017. In interim years, including 2018, the reduced reporting scope comprises the larger sites responsible for 95% of production.

The disclosures on freshwater based on Total Dissolved Solids are omitted until internal processes on the collection and reporting of such data have been completed.

Clariant is in the process of standardizing the water stress/water risk assessment disclosure in accordance with various sustainability reporting requirements. The respective disclosure is thus omitted until the process is complete.

✔ PwC	2015	2016	2017	**2018[1]**
Relative water consumption (in m^3/t product)	13.3	11.7	10.6	11.3

[1]See footnote under the previous table.

303-4 Water discharge

✔ PwC	2017	**2018[1]**
Total water discharge to all areas (in m m^3)	**12.7**	**12.6**
Surface water	10	8.2
Groundwater	n.a.	n.a.
Seawater	0.6	0.5
Third-party water treatment	2	3.6

[1]Every three years, Clariant validates environmental data from all production sites. The last full reporting campaign was in 2017. In interim years, including 2018, the reduced reporting scope comprises the larger sites responsible for 95% of production.

In 2018, Clariant recorded one incident of non-compliance with discharge limits of priority substances of concern. The respective case has been resolved in the reporting year.

The disclosures on freshwater based on Total Dissolved Solids are omitted until internal processes on the collection and reporting of such data have been completed.

303-5 Water consumption

Clariant considers the entire volume of water withdrawn and used as its total water consumption. Cooling water returned to the source after being used in cooling cycles is not excluded from total consumption.

See also: GRI 303-1

GRI 304:2016 Biodiversity

304-1 Operational sites owned, leased, managed in, or adjacent to protected areas and areas of high biodiversity value outside protected areas

Clariant does not operate any chemical production sites in biological reserves or in areas with a high biodiversity value.

304-2 Significant impacts of activities, products, and services on biodiversity

If forests, which are generally unprotected areas, are located in the immediate vicinity, Clariant ensures that the nature of the plant and activities carried out do not have an appreciable adverse effect on the surrounding flora and fauna. Clariant is also aware of the possible impact of certain raw materials and their cultivation on biodiversity, as in the case of palm oil. Therefore, Clariant cooperates with customers to improve traceability of palm-based raw materials and is a member of RSPO, offering RSPO MB-certified material.

304-3 Habitats protected or restored

In areas that were reclaimed by Clariant following bentonite extraction (such as Southern Bavaria), certain types of animals that are on the Red List of Threatened Species have repopulated.

304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations

Because of the targeted locations of Clariant's sites, animal and plant species included on the Red List of the IUCN (International Union for Conservation of Nature and Natural Resources) and on national protection lists are not visibly affected by Clariant's business activities.

GRI 306:2016 Effluents and Waste

306-1 Water discharge by quality and destination

✔ PwC	2015	2016	2017	**2018**[1]
Total volume of planned and unplanned water discharges (in m m^3)	13.3	13.2	12.7	12.6
Relative wastewater discharge (in m^3/t production)	3.63	3.23	2.75	2.90

[1]Every three years, Clariant validates environmental data from all production sites. The last full reporting campaign was in 2017. In interim years, including 2018, the reduced reporting scope comprises the larger sites responsible for 95% of production.

The absolute quantity of water discharged remained stable between 2017 and 2018. Water discharged in relation to production increased, as production declined in the same time range.

Clariant has reduced the chemical oxygen demand (COD)—the measurement of the degree of wastewater burdened with organic substances—in all its wastewater treatment plants by ~25% from 2014 to 2018. Consequently, fees and production costs were reduced.

Only small amounts of heavy metals remain in the wastewater at Clariant's individual sites. The values are partly based on the concentrations that are at or below the detection limit. The wastewater discharged by Clariant is largely cleaned and does not affect the quality of the receiving water. Thus, Clariant has achieved high standards in wastewater treatment and water purification.

306-2 Waste by type and disposal method

✔ PwC

in thousand t	2015	2016	2017	**2018**[3]
Total weight of hazardous waste, with a breakdown by the following disposal methods where applicable:[1]	**59**	**54**	**56**	**55**
Recycling[2]	18	20	23	23
Landfill[2]	6	10	7	8
Treatment[2]	47	39	41	37
Total weight of non-hazardous waste, with a breakdown by the following disposal methods where applicable:[1,4]	**92**	**92**	**142**	**177**
Recycling[2]	18	17	27	20
Landfill[2]	68	69	107	148
Treatment[2]	8	7	9	10
Total waste[1,4]	**151**	**147**	**198**	**232**

[1]Waste from Clariant activities

[2]The listed treatment and disposal channels also contain waste from other producers but managed by Clariant.

[3]Every three years, Clariant validates environmental data from all production sites. The last full reporting campaign was in 2017. In interim years, including 2018, the reduced reporting scope comprises the larger sites responsible for 95% of production.

[4]The increase in the total amount of waste compared to 2017 is mainly due to the accumulation of large amounts of gypsum at two production sites. Gypsum is a by-product of bentonite processing and represents 40% of the total non-hazardous waste. The two sites are exploring different commercial avenues to convert gypsum into a viable product.

306-3 Significant spills

✔ PwC	2015	2016	2017	**2018**
Process safety event rate[1]	0.26	0.21	0.35	0.46

[1]Process Safety Event = Number of Process Safety Events * 100 / FTEs. In 2018, Clariant changed the reporting criteria from Cefic to ICCA. If Clariant had used the Cefic criteria for 2018, the process safety event rate would have been 0.35.

✔ PwC	2017	**2018**
Number of significant spills	3	4
Total volume of significant spills (m^3)[1]	110	6

[1]The number for 2017 is considerably higher than in 2018, as two large spills were recorded. All releases were contained on-site without any releases to the environment.

In 2018, Clariant recorded four spills, which is considered significant under the definition of ICCA, category 2. The total volume of the spills amounted to 6 m3.

Safety of people and the environment is the highest priority for chemical companies. One indispensable factor is an effective safety management system that can also identify, assess, and control risks in the production process using appropriate measures, so as to reduce or even entirely avoid these risks. For this reason, Clariant, in close cooperation with the European Process Safety Centre (EPSC), has actively supported the development of a simple and representative measurement system, also with the aim of establishing an industry-wide standard.

This system records and systematically assesses smaller substance and energy releases in order to avoid major incidents. These incidents, or Process Safety Events (PSEs), are categorized according to criteria stipulated by the European Chemical Industry Council (Conseil Européen des Fédérations de l'Industrie Chimique, Cefic) and the International Council of Chemical Associations (ICCA). They are a component of the ongoing improvement procedures for the process safety of the production systems. In 2018, the process safety event rate at Clariant increased from 0.35 to 0.46, according to ICCA criteria. However, if Clariant continued to use the Cefic reporting criteria, the rate for 2018 would have been 0.35. Due to the change in our PSE reporting criteria starting in 2018, many training sessions and webinars were conducted, which impacted the reporting culture, increasing the total number of reports in 2018. We expect this trend to continue in the following years. The rate denotes the number of incidents per 200 000 working hours.

306-4 Transport of hazardous waste

Hazardous waste transport is done by certified companies fully compliant with all requirements of transport and waste legislation. It is important to know from which plant the waste originates, which amounts accrue during what period, what properties the waste components have, whether the waste has to be classified as hazardous, and how it can be recycled or disposed of.

GRI 307:2016 Environmental Compliance

307-1 Non-compliance with environmental laws and regulations

Clariant's operative business adheres strictly to the company's internal control guidelines for the area of »environment, safety, and health« (ESH). This directive aims to ensure that there are no breaches of internal and external regulations. As a result of these efforts and stringent voluntary commitments, Clariant was not aware of any cases in 2018 in which it was accused of not having acted essentially in compliance with laws, regulations, and voluntary codes of practice in connection with nature and environmental protection. As such, Clariant did not have to pay any substantial fines or non-monetary penalties for non-compliance with environmental laws and regulations.

Talent Attraction and Development

GRI 103:2016 Management Approach

103-1 Explanation of the material topic and its boundary

Empowered, motivated, and highly skilled employees that create value for the company and its stakeholders are essential to Clariant's long-term success. Clariant is thus striving to build a reputation as a preferred employer to attract, engage, develop, and retain the right people with the right skills. Human resource practices such as recruiting, learning, and performance management are central for all Business Areas and regions along Clariant's entire value chain. The recruitment and onboarding processes need to be efficient so that new employees can quickly contribute to the implementation of the Business Units' strategies. Skills development is also imperative to remain agile and drive innovation in fast-evolving markets that continuously demand new competencies. Lastly, employee engagement and performance management are critical to retain talent and motivate employees to implement Clariant's business strategy and contribute to a high-performing company.

103-2 The Management Approach and its components

Within Clariant, engaging and developing talent is a shared responsibility of all management functions. Clariant's leaders are key in shaping a high-performance culture. They are supported by Group Human Resources, which has established strong processes for talent acquisition, onboarding, performance management, and talent management in all regions. Globally, Clariant's operational and strategic human resources departments comprise 209 employees dedicated to talent attraction and development. Clariant's People Excellence strategy ensures that the different employee initiatives are closely linked to business needs and implemented effectively and efficiently.

For the management of Talent Attraction and Development, Clariant abides by its Global Talent Acquisition Policies (Recruitment Policy, Global Recruitment Agency Policy, Onboarding Policy, and Employee Referral Policy). The policies clarify and specify the roles and responsibilities of the hiring manager and recruitment and HR personnel to ensure an efficient, effective, and professional talent acquisition process. More specifically, highly trained talent acquisition teams partner with the Business Units to source and select the best talent. Employer branding programs create awareness in the market and positively influence potential candidates. Moreover, line managers are trained in the »License to Hire« program to ensure they make the right hiring decisions.

With regard to capability development, Clariant creates an inspiring learning environment and promotes a learning culture. It offers structured capability-building programs, which entail defining required competencies per job family, assessing these competencies, and creating individual development plans. The Clariant Academy encompasses all global learning offerings designed to support Clariant's strategy and to promote common language and values across the organization. Learning programs within the Clariant Academy are differentiated by job family and management level. A nomination process for the Clariant Academy programs ensures that all relevant employees participate in the training programs designed for a specific target audience. Besides the Clariant Academy, trainings, social learning (e.g., learning communities, mentoring, and peer coaching), and on-the-job learning opportunities (e.g., job rotation and work shadowing) are offered. Dedicated regional learning managers help identify the right learning solution for each employee and foster peer and cross-level learning by facilitating workshops with management teams. Clariant's support of its employees' education is described in global and regional learning policies, which include budget frameworks for trainings and study assistance guidelines.

The objective of talent management is to have a consistent and structured pipeline of functionally and vertically deployable talent for each management level. This process entails systematically identifying, developing, and retaining talent and provides local, regional, and global talent pools to ensure successful short-, mid-, and long-term succession planning and availability of candidates. For many years, Clariant has filled at least 80% of open positions at management level with internal candidates. Dedicated regional and local talent managers lead talent potential reviews, create individual development plans with Clariant's talent, and participate in internal placement decisions. They also organize so-called »talent engagement sessions« in order to give internal talent visibility and exposure to senior managers.

In 2018, all Business Units implemented a new People Excellence Strategy. It specifies the management requirements needed for the successful execution of the corporate strategy and breaks down business challenges into people-related measures that address existing shortcomings in the most focused manner. The People Excellence Strategy thus helps line managers define how to best execute their business strategy. Moreover, several new training programs were rolled out or further developed across the organization to strengthen innovation, commercial, technical, and leadership competences across functions and levels.

Read more: Integrated Report, Talent Attraction and Development

103-3 Evaluation of the Management Approach

The feedback collected after each training course is systematically reviewed and required amendments are performed in order to ensure high-quality training courses. In 2018, the average feedback score for Clariant Academy trainings was 3.6 (with 3 being fully satisfactory and 4 superior). Individual training feedback scores ranged from 2 to 5. For selected programs of the Clariant Academy, feedback on the mid-term impact is collected from participants.

For instance, for the Competency Management Training, 48% of participants agree or strongly agree that they have been able to apply the information learned to their day-to-day work and 44% have been able to apply more than 75% of the information learned.

GRI 404:2018 Training and Education

404-1 Average hours of training per year per employee

✔ PwC	2016	2017	**2018**
Number of training hours	201 884	192 435	234 240
Male	—	—	167 734
Female	—	—	66 506
ML 1-5	—	—	26 679
Staff excluding ML 1-5	—	—	207 561
Number of employees participating in training[1]	11 000	9 720	15 791
Average hours of training that the organization's employees undertook during the reporting period	18.05	19.8	14.8

[1]The sharp increase of training participants from 2017 to 2018 is due to the global data privacy training conducted in 2018 and the increased usage of e-learning modules by the Business Units.

404-2 Programs for upgrading employee skills and transition assistance programs

Offerings of the Clariant Academy programs included so-called leadership training programs and sales competencies to enhance communication and presentation skills, while local offerings comprised training programs with an emphasis on language courses. Employees also attended courses in environment, safety, and health (ESH). Other training programs also covered topics such as technical courses and product-related training programs.

Training at the academy takes place within a modularly configured program that accurately reflects operating procedures. The training measures start with basic training, which is completed mostly on a theoretical level, and also include the categories of equipment and procedural training. This is followed by plant training where Clariant's employees are educated about new equipment. The in-services conclude with process training, where employees deal with all the processes that are potentially significant in their daily jobs.

Clariant also offers local trainings for employees who are close to retirement in order to prepare them for their new stage in life and to facilitate effective knowledge transfer.

404-3 Percentage of employees receiving regular performance and career development reviews

✔ PwC	2016	2017	**2018**
Number of employees by employee category who received a regular performance and career development review during the reporting period	—	10 300	10 350
ML 1-5	—	900	819
People in downstream levels	—	9 400	9 531
Male	—	—	7 611
Female	—	—	2 739
Percentage of total employees by employee category who received a regular performance and career development review during the reporting period	52%	51%	58%
Male	—	—	55%[1]
Female	—	—	93%[1]

[1]The percentage is calculated based on the total of employees in the respective group.

One of the aims of the »360-degree feedback process« and the annual »performance dialog« is to identify the ongoing development potential of all employees (management position holders and people in downstream levels) and to agree on appropriate development goals. The performance-management process comprised 819 people in the highest five management levels (ML) by the end of 2018, which corresponds to approximately 5% of the total work force, as well as 9 531 people in the downstream levels (53% of employees). This corresponds to an overall percentage share of 58% of all employees. Over the next few years, this process will be expanded to encompass the majority of employees at lower levels.

Growth and Profitability

GRI 103:2016 Management Approach

103-1 Explanation of the material topic and its boundary

Clariant's vision is to be the globally leading company for specialty chemicals and to stand out through above-average value creation for all stakeholders – customers, employees, shareholders, suppliers, society, and the environment. As the company's ability to realize this aspiration is based on above-industry growth, profitability, and Total Return to Shareholders (TRS), Clariant defined growth and profitability as two of the five pillars of its Group strategy and set related financial goals.

Read more: Integrated Report, Strategy

103-2 The Management Approach and its components

Value creation at Clariant is based on an elaborate business model that converts diverse resources into valuable products and solutions that benefit all stakeholders. At the core of this transformation are three value-creation phases, Idea to Market, Market to Customer, and Customer to Cash, which are underpinned by Clariant Excellence initiatives (Clariant Innovation Excellence, Clariant Commercial Excellence, Clariant Operational Excellence). These help the Business Units deliver innovative and sustainable products and solutions that address pressing customer needs in a safe, reliable, and efficient way, building the basis for business growth and profitability.

Achieving growth and profitability is a shared responsibility of all management functions. However, the overall direction of the Group is defined by Clariant's Board of Directors. The Board reviews and further develops the company's strategy once a year during a two-day Board of Directors meeting. The Board has delegated the executive management of the Clariant Group to the Executive Committee, which consists of the CEO, the CFO, and two other members. The Executive Committee is mainly responsible for implementing and monitoring the Group strategy for the financial and operational management of the Group, and for continuously improving the efficiency of the Group's structure and organization.

Read more: Integrated Report, Strategy

Read more: Corporate Governance Report

103-3 Evaluation of the Management Approach

Clariant's Strategic Management Process (SMP) ensures that the Group strategy is executed at the level of each Business Unit, all of which collectively comprise Clariant's four business areas. A strategy update in 2018 focused on a major portfolio upgrade designed to capture a significant collaboration opportunity with SABIC in the area of high-performance materials. This portfolio upgrade allows Clariant to focus even more on customer-specific, technologically advanced applications with high growth and high value-creation potential. This enhanced growth profile of the Group is expected to enable Clariant to reach sales growth of 5–6% annually, and to increase the EBITDA margin to approximately 20% by 2021.

The SMP discussions with each Business Unit include growth and profitability targets at the segment level as well as for the whole Business Unit. From these discussions, Clariant derives growth and profitability objectives for its four Business Areas. For Care Chemicals, Clariant expects an annual sales growth of 5–7% and aims to achieve an EBITDA margin of 19–21% by

2021. For Catalysis, the expected annual sales growth rate is 6–9% and the EBITDA margin to be achieved by 2021 amounts to 26–30%. The respective targets for Natural Resources are set at 6–7% and 16–17%. From the new Business Area High-Performance Materials, which will comprise the Additives business, high-value Masterbatches, and high-performance thermoplastics, Clariant expects an annual sales growth rate of 6–9% and an EBITDA margin of 24–25%.

Read more: Integrated Report, Financial Capital

GRI 201:2016 Economic Performance

201-1 Direct economic value generated and distributed

Read more: Integrated Report, Summary on Performance, People, Planet

201-2 Financial implications and other risks and opportunities due to climate change

Clariant discloses details about the risks and opportunities posed by climate change through a number of sustainability reporting programs, such as the Carbon Disclosure Project (CDP). These include a detailed description of the risks and opportunities per type of impact (regulatory, reputational, and physical parameters) as well as the methods used to manage the risks.

Main risks driven by changes in regulation:

- Climate and energy policies leading to increased fuel/energy taxes and regulations (e.g., cap and trade schemes and environmental taxation).

Main opportunities driven by changes in regulation:

- Innovation and R&D focus on low-carbon products and differentiation through a more sustainable product portfolio.
- Increased demand for solutions related to megatrends such as low-carbon mobility, recycling, food security, and urbanization.

Main risks driven by changes in physical climate parameters:

- Change in precipitation extremes and droughts (e.g., water scarcity), induced changes in natural resources, tropical cyclones (hurricanes and typhoons), impact on infrastructures, and/or impact in the supply chain.

Main risks driven by reputational considerations:

- Shift in consumer preferences and increasing customer demand for climate-friendly products, and changing customer behavior and higher awareness of products with less impact on climate and other environmental aspects.
- Stigmatization of a sector or of a company related to brand image, community opposition, and negative media coverage.

Main opportunities driven by reputational considerations:

- Responsible behavior qualifies Clariant for investors that focus on sustainable investments.
- Customer engagement, stakeholder dialog, community initiatives, and overall positioning of Clariant as a credible sustainability leader.

201-3 Defined benefit plan obligations and other retirement plans

Pension and other employee benefit plans are monitored globally by Clariant for relevance, compliance, costs, and suitability as a valuable employee benefit. Clariant is aware of the significance of these pension and other benefit plans as a lever for retaining staff. These plans are regularly matched with benefits in the respective countries in order to be in line with current practices. Before every adjustment, Clariant carefully examines the impact the changes have on the employees and, if necessary, directly consults with them.

Clariant offers retirement or pension plans as a benefit to protect employees after completing their active working life and to enable them to actually retire. Clariant aims to offer benefits that are competitive in the local markets; existence and type of retirement or pension plans differ widely from country to country based on local legislation, social security systems, and market practices.

Read more: Financial Report, Retirement benefit obligations

Digitalization

GRI 103:2016 Management Approach

103-1 Explanation of the material topic and its boundary

In Clariant's view, digitalization is a megatrend with the potential to reshape many areas of the chemical industry. While some of the changes may only be visible in hindsight, Clariant is already adapting to gradual developments that could potentially impact the business.

Digitalization offers many opportunities and challenges for Clariant. In the area of innovation and marketing, digitalization allows Clariant to anticipate and capture market trends, for example, by employing predictive data analytics. Speed and quality of new product developments and related applications can be increased by using data science and high-throughput experimentation. This is particularly important for customers that are exposed to fast-changing demand due to the increase of online sales. Clariant also predicts an evolution in the buying behavior of demographically younger buyers who are used to accessing information at any time. This could lead to a higher interest in buying and selling activities on transparent Internet platforms. Even though the benefit and impact of platform economics cannot yet be determined, Clariant closely monitors developments in this field. Digitalization also creates an opportunity to enhance Clariant's solution-centric go-to-market approach by offering additional digital insights and services to customers. In particular, the combination of chemical knowledge and data science enables Clariant to offer completely novel services. They can be offered to the market as stand-alone »software as a service« or as part of regular service packages.

Regarding production and supply chain management, the combination of traditional automation processes and data science is expected to have a considerable impact. Predictive process and quality control have the potential to increase yields, lower energy consumption, and avoid bottlenecks in production, leading to increased speed and quality, as well as reduced costs.

In procurement, Clariant is observing promising impacts regarding price predictions and the planning of material flows. Data-driven tools are making it possible to exploit price advantages, and improved demand predictions and risk management are enabling strategic buying. In addition, automated e-auctions are expected to lower raw material prices, as Clariant can easily compare a large number of offers from suppliers, making the selection process more competitive. Clariant considers displaying digital material flows as an opportunity to increase supply stability and enhance monitoring of sustainability factors in the supply chain. Predictive planning tools are expected to lower net working capital by improving multi-layer inventory and increase the On-Time/In-Full (OTIF) rate.

In addition to these high-impact areas, digitalization may also further streamline services and digitize processes to improve efficiency and lower costs, for example, in finance or service organizations.

103-2 The Management Approach and its components

To systematically explore and capitalize on the opportunities of digitalization, Clariant applies a two-fold approach. First, it aims to mainstream digitalization throughout the company by working with all Business and Service Units to gradually improve processes and offerings to the customers. Second, it launched a dedicated cross-functional and collaborative program, Digital4Clariant, at the end of 2016. The program established three core workstreams that pursue the following objectives:

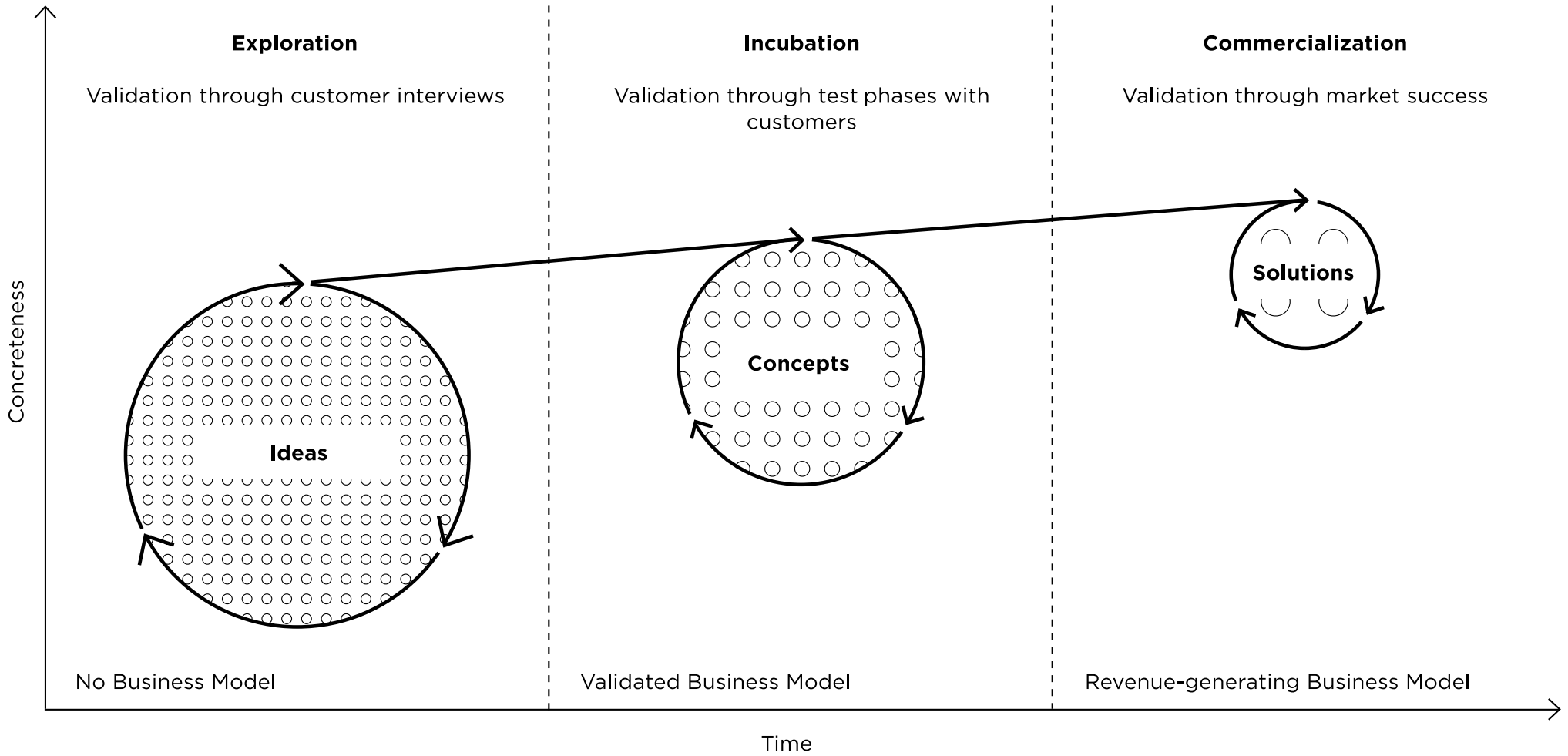
- Find new business models around digital offerings.
- Improve Clariant's operations with digital means (Digital@Operations).
- Utilize the potential of big data and advanced analytics.

Clariant realized that the early involvement of security, legal, and tax experts is crucial to speed up digital projects. Consequently, Clariant instituted three supporting workstreams concerning cybersecurity, legal, and tax issues.

Clariant's digital innovation approach is inspired by rapid innovation methods widely used in the technology sector. It incorporates elements of design thinking, agile project management, and SCRUM. To make sure that new solutions satisfy customer needs, Clariant starts its innovation sprints with customer interviews and continuously refines ideas based on customer feedback. As a principle, ideas are also rigorously sorted, embracing the spirit of fail fast, fail early, and fail cheaply.

In close collaboration with Clariant Operational Excellence (COX), Digital@Operations systematically identifies improvement potential in the operational processes and implements corresponding projects, particularly along six clusters considered relevant for Clariant: predictive process and quality control, predictive maintenance, digital material flow, connected workforce, retrofitting, and robotics.

Digital Innovation Cycle



To exploit digitalization's full potential, Clariant also plans to adjust its current IT and support functions and further develop internal digital skills beyond classical IT capabilities. Enhanced support services, which include legal advice on data protection and intellectual property, employer branding to attract digital talents, and capacity-building of digital skills among existing staff, will help the businesses navigate in the digital world.

Read more: Integrated Report, Digitalization

103-3 Evaluation of the Management Approach

Digital4Clariant is supported by top management. All workstreams and projects under Digital4Clariant have steering committees, typically consisting of the sponsoring member of the Executive Committee, the Head of the involved Business Unit, a member of the Business Unit's Management Committee, the Chief Information Officer, and the Head of Digital4Clariant. The committees meet regularly to assess the progress of each project and decide on their continuation using a set of digital key achievement and performance indicators. These indicators vary depending on the type and maturity of each workstream or project. They range from standard financial KPIs to indicators that reveal the product/market fit, such as the number of returning/paying visitors to a platform or the customer lifetime value to customer acquisition cost ratio. They are complemented by indicators that reflect sound customer-centric project management, such as the number of customer and industry expert interviews conducted, the number of pilot customers in the incubation phase, and the number of full-time equivalents assigned to a sprint.

The biggest potential for growth and cost savings was identified in the field of data science, leading Clariant to establish a dedicated competence center for data science that will focus on data intelligence and process simulations as part of Group Process Technology. In conjunction with Clariant's high-throughput experimentation team, the new data science center will increase the speed and quality of both digital and non-digital product and service developments. The influx of new ways of working in digital and innovation teams in general have also impacted other areas. Agile work organization in sprints is expected to gain importance throughout the company.

Circular Economy

GRI 103:2016 Management Approach

103-1 Explanation of the material topic and its boundary

Increasing awareness of planetary resource limits has highlighted the circular economy as a necessary alternative to the current linear economic model. The circular economy is driven by policy objectives linked to climate change, environmental protection, and resource efficiency, as well as resource scarcity. Policy examples include the European Union Plastic Strategy and the waste ban in China. In addition, the circular economy promotes the opportunity to reinvent today's unsustainable take-make-dispose economy, and its associated production and consumption patterns.

Clariant is committed to supporting the transition toward a circular economy and is engaged in projects and activities that promote a more resource-efficient and sustainable society. Unnecessary material losses throughout the life cycle of products negatively impact business competitiveness and the environment. In contrast, the ongoing circulation of materials and products benefits both business and the environment. A circular economy has the potential to support additional business opportunities and product or service developments given emerging regulations and customer markets that are advancing on circular business models.

Within Clariant's operations, opportunities for advancing the circular economy include energy, materials, and other resources that affect operational efficiency and costs. Company efforts in the field are closely linked to its environmental-protection and resource-efficiency objectives. The circular economy goes beyond Clariant's own operations, however, and includes analyzing the life cycle of products and business models to support a more circular *society* that uses less, while reusing and recycling more. Supporting a circular economy thus has a strong value-chain orientation, seeking to connect waste-material loops and linking directly to innovations driven by sustainability considerations.

Read more: Management Approach, Product Stewardship/Sustainable Chemistry

103-2 The Management Approach and its components

Opportunities offered by an increasingly circular economy are evaluated across several company functions. Among them are Corporate Sustainability and Regulatory Affairs (CSRA), Group Technology and Innovation (GTI)—especially its New Business Development function (NBD)—as well as the different Business Units.

Clariant's contributions to a circular economy are manifold. They include continuously increasing eco-efficiency of production processes, choosing waste and renewable resources instead of virgin or fossil resources where suitable, process redesign, reducing water and energy use, closed-loop recycling on sites, industrial symbiosis, and value-chain clusters. The optimization is further driven by the 2025 environmental targets, which are being reported under the topic Environmental Protection and Resources.

Read more: Management Approach, Environmental Protection and Resources

Promoting a circular economy is fueled by the development of new products and technologies. Clariant's wide range of innovative detergents, stabilizers, pigments, and masterbatches supports obtaining higher-value plastics from recycling streams, while other products are focused on increasing durability of materials.

Read more: Integrated Report, Circular Economy

103-3 Evaluation of the Management Approach

Clariant reviews risks and opportunities associated with the circular economy as part of the corporate strategy management process. This structured approach further outlines, anchors, and advances the topic within Clariant's Business Units.

GRI 301:2016 Materials

301-1 Materials used by weight or volume

✔ PwC

in m t	2015	2016	2017	**2018**[1]
Total weight or volume of materials that are used to produce the organization's primary products and services during the reporting period	3.97	4.48	4.86	4.6
Total production	3.66	4.09	4.6	4.34

[1]Every three years, Clariant validates the production volume from all production sites. The last full reporting campaign was in 2017. In interim years, including 2018, the reduced reporting scope comprises the larger sites responsible for 95% of production.

301-2 Recycled input materials used

Clariant tries to use recycled materials in production wherever possible. However, the percentage is low due to the nature of the production process, as recycled raw materials often cannot be used due to purity or safety standard requirements.

301-3 Reclaimed products and their packaging materials

When supplying customers, Clariant provides mostly reusable packaging, which can be returned to Clariant for cleaning and reuse. Other products are shipped as bulk goods in tank trucks and rail tank cars or silo trucks. To the extent possible, non-reusable packaging is recycled for material purposes or, especially in the case of hazardous materials, used to generate energy.

MATERIAL TOPICS – ADVANCE

Employee Engagement

GRI 103:2016 Management Approach

103-1 Explanation of the material topic and its boundary

Employee engagement and retention programs improve Clariant's internal and external reputation as an attractive employer, increasing interest of potential candidates. These programs reduce employee turnover, mitigate early-leaver risks, lower cost per hire, and hence support Clariant's overall cost-saving targets.

103-2 The Management Approach and its components

Clariant carefully manages employee engagement in order to be an employer of choice, attracting top talent and helping the business deliver lasting results. The words of Clariant's new CEO Ernesto Occhiello set the stage: »We offer exciting opportunities to make a difference to our environment and the people around us. Driven by our focus on Innovation and R&D, we develop and deliver innovative and sustainable solutions for our customers, making Clariant a great company to work with.«

Knowing that real performance excellence comes from challenged, empowered, and rewarded teams, Clariant continuously strives to increase its engagement levels worldwide. Its strategies for employee engagement include focusing on strong and authentic leadership, recognition programs, career opportunities, and personal development. Employee engagement is a responsibility of each leader in the organization, as the strongest drivers of engagement are trust in the leadership team, a motivating work environment and atmosphere, and a vision that employees can identify with. Clariant's Human Resources Department supports line managers to provide transparency regarding career options and development opportunities.

In 2018, Clariant updated its Employment Policy, which establishes key principles and minimum standards for working conditions and labor practices. These are crucial to ensure a fair, transparent, and discrimination-free work environment. The policy is globally applicable and must also be applied by employment agencies and contractors doing business with Clariant. The framework underscores Clariant's commitment to its six corporate values: Drive for Excellence, Disciplined Performance Management, Deliver to Promise, Courageous and Decisive Leadership, Lived Appreciation, and Corporate Responsibility.

Clariant has a comprehensive recognition program in place that enhances employee engagement through appreciation and fosters Clariant's feedback culture. The program includes monetary recognition awards for outstanding achievements and non-financial awards that encourage employees to recognize efforts and contributions of their peers and supervisors in the form of vouchers or presents.

The new Global Benefits Policy contains key elements to be covered within local benefit programs, including benefits related to retirement, flexible work arrangements, death, travel, accident, health, and well-being. The policy was developed based on the input received through the global benefit survey conducted in 2018. It does not stipulate a one-size-fits-all program, but acknowledges country-specific circumstances.

Read more: Integrated Report, Employee Engagement

103-3 Evaluation of the Management Approach

Based on the materiality assessment conducted in 2017, Clariant reviewed its management approach for the material topic Employee Engagement and identified improvement opportunities, such as a more systematic involvement of Business and Service Units in engagement activities.

To evaluate employee engagement, Clariant conducted a »Pulse Survey« among a group randomly selected from the global workforce in 2018. Compared to former engagement surveys, the new format covers more strategic and Clariant-specific topics, such as strategy, vision, and change, and asks for concrete reasons why people want to work for Clariant. The survey results are used for organizational development and help Clariant position itself as an employer of choice. Through targeted action-planning, Clariant improves employee engagement over time. In future »Pulse Surveys,« Clariant will involve the different Business and Service Units more systematically in order to ensure that the specifics of each Unit are sufficiently considered. A global »Pulse Survey« will be conducted biennially.

Apart from the survey, Clariant tracks employee turnover and compares it to industry benchmarks to detect decreases in employee retention.

GRI 202:2016 Market Presence

202-1 Ratios of standard entry-level wage by gender compared to local minimum wage

Clariant pays wages and salaries that are determined by local relevant competitive market data rather than by legally defined minimum wages. (However, minimum wage standards are always adhered to.) Therefore, Clariant does not keep statistics of the salaries in relationship to minimum wages.

202-2 Proportion of senior management hired from the local community

✔ PwC	2017	**2018**
Percentage of senior management at significant locations of operation who are hired from the local community	75%	57%[1]

[1]A new methodology for calculating this number was introduced in 2018.

At the end of 2018, 57% of all senior managers (Executive Committee and top four management levels) were citizens of or had an indefinite right to reside in the country where they were employed. Within the European Union, nationalities of all member states are considered »local«.

GRI 401:2016 Employment

401-1 New employee hires and employee turnover

✔ PwC	2016	2017	**2018**
Total number of new employee hires	1 675	1 983	2 142
Male	1 094	1 412	1 453
Female	581	571	689
Under 30	883	969	985
30-50	731	922	1 045
Over 50	61	92	112
Europe	613	622	751
Latin America	349	341	359
Middle East/Africa	70	130	93
North America	214	402	436
Asia/Pacific	429	488	503
Employees who left	1 898	1 991	2 047
Male	1 269	1 448	1 515
Female	629	543	532
Under 30	610	603	540
30-50	864	893	970
Over 50	424	495	537
Europe	647	658	588
Latin America	381	400	358
Middle East/Africa	101	90	142
North America	236	424	536
Asia/Pacific	533	419	423
Turnover rate (%)	10.7	11.0	11.1

401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees

Clariant's benefit programs are offered according to local market practices and cover common elements, such as retirement, travel, flexible work, accident, death, health care and well-being, among others.

No intentional differentiation is made in the company benefits provided by Clariant according to the type of employment contract, but this does not exclude differences depending on the individual case and local circumstances. The deciding criterion in this case is the customary market standard.

401-3 Parental leave

✔ PwC	2017	**2018**
Total number of employees who were entitled to parental leave, by gender	17 687	17 382
male	13 986	13 613
female	3701	3 769
Total number of employees who took parental leave, by gender	644	732
male	482	464
female	162	268
Total number of employees who returned to work in the reporting period after parental leave ended, by gender	611	689
male	477	466
female	134	223

In 2012, Clariant initiated a program to promote more family-friendly job opportunities. As part of this program, all mothers are guaranteed a comparable position upon their return to work for up to one year following the birth or adoption of a child. For the two years following the birth or adoption, Clariant grants mothers ten days of paid leave for family purposes, in addition to their standard annual vacation. Correspondingly, this provision is available to fathers as well. Considering that all permanent employees of Clariant are theoretically entitled to this provision, this would extend to all 13 613 males and 3 769 females for 2018. In 2018, 268 mothers and 464 fathers took advantage of this opportunity. In the same year, 689 employees returned to their workplaces, of which 233 were female and 466 were male.

GRI 402:2016 Labor/Management Relations

402-1 Minimum notice periods regarding operational changes

Employees are promptly informed of all significant operational changes by the company. In addition to regular and ad hoc information provided to all employees via the intranet as well as information letters from the CEO and management in all relevant languages, the company complies with all local statutory and operational requirements regarding the provision of information to employee representatives and employees. Moreover, corporate information sessions such as town hall meetings are regularly held.

GRI 405:2016 Diversity and Equal Opportunity

405-1 Diversity of governance bodies and employees

✔ PwC	2017	**2018**
Percentage of individuals within the Board of Directors		
male	69%	75%
female	31%	25%
30-50	23%	8%
over 50	77%	92%

✔ PwC	2017		**2018**	
	Male	Female	**Male**	**Female**
Number of employees by age group (FTE)	14 330	3 805	14 006	3 895
under 30	1 864	699	1 832	743
30-50	8 547	2 341	8 304	2 360
over 50	3 919	765	3 870	792

✔ PwC	2017		**2018**	
Breakdown of employees by nationality	FTE	Percent	**FTE**	**Percent**
German	4 593	25.3%	4 619	25.8%
Indian	1 857	10.2%	1 864	10.4%
Chinese	1 213	6.7%	1 284	7.2%
Brazilian	1 142	6.3%	1 116	6.2%
Indonesian	716	3.9%	726	4.1%
Mexican	583	3.2%	598	3.3%
Italian	540	3.0%	529	3.0%
French	524	2.9%	488	2.7%
Spanish	409	2.3%	414	2.3%
Turkish	436	2.4%	400	2.2%
Polish	313	1.7%	347	1.9%
Japanese	266	1.5%	269	1.5%
Colombian	220	1.2%	261	1.5%
Argentinian	218	1.2%	230	1.3%
Malaysian	191	1.1%	189	1.1%
South African	182	1.0%	189	1.1%
Thai	185	1.0%	181	1.0%
Ukrainian	150	0.8%	152	0.8%

✔ PwC	2017		**2018**	
Breakdown of employees by nationality	FTE	Percent	**FTE**	**Percent**
Swiss	224	1.2%	138	0.8%
Others (incl. North America, for whom no nationality data is recorded)	4 174	23%	3 908	21.8%

✔ PwC	**2018**
Total management functions	819
male	688
female	131
Senior management functions	248
male	219
female	29
Junior management functions	571
male	469
female	102

405-2 Ratio of basic salary and remuneration of women to men

With regard to the zero-tolerance approach of Clariant against any form of discrimination, regional and local HR departments work toward ensuring avoidance or elimination of any discriminatory practices in work-related activities, particularly regarding remuneration, training, vocational guidance, and social security. Globally, the average basic salary of female employees was 96% of that of the average male employee in 2018.

Human Rights

GRI 103:2016 Management Approach

103-1 Explanation of the material topic and its boundary

Respecting human rights is key to sound business governance and to promoting socially sustainable growth. Clariant is committed to supporting human rights, both in its own operations and in its supply chain. It expects suppliers and business partners to maintain the same high human rights standards, as this is a prerequisite for any company's license to operate.

103-2 The Management Approach and its components

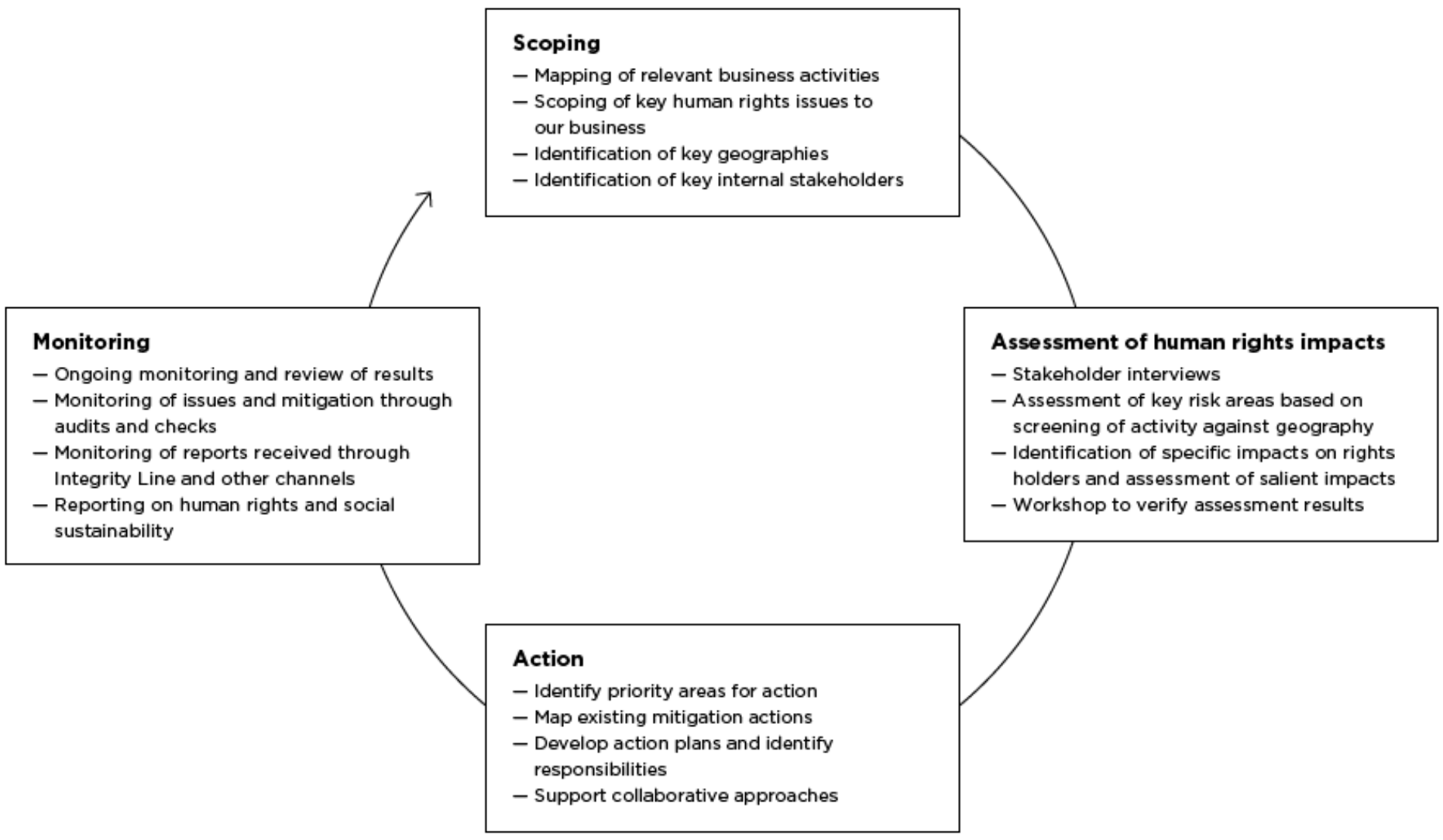
Under the lead of Corporate Sustainability and Regulatory Affairs (CSRA), the Human Resources, Legal, and Procurement Departments have a shared responsibility for managing human rights.

Clariant's commitment to respecting human rights is enshrined in its Human Rights Policy Statement, adopted in 2015, in which Clariant reaffirms its commitment to the United Nations Human Rights Declaration and the ILO Declaration on Fundamental Principles and Rights at Work. The policy statement applies to all direct operations and activities, and articulates a clear expectation of suppliers and contractors to uphold the same standards.

In addition, requirements regarding key human rights principles are included in Clariant's Code of Conduct, the Code of Conduct for Suppliers, and the Employment Standards Guidelines, which protect workers' rights with regard to non-discrimination, forced labor, child labor, fair working conditions, freedom of association, privacy, effective remedies, and workplace health and safety. The Code of Conduct is binding for Clariant's direct operations, including all joint ventures that are controlled by Clariant or in which it holds a majority interest. The Code of Conduct for Suppliers extends to Clariant's suppliers and their contractors. The rights of community members—particularly regarding environmental health and safety—are a key priority for Clariant. Thus, it protects them with a comprehensive set of binding environmental, health, and safety rules.

Clariant is a signatory to the UN Global Compact. It also strongly supports collaborative initiatives that promote sustainability and respect for human rights across the industry as a member of Together for Sustainability (TfS) and the Roundtable on Sustainable Palm Oil (RSPO).

In 2016, Clariant carried out a human rights due diligence assessment with the support of external human rights experts to evaluate the potential human rights impacts of its operations and activities, as well as the effectiveness of the management and monitoring systems in place. The accompanying graph illustrates the key elements of the due diligence process.



Through a series of interactive working sessions, several key functions and departments prioritized activities based on their scale and relevance to the business and their probability of having adverse effects on the human rights of workers, communities, and other groups. A human rights assessment was carried out for a number of priority activities, integrating both internal and external risk factors, such as complex subcontracting arrangements and vulnerabilities of specific groups, as well as aggregate human rights risk levels of countries and industries. The evaluation of environmental and social impacts, as well as labor rights in Clariant's own operations and along its supply chain, played an important role in determining to what extent Clariant appropriately mitigates adverse human rights impacts.

The assessment found that Clariant has a comprehensive set of policies, guidelines, and processes in place to ensure the implementation of its human rights commitments. In addition, it found that specific mitigation actions had been conducted for some of the high-risk areas identified in the human rights impact assessment. The assessment further concluded that Clariant's potential human rights impacts primarily relate to contract labor and the supply chains for natural raw materials, particularly in geographies with weak national legal frameworks.

Building on this assessment, in 2017, Clariant carried out a review of the legal requirements, conditions, and control measures related to contract labor in India. The review found that the country organization is well aware of the legal requirements and has implemented a clear and comprehensive process, supported by detailed evidence, checklists, and regular exchanges with authorities.

Addressing and closing the identified gaps in Clariant's mitigation framework is a priority in the coming years. Clariant focuses on securing the same requirements for contract labor that are applied by employment agencies and contractors. Regarding the supply chain, Clariant will continue to address supply chain risks based on the geographical origin of particular raw materials to gain a better understanding of potential human rights impacts, especially in high-risk countries.

Read more: Integrated Report, Human Rights

103-3 Evaluation of the Management Approach

Clariant relies on well-established management and monitoring systems that enable the company to detect and mitigate potential human rights risks. In the future, Clariant will further align and streamline its activities and review the need for additional internal human rights training. The evaluation of the management approach includes benchmarking against Clariant's peers, using external benchmarks such as the Dow Jones Sustainability Index, and participating in external networks, discussions, and report reviews.

GRI 406:2016 Non-discrimination

406-1 Incidents of discrimination and corrective actions taken

✔ PwC	2016	2017	**2018**
Total number of incidents of discrimination during the reporting period	4	3	3

In 2018, Clariant was made aware of three cases, all of which have been reviewed. For one case, remediation actions were implemented.

GRI 407:2016 Freedom of Association and Collective Bargaining

407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk

Clariant supports freedom of association. As part of this, it respects the right of employees to join unions and to be represented by representatives of these unions internally and externally in accordance with the applicable national or local laws and practices. The same standard is applicable for suppliers. As laid down in the Code of Conduct for Suppliers, they must observe the

right of their employees to strike and to be members of trade unions. Clariant knows of no cases in which freedom of association or the right to collective bargaining has been seriously jeopardized or breached.

Clariant is assessing its suppliers in relation to freedom of association, among other social, governance, and environmental topics, together with other companies via the Together for Sustainability (TfS) platform. For more information, please see disclosure 308-1. In 2016, Clariant also launched a human rights due diligence assessment that continued in 2018 with mitigation activities.

Read more: Management Approach, Human Rights

GRI 408:2016 Child Labor / GRI 409:2016 Forced or Compulsory Labor

408-1 Operations and suppliers at significant risk for incidents of child labor / 409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor

Clariant condemns all forms of child labor and respects the rights of children. Consequently, HR ensures by appropriate processes and practices that minimum age provisions of national labor laws and regulations are adhered to, and adequate and verifiable mechanisms for age verification at Clariant workplaces are used by local HR. ILO convention numbers 138 and 182 are expressly acknowledged as the minimum standard. Clariant is not aware of cases of child labor in the company or with its suppliers. Similarly, Clariant rejects any form of forced labor or slavery and is not aware of any cases of forced labor or slavery in the company.

Clariant is assessing its suppliers in relation to child and forced labor, among other social, governance, and environmental topics, together with other companies via the Together for Sustainability (TfS) platform. For more information, please see disclosure 308-1. In 2016, Clariant also launched a human rights due diligence assessment that continued in 2018 with mitigation activities.

Read more: Management Approach, Human Rights

GRI 412:2016 Human Rights Assessment

412-1 Operations that have been subject to human rights reviews or impact assessments

Clariant monitors and manages human rights impacts, both in its own operations and in supply chains, and works to make sure that there is no contribution, knowing or unknowing, to any adverse human rights impacts. Clariant assessed all of its operations globally in a human-rights due-diligence review.

For details on Clariant's commitments, the process, and findings, please see the Human Rights Management Approach and Clariant's Human Rights webpage.

Furthermore, Clariant established the »Clariant Integrity Line« to enable people to bring to our attention any concerns they may have. The Integrity Line is a channel through which all violations against the Code of Conduct can be reported, including discrimination or violations of human rights.

412-2 Employee training on human rights policies or procedures

E-learning modules are mandatory for all employees. Participation in these training courses, which cover different topics or themes of the Code of Conduct, is registered, and defaulters receive a warning. The code is available in all relevant national languages.

412-3 Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening

All investments with a total volume of more than CHF 1 million must be approved by the Investment Subcommittee of the Executive Committee (EC). The subcommittee makes its decision based on financial, strategic, and sustainability criteria, the latter of which also includes human rights aspects.

Ethics and Compliance

GRI 103:2016 Management Approach

103-1 Explanation of the material topic and its boundary

Clariant aspires to be perceived by its stakeholders as a world-class, high-performance company and a reliable partner that acts with the utmost integrity. Clariant believes that sustainable business success is closely linked to compliance with laws, regulations, and ethical standards. Clariant's stakeholders and society at large do not tolerate bribery and corruption from a reputable and sustainable company. Applying the highest standards of diligence and compliance with all rules and regulations is thus essential for long-term business success, not only in Clariant's own operations, but also with respect to the third parties acting on behalf of Clariant.

103-2 The Management Approach and its components

Clariant's Business Units are responsible for managing business ethics and compliance in their daily operations. Group Compliance and Group Legal Services provide support to the businesses to achieve adherence to Clariant's highest ethical standards, gain trust from its stakeholders, and ensure an impeccable reputation in the market place. The Strategic Ethics & Integrity Roadmap, with its five-pillar approach, provides guidance to achieve this objective by combining a leadership program, legal and compliance risk management, training and communication, standards and controls, as well as program measurement, auditing, and monitoring. Regular reporting on the delivery of the Roadmap, as well as updates on individual measures, cases reported, and remediation taken, is provided to the Ethics and Risk Management Committee (ERMC), which was established as a Subcommittee of the Executive Committee. In 2019, Clariant will fully roll out the Strategic Ethics & Integrity Roadmap.

Another central instrument to ensure ethical behavior is Clariant's Code of Conduct, which contains ten compliance principles. They require all employees to refrain from conflicts of interest, active or passive bribery, insider trading, antitrust violations, money laundering, account fraud, disclosure of confidential information, and abuse of business assets for private interests; to prevent environmental hazards; and to abstain from discrimination and harassment. Clariant does not tolerate any violation of the Code of Conduct. All employees are required to participate in a training session (via e-learning or in person) on the Code of Conduct.

All employees are encouraged to confidentially report noncompliant behavior to the Ethics & Integrity organization. An important channel through which all violations against the Code of Conduct and any workplace-related compliance issue can be reported is the »Clariant Integrity Line.« In close collaboration with the Ethics & Integrity Team, the global Human Resource Case Manager organization within Group Human Resources takes care of any substantiated concern.

Besides its globally applicable Anti-Bribery and Corruption Policy and the Gift Policy, Clariant developed local policies regarding gifts, entertainment, and community engagement work. These were introduced for Japan in 2017 and Indonesia and Brazil in 2018. Clariant focuses on advancing the implementation of its policies and procedures related to bribery and corruption and ensuring adherence by third parties acting on behalf of or representing Clariant.

Clariant offers regular e-learning courses on bribery and anti-corruption. In addition, it adopted various globally applicable guidelines on antitrust law and in 2010 implemented a global training policy on antitrust law, including e-learning and classroom training courses. Clariant also conducts »Leader-led Compliance Sessions,« which provide a forum to discuss ethical dilemmas that emerge in daily business practices. These sessions will be made mandatory and rolled out to all managers who have direct reports.

Following the coming into force of the General Data Protection Regulation (GDPR) of the European Union, Clariant rolled out a Data Privacy Program in 2018, consisting of a policy framework and a dedicated e-learning program.

Read more: Integrated Report, Ethics and Compliance

103-3 Evaluation of the Management Approach

Clariant designed a five-pillar strategy with a detailed three-year plan, including key performance indicators that are tracked as of 2018. These indicators will be further evaluated to continuously improve the effectiveness of Clariant's approach.

Both the Executive Committee as well as the Audit Committee were involved in the final revisions of the indicator set and formally approved the strategy. The Executive Committee is updated quarterly and the Audit Committee biannually on the progress and further measures to be taken.

Clariant also has a due diligence process in place to vet distributors and agents. The process ensures that they are neither involved in any form of bribery or compliance violation nor appear on a sanction list. It further verifies that they have an appropriate compliance framework in place and otherwise have access to a relevant training program provided by Clariant.

Clariant's investigation and remediation process applies to all reported concerns and breaches of the Code of Conduct. Corporate Functions (Group Compliance, Group HR, Corporate Auditing, ESHA, and other functions, where appropriate) are responsible for the investigation, and Compliance Committees (regional or Group level) are responsible for remediation. In 2018, Clariant received 104 reports, of which 71 are alleged breaches of the Code of Conduct. Of these, 37 cases were related to business integrity and 20 cases were related to treatment of employees. Among the cases not related to the Code of Conduct, 5 were related to Health & Safety or Environmental violations, 9 were "ask a question" and 5 could not be classified.

The Clariant Code of Conduct will be subject to review in 2019 to reflect the change in mindset and culture.

GRI 205:2016 Anti-corruption

205-1 Operations assessed for risks related to corruption

✔ PwC	2017	**2018**
Percentage of Board members informed about anti-corruption policies	50%	50%
Percentage of employees informed about anti-corruption policies	60%	40%
Percentage of business partners informed about anti-corruption policies	50%	40%
Percentage of Board members who received anti-corruption training	45%	50%
Percentage of employees who received anti-corruption training	60%	30%
Percentage of employees who received compliance training	60%	45%

Corruption risks are investigated as part of the ongoing internal auditing of Clariant. The Ethics and Integrity Function is also performing targeted risk assessments in the Business Units with a higher risk exposure. To prevent corruption risks, Clariant conducted business reviews of high-risk businesses in high-risk environments with high-risk customers, and as of 2019, the company will explore job rotations for exposed functions.

205-2 Communication and training about anti-corruption policies and procedures

In 2018, Clariant continued anti-corruption training throughout the entire organization through both e-learning courses and classroom-based (face-to-face) courses to avoid possible violations of the Code of Conduct. Training is group-specific, based on cases, and modern training tools are used (films, comics, etc.). It is mandatory for all employees of the target group, and non-participation is reported.

E-learning courses
In 2018, Clariant initiated a specific anti-corruption e-learning module.

Face-to-face training courses
Special target groups received further face-to-face training courses on various topics, for example, regarding competition and antitrust law. In 2018, this training was administered to many employees in all regions. New employees were also familiarized with our Code of Conduct and ABC Policy. An awareness campaign was also launched to demonstrate the appropriate attitude and tone regarding anti-corruption from the top of the company.

205-3 Confirmed incidents of corruption and actions taken

In 2018, there were nine allegations regarding bribery, corruption, and kickbacks brought forward. They led to disciplinary actions against 15 employees. In six cases, the responsible employee was dismissed.

There were no legal proceedings against Clariant or its employees for alleged corruption. In addition, Clariant terminated relationships with six business partners (agent, distributor, or consultant).

GRI 206:2016 Anti-competitive Behavior

206-1 Legal actions for anti-competitive behavior, antitrust, and monopoly practices

In 2018, Clariant was still subject to an ongoing competition law investigation by the European Commission into the ethylene purchasing market, which had started in 2017. The company is assisting the relevant authorities and cannot comment further on the details of the ongoing investigation. In 2018, there were no further reported legal actions for anti-competitive behavior or antitrust or monopolistic practices. Clariant reports significant legal actions in its Integrated Report.

GRI 419:2016 Socioeconomic Compliance

419-1 Non-compliance with laws and regulations in the social and economic area

Clariant was not aware of any cases in the year under review in which the company was accused of not having acted in compliance with laws, regulations, and voluntary codes of practice. Consequently, no significant fines or non-monetary penalties for failure to comply with legal regulations were levied.

Climate Change

GRI 103:2016 Management Approach

103-1 Explanation of the material topic and its boundary

Clariant proactively manages climate change-related risks, such as physical, regulatory, and reputational risks, to achieve cost reductions through the optimization of operational efficiency and to remain competitive with regard to energy and material costs. In addition, in light of increasing demand for climate-friendly products, Clariant's climate strategy includes developing innovative solutions for particular markets. These solutions help maintain or increase Clariant's customer base and enhance the company's reputation.

Climate change is relevant for Clariant's own operations, its supply chains, and the entire life cycle of its products. Ultimately, if global warming cannot be stopped at a safe level, society at large and thus Clariant's business will be seriously impaired.

103-2 The Management Approach and its components

Responsibility for ensuring the management of climate change lies within Corporate Sustainability & Regulatory Affairs (CSRA), whose Head reports directly to the Executive Committee. CSRA works closely with other relevant corporate functions, such as Group Technology & Innovation and Group Procurement Services, as well as Business Units that are developing low-carbon and climate-friendly solutions to respond to societal challenges and customer needs.

To reduce its climate impacts, Clariant is pursuing its 2025 environmental targets. Compared to 2013, the company is aiming to reduce energy consumption and direct CO_2 emissions by 30% and emissions from greenhouse gases by 35%. These reduction targets are an integral part of Clariant's planning and investment strategy.

Read more: Integrated Report, Progress towards environmental targets 2025

Beyond Clariant's commitment to emission reductions, the company is running successful initiatives related to energy management, such as the Clariant Production System's Yield, Energy, Environment (YEE) initiative and eWatch, an energy efficiency program that identifies savings potential through detailed analysis of energy consumption across operations.

Read more: Integrated Report, Customer to Cash

Finally, Clariant actively contributes to the fight against climate change through its innovative and sustainable product offerings across all four business areas. Clariant's Portfolio Value Program (PVP), a key initiative to make sustainability integral to the product portfolio, also features climate change-related criteria, such as raw material sourcing, material efficiency, energy consumption, and associated emissions. Clariant's EcoTain® label takes current and future societal trends into account by identifying products that provide best-in-class solutions to address challenges presented by sustainability topics such as climate change.

Read more: Integrated Report, Climate Change

103-3 Evaluation of the Management Approach

To evaluate the effectiveness of its management approach, Clariant monitors the development of its climate impacts by collecting environmental key figures on energy consumption and direct and indirect greenhouse gas emissions across Business Units, thereby measuring the trajectory toward achieving the 2025 targets. Clariant is well on track to meet these ambitious objectives.

In view of growing expectations of external stakeholders, Clariant verified and reported its Scope 3 emissions for the first time, in order to strengthen the development of a holistic climate strategy. The strategy will include measuring potential impacts of climate-specific risks, deploying additional mitigation measures, further reducing emissions in operations, analyzing cleaner energy alternatives, and fostering collaboration opportunities in the value chain.

GRI 305:2016 Emissions

305-1 Direct (Scope 1) GHG emissions / 305-2 Energy indirect (Scope 2) GHG emissions / 305-4 GHG emissions intensity

✔ PwC	2015	2016	2017	**2018[1]**
Total emission (in m tCO_2e)	**0.85**	**0.89**	**0.97**	**0.93**
in kg/t production	232	218	211	215
Gross direct (Scope 1) GHG emissions (in m tCO_2e)	0.4	0.41	0.44	0.43
Direct emission (Scope 1) in kg/t production	109	101	95	98

[1]Every three years, Clariant validates the production volume from all production sites. The last full reporting campaign was in 2017. In interim years, including 2018, the reduced reporting scope comprises the larger sites responsible for 95% of production.

✔ PwC	2015	2016	2017	**2018[1]**
Gross location-based energy indirect (Scope 2) GHG emissions (in m tCO_2e)	0.45	0.48	0.53	0.51
Indirect emission (Scope 2) in kg/t production	123	117	116	117

[1]Every three years, Clariant validates the production volume from all production sites. The last full reporting campaign was in 2017. In interim years, including 2018, the reduced reporting scope comprises the larger sites responsible for 95% of production.

The direct greenhouse gas emissions, which result largely from the carbon dioxide emissions (CO_2) of the combustion processes operated by Clariant, are directly proportional to the amount of carbon in the fuels used. Emissions of other greenhouse gases like methane and nitrous oxide (N_2O) are measured locally and integrated into the consolidated calculation of greenhouse gas emissions. Indirect greenhouse gas emissions result from external energy procurement, predominantly in the form of electricity and steam.

Indirect greenhouse gas emissions are predominantly generated by external energy procurement, usually in the form of electricity and steam, and thereby almost exclusively CO_2. Their emergence correlates closely with the amount produced and are less influenced by Clariant than direct emissions.

To calculate Scope 1 emissions, stoichiometric emission factors of the respective primary fuels are used. For Scope 2 emissions, either specific emission factors from the local providers are used, or country grid factors, which are published by the GHG Protocol. Also, for internal and ISO 50001 reporting, the eWATCH team calculates site-specific conversion factors for energies and utilities used on-site, which is done in close interaction with the energy managers from the sites. Calculated conversion factors help benchmark the CO_2-intensity of different energies and utilities and can point to potential operational improvements.

The amount of all greenhouse gases (expressed in CO_2 equivalents) decreased from 0.97 million t to 0.93 million t, mainly due to the reduced production volume in 2018 (-5.5%), which also increased the emission intensity from 211 to 215 kg per manufactured ton of production.

305-3 Other indirect (Scope 3) GHG emissions

As part of its reporting for the Dow Jones Sustainability Index (DJSI) and the Carbon Disclosure Project (CDP), Clariant has reported Scope 3 emissions for its most relevant activities: purchased goods, fuel- and energy-related activities (not included in Scope 1 or 2), upstream and downstream transportation and distribution, and end-of-life treatment of sold products. The calculation method is in line with the »Guidance for Accounting & Reporting Corporate GHG Emissions in the Chemical Sector Value Chain« from the World Business Council for Sustainable Development (WBCSD) and the GHG Protocol.

✔ PwC	2017	**2018**
Gross indirect (Scope 3) GHG emissions (in m tCO_2e)	**5.21**	**5.69**
Purchased goods and services	3.31	3.58
Fuel- and energy- related activities (not included in Scope 1 or Scope 2)	0.30	0.27
Upstream transportation and distribution	0.13	0.17
Downstream transportation and distribution	0.34	0.37
End-of-life treatment of sold products	1.14	1.30

305-5 Reduction of GHG emissions

In 2018, more than 180 projects delivered energy and CO_2-reduction benefits, mostly within Clariant's eWatch program and Yield, Energy, Environment (YEE) initiative. Through eWATCH, Clariant crafted a comprehensive energy-efficiency program that analyzes energy consumption across operations and identifies potential cost-saving opportunities. Since 2013, a total of CHF 26.7 million was saved by implementing energy-efficiency measures and energy-purchasing optimizations. In 2018, Clariant managed to save CHF 3.85 million.

The Production System YEE initiative analyzes Clariant's production processes and units to discover even more opportunities to increase yields, improve energy efficiency, and reduce waste streams. Since its inception in 2012, Clariant achieved savings with the YEE of more than CHF 50 million. In 2018 alone, savings amounted to CHF 6 million.

305-6 Emissions of ozone-depleting substances (ODS)

Ozone-depleting substances are no longer used by Clariant. Cooling agents, if relevant, are now reported under greenhouse gases.

305-7 Nitrogen oxides (NO_X), sulfur oxides (SO_X), and other significant air emissions

✔ PwC

Significant air emissions in tons, for each of the following:	2015	2016	2017	**2018[1]**
Total inorganic emissions	**967**	**973**	**930**	**847**
NO_X	576	512	634	618
SO_X	310	379	241	180
Hydrogen chloride HCl	57	58	40	33
Ammonia NH_3	24	24	14	16
Total organic emissions (VOCs)	**184**	**156**	**208**	**439**
Particle emissions (fine particles)				
in t	242	225	380	294
in g/t production	66	55	83	68

[1]Every three years, Clariant validates the production volume from all production sites. The last full reporting campaign was in 2017. In interim years, including 2018, the reduced reporting scope comprises the larger sites responsible for 95% of production.

To calculate emissions, standard emission factors are used, which are based on stoichiometry and common waste gas treatment techniques. Where possible, more specific local factors are used.

Policy and Stakeholder Relations

GRI 103:2016 Management Approach

103-1 Explanation of the material topic and its boundary

An open, transparent, and trustworthy dialog with all stakeholders is essential for Clariant. Building networks and relationships within the chemical industry, as well as with policymakers and other stakeholders such as non-governmental organizations (NGOs), helps Clariant anticipate and mitigate risks driven by regulatory or stakeholder pressure, identify business opportunities, and create competitive advantages.

Clariant believes that participating in policy dialog is an important element of corporate responsibility. Thus, in line with the company's strategy and business objectives, Clariant contributes to policy development in relevant areas such as chemical management and substitution, climate change, energy, bio-economy, circular economy, competitiveness, trade, and innovation.

The topic is not only relevant for Clariant's operations and value chains, but also impacts its public outreach, for example, via trade associations, to position the company and the chemical industry on strategic policy areas.

103-2 The Management Approach and its components

The overall responsibility for policy and stakeholder relations is assigned to Corporate Sustainability & Regulatory Affairs (CSRA). At the local level and within certain sectors, the Business Units and regional organizations have a responsibility to maintain and engage in the policy dialog, as they are well-positioned to understand and address the local and sector-specific challenges and stakeholder networks.

Clariant follows several avenues to contribute to public policy development. It periodically publishes position papers and responds to public stakeholder consultations and surveys. Clariant also anticipates and goes beyond regulatory requirements to abide by its ambitious sustainability commitments, and promotes policy development and stakeholder relations accordingly.

The engagement of Clariant representatives in trade associations and other platforms supports strategic alignment across the industry, provides an opportunity for exchange on industry perspectives and best practices, and brings forward Clariant's views and interests.

Clariant has implemented clear policies for engaging in public policy development, addressing the increasing attention stakeholders and the public pay to such activities. Clariant's Anti-Bribery and Corruption Policy establishes detailed rules for employees' interactions with public officials and political advisors, as well as for charitable contributions and political donations, and forbids any donations to political parties and related organizations. Clariant openly discloses information about its fields of interest and the scope of public affairs activities, for example, in the »Transparency Register« of the European Commission.

Other activities include active participation in associations, such as the European Chemical Industry Council (Cefic), national chemical associations, and sectorial business associations, and ad hoc collaborations with NGOs. Specific advocacy activities were implemented on regulatory dossiers, for example, in the context of the revision of the EU Renewable Energy Directive. Clariant actively supported an ambitious blending target for second-generation biofuels.

Read more: Integrated Report, Policy and Stakeholder Relations

103-3 Evaluation of the Management Approach

Clariant's advocacy activities are strongly linked to the company's growth and sustainability strategy. In the context of its advocacy strategy, which is currently under review, Clariant aims to further strengthen these ties by paying closer attention to topics such as bio-economy, circular economy, and chemical substitution.

Clariant supports the call for increased transparency regarding lobbying activities and political contributions. Through its reporting on the Carbon Disclosure Project (CDP) and the Dow Jones Sustainability Index (DJSI), Clariant discloses the issues it has discussed with policymakers and trade associations that are likely to take a position on sustainability topics such as climate change. Moreover, Clariant performs an annual review of its membership costs and publicly discloses its top membership contributions, as well as the budget allocated to policy memberships.

Clariant's continuous dialog with policymakers, NGOs, and forward-looking industry associations further supports evaluating the effectiveness of its public policy management approach.

GRI 415:2016 Public Policy

415-1 Political contributions

The Clariant Corporate Citizenship Management Policy and the Anti-Bribery and Corruption Policy explicitly exclude donations to political parties. Accordingly, Clariant did not render any donations to parties, politicians, or related organizations in 2018.

Sustainability Performance in the Supply Chain

GRI 103:2016 Management Approach

103-1 Explanation of the material topic and its boundary

Clariant believes that true leadership in sustainability extends beyond the company and its own operations, taking into account sustainability impacts and leveraging sustainability opportunities across the entire value chain and in broader society. Customers, employees, community members, and other stakeholders, including the public, expect companies to understand their wider impact and drive sustainable change and growth. Clariant's sustainability strategy thus also includes its comprehensive and complex supply chains, and all of its suppliers. In order to be a true sustainability leader, it is imperative for Clariant to go beyond its own operations and drive its sustainability strategy across the entire spend on materials and services. Thus, sustainability criteria play a central role in assessing Clariant's performance in supply chain management.

103-2 The Management Approach and its components

As part of Clariant's full commitment to identifying and continuously reducing potential risks and, therefore, enhancing the sustainability performance across its entire end-to-end supply chains, Clariant proactively engages with suppliers to monitor and improve the sustainability performance of materials and services it sources from them.

Clariant Procurement has developed and rolled out the sustainability strategy across all regions and spend categories, covering more than CHF 4 billion of yearly spend. Sustainability is an integral part of Clariant's procurement practices – irrespective of material, geography, or risk potential. Suppliers, outsourcing partners, and service providers are selected and managed based on a comprehensive set of criteria. These benchmarks include not only economic and product-specific performance, but also non-financial and sustainability considerations, such as complaint management, creditworthiness, safety standards, working conditions, and respect for human rights.

Supplier Code of Conduct

The policy cornerstone of Clariant's sustainable procurement approach, the Supplier Code of Conduct, is based on the UN Global Compact and Responsible Care® principles. It was rolled out in 2014 across the entire supply base of more than 22,000 suppliers through written communication and via face-to-face meetings with top suppliers in each region. It is also incorporated in the General Terms and Conditions of Purchase incorporated in every purchase order issued by the procurement organizations. Clariant expects its suppliers to abide by this Supplier Code of Conduct and to make every effort to keep the environmental impact and negative social effects arising from business activities at a minimum. If the Code of Conduct is not embraced by business partners, Clariant retains the right to end business relationships.

Procurement Sustainability Roadmap

Since 2013, Clariant annually develops a Procurement Sustainability Roadmap based on insights, learnings, and feedback gathered in previous years. The roadmap defines focus areas, strategies, and indicators, and is deployed across the entire organization and spend. Roadmap development and delivery processes are coordinated and steered by the Group Procurement Service's Strategy Initiatives and Sustainability Team, which directly reports to Clariant's Chief Procurement Officer.

Targets and Trainings

Yearly supply chain sustainability targets are derived from the Procurement Sustainability Roadmap. In 2018, four out of eight procurement key performance indicators relate to sustainability. They are:

- Joint Business Unit/Procurement targets: increasing spend coverage with sustainability evaluation and decreasing spend with risk suppliers, based on supplier sustainability assessments
- Number of new supplier sustainability assessment scorecards generated
- Number of new sustainability audit reports generated
- Number of Corrective Action Plans completed on high- and medium-risk suppliers identified through assessment scorecards

Each employee working at Clariant Procurement has assigned targets that are tracked and evaluated at the monthly Procurement Management Committee meetings.

To build and continuously update skills in supplier sustainability management and to ensure sustainability is a critical part of the state-of-the-art procurement expertise, Clariant Procurement develops and deploys a Sustainability Capability-Building Program with yearly waves of training sessions and support materials.

Supplier Sustainability Assessments and Audits

By joining the »Together for Sustainability (TfS)« initiative, Clariant has taken supplier sustainability monitoring and improvement to a best-in-class level.

The TfS supplier sustainability evaluation covers both materials and services, and is based on standard state-of-the-art methodologies and an approach jointly developed by the procurement leadership and organizations of multinationals of the chemical industry. It is managed through leading external global service providers specialized in sustainability selected and managed by TfS: EcoVadis for online assessments; DSQ Group, ERM, Intertek, and SGS for on-site audits. The approach developed and implemented by TfS leverages synergies among the participants and delivers an independent, standardized, and quantitative evaluation of suppliers' sustainability performance and risk profiles. The outsourcing to third-party service providers guarantees process robustness, independence, confidentiality, and conformity with antitrust and competition law. Clariant prioritizes the assessment and audit of suppliers according to country and business risks, global category priorities, and purchase volumes – across its entire spend.

Through TfS, Clariant has online access to a large number of assessment scorecards and audit reports generated by the external service providers on behalf of all the TfS members. Regarding the assessments, in addition to an overall score, the scorecards also contain an individual score for the critical dimensions of environment, labor practices, fair business practices, and sustainable procurement. Further, and most importantly, assessment scorecards and audit reports provide detailed feedback on specific improvement areas and guidance on where and how to address the identified gaps. This comprehensive approach and outcome provide Clariant with the basis to engage with its suppliers and agree on ad hoc corrective action plans and, therefore, mitigate sustainability risks and improve sustainability performance in its supply chain.

This allows Clariant to monitor, measure, and improve supplier sustainability performance and identify improvement opportunities against principles laid out in the Supplier Code of Conduct, and embed sustainability as integral part of supplier selection and management.

Read more: Integrated Report, Sustainability Performance in the Supply Chain

103-3 Evaluation of the Management Approach

Clariant's yearly Procurement Sustainability Roadmap is also based on insights and feedback gathered through external evaluations such as the DJSI RobecoSAM Company Sustainability Benchmark Report and EcoVadis Scorecard, as well as industry benchmarks with best-in-class companies within and outside of the chemical industry, and conference participation. Thus, breadth and depth of the roadmap are continuously enhanced.

In addition to the Dow Jones Sustainability Index World and Europe listing since 2014, Clariant Supply Chain Management was nominated as one of the top ten best supply chain organizations in sustainability across 60 industries by RobecoSAM. Clariant received the highest EcoVadis score of the global chemical industry for the second time in a row. In 2018, Clariant again went through the EcoVadis assessment obtaining a score of 80, a very prestigious milestone that no other peer company in the chemical industry has reached yet. In particular, the score of 80 in Sustainable Procurement places Clariant in the 99.7 percentile, meaning only three companies among 1 000 across any industry reach a better score.

Furthermore, in December 2017, Clariant received the prestigious EIPM Award for sustainability leadership in supply chain.

GRI 204:2016 Procurement Practices

204-1 Proportion of spending on local suppliers

✔ PwC	2016	2017	**2018**
Percentage of the procurement budget used for significant locations of operation that is spent on suppliers local to that operation	85.7%	87.4%	88.3%

✔ PwC	2015	2016	2017	**2018**
RM Procurement by region (in CHF m)	**2 252**	**2 221**	**2 674**	**2 948**
Of which with local suppliers	1 931	1 904	2 337	2 603
Number of suppliers	5 431	5 222	6 991	6 434
Asia/Pacific	**480**	**510**	**627**	**672**
Of which with local suppliers	449	479	591	641
Number of suppliers	1 704	1 754	2 800	2 527
Europe	**1 097**	**1 088**	**1 237**	**1 340**
Of which with local suppliers	960	959	1 122	1 228
Number of suppliers	1 357	1 174	1 690	1 514
Latin America	**337**	**276**	**307**	**320**
Of which with local suppliers	249	198	209	213
Number of suppliers	784	802	1 092	1 085
Middle East & Africa	**60**	**91**	**109**	**106**
Of which with local suppliers	32	47	56	57
Number of suppliers	303	247	407	378
North America	**278**	**255**	**395**	**510**
Of which with local suppliers	241	221	359	464
Number of suppliers	414	445	1 002	930

Clariant's Procurement preferentially sources goods and services from within the region in which its respective operations and manufacturing plants are located, as far as qualitatively compatible, technically feasible, and economically viable. This way, Clariant's activities support the economic development of the regions in which it operates. This is particularly relevant for and encouraged in key emerging markets such as Brazil, China, and India. Clariant defines local suppliers as suppliers that are based in the same country or region where the materials and/or services are used.

GRI 308:2016 Supplier Environmental Assessment

308-1 New suppliers that were screened using environmental criteria

✔ PwC	2016	2017	**2018**
Percentage of suppliers assessed via EcoVadis	63%	65%	74%

Clariant selects and manages its suppliers, outsourcing partners, and service providers based on a comprehensive set of criteria. The selection of suppliers is not only based on economic and product-specific performance aspects, but non-financial and sustainability considerations are explicitly taken into account as well. Clariant's sustainability standards are incorporated into its procurement strategies and activities, policies, and general guidelines (such as the Code of Conduct for Suppliers).

By joining the »Together for Sustainability« (TfS) initiative, Clariant has taken the sustainability monitoring and improvement of its suppliers to a new, best-in-class level. In fact, the TfS evaluation of suppliers – both with regard to materials and services – is based on a state-of-the-art methodology and approach jointly developed by the procurement leadership of six multinational chemical companies. It is managed through leading external global service providers specialized in sustainability, such as EcoVadis for online assessments and DSQ Group, ERM, Intertek, and SGS for on-site audits.

Through TfS, more than 10 000 (2017: 8 600) supplier assessment scorecards and more than 1 500 (2017: 1 100) supplier audit reports have been generated, and are shared among all TfS Members via an online platform. This serves as a basis to drive improvements in sustainability performance across the respective supply chains. In 2018 alone, 358 new TfS supplier audits were conducted, and 1 491 new supplier assessments were generated.

By mapping supplier sustainability scorecards against Clariant's supply base, Clariant reached more than 74% (2017: 65%) of its yearly CHF 2.9 billion (2017: 2.7 billion) direct spend covered with a sustainability evaluation of suppliers.

308-2 Negative environmental impacts in the supply chain and actions taken

✔ PwC	2015	2016	2017	**2018**
Number of suppliers assessed for environmental impacts	4 442	6 383	8 692	10 566
Number of suppliers identified as having significant actual and potential negative environmental impacts	n.a.	785	666	955

These numbers are based on mapping the suppliers from the EcoVadis platform to Clariant's own spend database.

✔ PwC	2017	**2018**
Percentage of suppliers identified as having significant actual and potential negative environmental impacts with which improvements were agreed upon as a result of assessment	17%	20%

In 2017, Clariant began a program of Corrective Action Plans (CAPs) in order to reduce supplier sustainability risks. In 2018, 20% of the 955 suppliers identified as having significant actual and potential negative environmental impacts have been taken through the CAP program.

GRI 414:2016 Supplier Social Assessment

414-1 New suppliers that were screened using social criteria

For information regarding 414-1, please see disclosure 308-1: New suppliers that were screened using environmental criteria.

414-2 Negative social impacts in the supply chain and actions taken

✔ PwC	2015	2016	2017	**2018**
Number of suppliers assessed for social impacts	4 442	6 383	8 692	10 566
Number of suppliers identified as having significant actual and potential negative social impacts	n.a.	737	598	1 205

These numbers are based on the mapping of the suppliers from the EcoVadis platform to Clariant's own database.

✔ PwC	2017	**2018**
Percentage of suppliers identified as having significant actual and potential negative social impacts with which improvements were agreed upon as a result of assessment	19%	26%

In 2017, Clariant began a program of Corrective Action Plans (CAPs) in order to reduce supplier sustainability risks. In 2018, 26% of the 1 205 suppliers identified as having significant actual and potential negative social impacts have been taken through the CAP program.

For more information regarding 414-2, please see disclosure 308-1: New suppliers that were screened using environmental criteria.

GENERAL DISCLOSURES

Organizational Profile

102-1 Name of the organization

Read more: Financial Report, Accounting policies

102-2 Activities, brands, products, and services

Read more: Financial Report, Accounting policies

Read more: Corporate Website, Product & Solution Highlights

Read more: Corporate Website, EcoTain® Products

In addition to the information described in the Financial Report and Corporate Website, Clariant also deals with goods that are subject to different trade control regimes, such as chemical weapons conventions or the dual-use goods regulation. All of the respective national and international trade control provisions, as well as embargo regulations, are monitored by a global trade control network within the Clariant organization. With the help of IT systems, along with organizational controls, all deliveries are reviewed to ensure trade compliance. Thus, for example, controlled goods can only be delivered if the necessary permits are obtained from the relevant authorities as well as end-user statements from the customer. Clariant guarantees that all trade control requirements are fulfilled.

102-3 Location of headquarters

Read more: Financial Report, Accounting policies

102-4 Location of operations

Read more: Financial Report, Important subsidiaries

Read more: Financial Report, Segment information

102-5 Ownership and legal form

Read more: Corporate Governance, Principles of Corporate Governance

102-6 Markets served

Read more: Integrated Report, Financial Capital

Read more: Integrated Report, Value Creation in the Four Business Areas

102-7 Scale of the organization

Read more: Integrated Report, Summary on Performance, People, Planet

Read more: Financial Report, Important subsidiaries

Read more: Financial Report, Consolidated balance sheets

102-8 Information on employees and other workers

✔ PwC

	2017		**2018**	
	permanent	temporary	**permanent**	**temporary**
Employees by employment contract and gender (in FTE)	**17 687**	**448**	**17 382**	**519**
male	13 986	344	13 613	392
female	3 701	105	3 769	127

	2017		**2018**	
	full-time	part-time	**full-time**	**part-time**
Employees by employment type (in FTE)	**17 794**	**341**	**17 567**	**334**
male	14 265	65	13 941	64
female	3 529	276	3 626	270

We do not have knowledge of any substantial portion of Clariant's work being performed by workers who are not employees. Furthermore, there are no significant seasonal variations in Clariant's employment numbers.

102-9 Supply chain

Read more: Integrated Report, Sustainability Performance in the Supply Chain

Read more: Management Approach, Sustainability performance in the supply chain

102-10 Significant changes to the organization and its supply chain

Read more: Financial Report, Important subsidiaries

Read more: Financial Report, Acquisitions

Read more: Financial Report, Disposals

Read more: Financial Report, Changes in share capital and treasury shares and changes in non-controlling interests

Read more: Financial Report, Events Subsequent to the Balance Sheet Date

102-11 Precautionary Principle or approach

With the final declaration of its 1992 conference on the environment and development in Rio de Janeiro, the United Nations requires member states to take precautionary measures within their capabilities to protect the environment. This declaration is known as Principle 15 of the Rio Declaration. Accordingly, remedial actions may only be postponed if no serious or lasting damages to the environment are looming, or if the states would be financially overburdened by implementing these measures. This principle connects environmental protection with a cost-benefit analysis and attempts to achieve a balance between ecology and economy.

Clariant has not only adopted this principle in the company, it has expanded the environmental considerations with social aspects—the entire foundation of sustainability. Clariant has been investing in safe products and both efficient and environmentally compatible processes for years. The company continuously initiates measures to completely live up to its responsibilities toward employees, customers, shareholders, and other stakeholder groups. The ongoing pursuit of trends and pertinent developments ensures the timeliness and appropriateness of all these activities.

102-12 External initiatives

Clariant supports a large number of externally developed initiatives, for example:

Clariant expressly supports the UN Global Compact and the United Nations Universal Declaration of Human Rights (UDHR), also known as the UN Human Rights Charter. The charter comprises general human rights principles that serve as a joint ideal for all people and nations to ensure that each individual and all bodies of the company constantly strive to promote respect for corresponding rights and freedoms through education and training. National and international measures must thereby guarantee the formal as well as the actual recognition of, and compliance with, human rights. This applies to Clariant too.

Clariant has signed the »Responsible Care® Global Charter« developed by the International Council of Chemical Associations (ICCA), which monitors compliance with this charter. The charter is a self-commitment by the chemical industry worldwide to pursue continual improvements in the fields of environmental protection, product responsibility, work safety, transportation safety, and dialog.

Clariant is committed to the Global Product Strategy (GPS), which was developed in 2006 by the International Council of Chemical Associations (ICCA) as part of its commitment to the United Nations Strategic Approach to International Chemicals Management (SAICM). This approach promotes the safe use of chemical products through the entire life cycle and enhances product stewardship throughout the value chain.

102-13 Membership of associations

Clariant is a member of numerous interest groups and trade associations at international (International Council of Chemical Associations [ICCA]), regional (Cefic), and national levels (business federations or national chemical industry associations, such as ABIQUIM in Brazil, CPCIF in China, Verband der Chemischen Industrie [VCI] in Germany, or the American Chemistry Council [ACC] in the USA).

Clariant is also active in sectorial associations at both a regional and national level, such as in the bio-economy sector (Leaders of Sustainable Biofuels, ePure, EuropaBio, Bio-Based Industries Consortium, BioDeutschland, etc.). Other important memberships include the Together for Sustainability (TfS) initiative of the chemical industry.

Clariant is proud to be a member and supporter of scientific and research organizations such as SUSCHEM, the European Technology Platform for Sustainable Chemistry, confirming its strong commitment to develop the next generation of sustainable chemistry solutions.

Clariant's top three contributions to policy memberships are:

- German Association of the Chemical Industry (Verband der Chemischen Industrie e. V. [VCI])
- Chamber of Commerce Basel (Handelskammer beider Basel
- Scienceindustries, the Swiss business association for the chemical, pharmaceutical, and biotech industries

Strategy

102-14 Statement from senior decision-maker

Read more: Integrated Report, Letter of the Chairman of the Board of Directors

Read more: Integrated Report, Interview with the CEO

102-15 Key impacts, risks, and opportunities

Read more: Financial Report, Enterprise Risk Management Identification, Assessment, and Management

Ethics and Integrity

102-16 Values, principles, standards, and norms of behavior

Read more: Corporate Website, Codes of Conduct

Read more: Corporate Website, Sustainable Supply Chains

As a leading specialty chemicals company, Clariant not only ensures adherence to legal regulations, but also commits itself to important global initiatives. All of Clariant's actions comply with the principles laid down in the Responsible Care® Global Charter, the Global Product Strategy, the UN Global Compact, and the company's internal Code of Conduct and Code of Conduct for Suppliers.

All employees receive the Code of Conduct when they are hired and must agree to it when signing their contract of employment. So-called e-learning modules are mandatory for all employees. Participation in these training courses, which cover different topics or themes of the Code of Conduct, is registered, and employees not participating receive a warning. The Code is available in all relevant national languages.

102-17 Mechanisms for advice and concerns about ethics

With regard to seeking advice, compliance officers at both regional and local levels as well as at Group Headquarters are available to provide support on issues concerning ethically correct and legally compliant conduct of employees or business processes. In addition, employees as well as suppliers and other stakeholders have the opportunity to raise concerns or questions—anonymously if necessary—about ethical business conduct on the »Clariant Integrity Line« (an online portal introduced in 2014). The responsible compliance officer of the corresponding country then answers or forwards the concerns or questions to the competent colleague in the Compliance or HR Department.

Complaints pertaining to violations of the Clariant Code of Conduct can be made via line managers, through Group Compliance (i.e., reported to the local or regional HR department or compliance office, or directly to the Group compliance officer), or via the »Clariant Integrity Line.«

Governance

102-18 Governance structure

Read more: Corporate Governance, Principles of Corporate Governance

102-20 Executive-level responsibility for economic, environmental, and social topics

Clariant's Executive Committee, superior to the Sustainability Council, provides the guidelines for sustainable management and the corresponding control, while the relevant templates come from the respective departments. In order to be kept up to date about current trends and developments with regard to the aforementioned issues, their members collect information regularly from the responsible corporate functions and Business Units, or they participate in appropriate events.

Clariant steers sustainability activities on a strategic corporate level with a dedicated Sustainability Council. The council evaluates the global sustainability challenges and megatrends and sets long- and mid-term Group goals to initiate projects and activities in the field of sustainability. Chaired by the Chief Executive Officer, the council creates a direct link to the highest governance body. It is composed of relevant Heads of corporate functions/services and Business Units, such as Group Technology & Innovation, Corporate HR, Corporate Strategy & Planning, Corporate Legal, Group Procurement Services, Corporate Communications and Business Units ICS, Catalysts, and Additives. The Council delegates operational sustainability matters to the Corporate Sustainability and Regulatory Affairs (CSRA) Department, with the Head of CSRA reporting directly to the Executive Committee.

For more details on the process of communication to the highest governance body, please see section »Information and control instruments vis-à-vis the Executive Committee« of the Corporate Governance Report.

Read more: Corporate Governance, Internal Organizational Structure

102-21 Consulting stakeholders on economic, environmental, and social topics

Clariant revised its materiality matrix in 2017 in a sophisticated process that served as consultation between stakeholders and Clariant. Key stakeholders could voice their opinion regarding the topics on which Clariant should focus. The results of the survey were analyzed and broken down into both region- and function-specific perspectives. This allowed Business Unit and Regional Management Committees to follow up with their respective stakeholders.

Read more: Corporate Governance, Information and control instruments vis-à-vis the Executive Committee

Read more: Integrated Report, Materiality

102-38 Annual total compensation ratio / 102-39 Percentage increase in annual total compensation ratio

Clariant's compensation philosophy is aimed at promoting and reinforcing the quality and commitment of employees. Clariant is generally committed to paying its employees fair and appropriate compensation in the form of wages and salaries, social components, and other perks. This compensation should meet minimum statutory standards and, in principle, exceeds them in each country in which Clariant is active.

The spread of salaries between Clariant employees varies from one country to another. This heavily depends on the relevant local managerial and employment structure and is frequently culturally influenced. For this reason, local salary structures cannot be used to address compensation issues. On a global level, the ratio between the average and the highest base salary is 1:13. In terms of the total compensation, including variable salary components, the spread is 1:25. The ratio tends to be higher in growth regions than, for example, in Europe. Part-time employees have been excluded from the calculation above.

Salary adjustments are negotiated in accordance with a fixed and unambiguous system and implemented through mutual agreement between the line manager and the HR Department. As a basic principle, a consistent »salary philosophy« ensures that adjustments are made in the context of the local markets and the individual performance.

Read more: Integrated Report, Compensation

Stakeholder Engagement

102-40 List of stakeholder groups

Read more: Integrated Report, Materiality

102-41 Collective bargaining agreements

✔ PwC	2017	**2018**
Percentage of total employees covered by collective bargaining agreements	48%	47%

Clariant pays wages and salaries that are determined by relevant local competitive markets rather than by legally defined minimum wages. As of the end of December 2018, 47% of employees were covered by collective bargaining agreements with employee representatives. Managerial positions are generally not included in such agreements.

102-42 Identifying and selecting stakeholders

Read more: Integrated Report, Materiality

102-43 Approach to stakeholder engagement

Read more: Integrated Report, Materiality

102-44 Key topics and concerns raised

Read more: Integrated Report, Materiality

Reporting Practice

102-45 Entities included in the consolidated financial statements

Read more: Financial Report, Important subsidiaries

Read more: Integrated Report, Production sites and innovation facilities

102-46 Defining report content and topic Boundaries

Read more: Integrated Report, Materiality

102-47 List of material topics

Read more: Integrated Report, Materiality

102-48 Restatements of information

Any restatement of previously reported data is explained in a footnote under the respective disclosure.

102-49 Changes in reporting

Read more: Integrated Report, Materiality

102-50 Reporting period / 102-52 Reporting cycle

The reporting period of Clariant's GRI Report comprises 1 January through 31 December 2018 and is therefore identical to Clariant's financial year.

102-51 Date of most recent report

The last GRI Report was published in March 2017 on Clariant's website.

Read more: GRI Report 2017

102-53 Contact point for questions regarding the report

Questions about this report should be addressed to:

Corporate Sustainability & Regulatory Affairs
Anders Almtoft, Tel. +41 61 469 69 16

Investor Relations
Anja Pomrehn, Tel. +41 61 469 67 45

Inquiries via e-mail to sustainability@clariant.com

102-54 Claims of reporting in accordance with the Standards

This report has been prepared in accordance with the GRI Standards: Core option.

102-55 GRI content index

Read more: GRI Report 2018: Content Index

102-56 External assurance

Read more: GRI Report 2018: Independent Assurance Report

INDEPENDENT ASSURANCE REPORT ON THE CLARIANT SUSTAINABILITY REPORTING 2018

To the Board of Directors of Clariant Ltd, Muttenz

We have been engaged to perform assurance procedures to provide limited assurance on the sustainability reporting of Clariant Ltd and its consolidated subsidiaries (‚Clariant') for the year ended 31 December 2018.

Scope and Subject matter

Our limited assurance engagement focused on the sustainability indicators published online on the website http://reports.clariant.com/2018/gri-report/:

- The selected quantitative 2018 sustainability indicators as summarized in the GRI content index section and disclosed in the respective text boxes and marked with the label "✔ **PwC**"; and
- The management and reporting processes to collect and aggregate the data as well as the control environment in relation to the data aggregation of these data.

Criteria

The reporting criteria used by Clariant are described in the internal reporting guidelines and define those procedures, by which the sustainability indicators are internally gathered, collated and aggregated. The internal guidelines are based on the GRI Sustainability Reporting Standards (GRI Standards) published by the Global Reporting Initiative (GRI).

Inherent limitations

The accuracy and completeness of sustainability indicators are subject to inherent limitations given their nature and methods for determining, calculating and estimating such data. Our assurance report should therefore be read in connection with Clariant's internal guidelines, definitions and procedures on sustainability reporting. Further, the greenhouse gas quantification is subject to inherent uncertainty because of incomplete scientific knowledge used to determine emissions factors and the values needed to combine emissions of different gases.

Clariant responsibilities

The Board of Directors of Clariant Ltd is responsible for both the subject matter and the criteria as well as for selection, preparation and presentation of the information in accordance with the criteria. This responsibility includes the design, implementation and maintenance of related internal control relevant to this reporting process that is free from material misstatement, whether due to fraud or error.

Our responsibilities

Our responsibility is to form an independent conclusion, based on our limited assurance procedures, on whether anything has come to our attention to indicate that the sustainability indicators are not stated, in all material respects, in accordance with the reporting criteria.

We planned and performed our procedures in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (revised) 'Assurance engagements other than audits or reviews of historical financial information' and with ISAE 3410 'Assurance Engagements on Greenhouse Gas Statements'. These standards require that we plan and perform the assurance engagement to obtain limited assurance on the identified sustainability indicators marked with the label "✔ **PwC**".

A limited assurance engagement is substantially less in scope than a reasonable assurance engagement in relation to both the risk assessment procedures, including an understanding of internal control, and the procedures performed in response to the assessed risks. Consequently, the nature, timing and extent of procedures for gathering sufficient appropriate evidence are deliberately limited relative to a reasonable assurance engagement and therefore less assurance is obtained with a limited assurance engagement than for a reasonable assurance engagement.

Independence and quality controls

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

Our firm applies International Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Summary of work performed

Our limited assurance procedures included, but were not limited to the following work:

- Reviewing the application of Clariant's internal guidelines
- Interviewing Clariant representatives at Group level responsible for the data collection and reporting
- Interviewing Clariant representatives in South Africa, Mexico and USA responsible for the data collection and reporting by phone
- Performing tests on a sample basis of evidence supporting the sustainability indicators as outlined in the scope and subject matter section concerning completeness, accuracy, adequacy and consistency
- Inspecting the relevant documentation on a sample basis
- Reviewing and assessing the management reporting processes for sustainability reporting and consolidation and their related controls

We have not carried out any work on data other than outlined in the scope and subject matter section as defined above. We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our assurance conclusions.

Limited Assurance Conclusion

Based on the procedures we performed, nothing has come to our attention that causes us to believe that

- The quantitative 2018 sustainability indicators of Clariant as described in the scope and subject matter section are not prepared and disclosed in all material respects in accordance with Clariant's internal guidelines and procedures and the underlying GRI Standards; and
- The management and reporting processes to collect and aggregate the data as well as the control environment in relation to the data aggregation are not functioning as designed.

Basel, 6 March 2019



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GRI Content Index

UNIVERSAL STANDARDS

GRI 102:2016 General Disclosures

Disclosure		Links	External Assurance	UNGC
	Organizational Profile			
102-1	Name of the organization	**Financial Report: Accounting policies**		
102-2	Activities, brands, products, and services	**Financial Report: Accounting policies** **Corporate Website: Product & Solution Highlights** **Corporate Website: EcoTain Products**		
102-3	Location of headquarters	**Financial Report: Accounting policies**		
102-4	Location of operations	**Financial Report: Important subsidiaries** **Financial Report: Segment information**		
102-5	Ownership and legal form	**Corporate Governance: Principles of Corporate Governance**		
102-6	Markets served	**Integrated Report: Financial Capital** **Integrated Report: Value Creation in the Four Business Areas**		
102-7	Scale of the organization	**Integrated Report: Summary on Performance, People, Planet** **Financial Report: Important subsidiaries** **Financial Report: Consolidated balance sheets**	✔ PwC	
102-8	Information on employees and other workers		✔ PwC	UNGC
102-9	Supply chain	**Integrated Report: Sustainability Performance in the Supply Chain** **GRI Management Approach: Sustainability Performance in the Supply Chain**	✔ PwC	

102-10	Significant changes to the organization and its supply chain	**Financial Report: Important subsidiaries** **Financial Report: Acquisitions** **Financial Report: Disposals** **Financial Report: Changes in share capital and treasury shares and changes in non-controlling interests** **Financial Report: Events Subsequent to the Balance Sheet Date**		
102-11	Precautionary Principle or approach			
102-12	External initiatives			
102-13	Membership of associations			
	Strategy			
102-14	Statement from senior decision-maker	**Integrated Report: Letter of the Chairman of the Board of Directors** **Integrated Report: Interview with the CEO**		
102-15	Key impacts, risks, and opportunities	**Financial Report: Enterprise Risk Management Identification, Assessment and Management**		
	Ethics and Integrity			
102-16	Values, principles, standards, and norms of behavior	**Corporate Website: Codes of Conduct** **Corporate Website: Sustainable Supply Chains**		UNGC
102-17	Mechanisms for advice and concerns about ethics			UNGC
	Governance			
102-18	Governance structure	**Corporate Governance: Principles of Corporate Governance**		
102-20	Executive-level responsibility for economic, environmental, and social topics	**Corporate Governance: Internal Organizational Structures**		
102-21	Consulting stakeholders on economic, environmental, and social topics	**Corporate Governance: Information and control instruments vis-à-vis the Executive Committee** **Integrated Report: Materiality**		
102-38 102-39	Annual total compensation ratio Percentage increase in annual total compensation ratio	**Integrated Report: Compensation**	✔ PwC	
	Stakeholder Engagement			
102-40	List of stakeholder groups	**Integrated Report: Materiality**		
102-41	Collective bargaining agreements		✔ PwC	UNGC
102-42	Identifying and selecting stakeholders	**Integrated Report: Materiality**		
102-43	Approach to stakeholder engagement	**Integrated Report: Materiality**		
102-44	Key topics and concerns raised	**Integrated Report: Materiality**		
	Reporting Practice			
102-45	Entities included in the consolidated financial statements	**Financial Report: Important subsidiaries** **Integrated Report: Production sites and innovation facilities**		
102-46	Defining report content and topic Boundaries	**Integrated Report: Materiality**		

102-47	List of material topics	**Integrated Report: Materiality**		
102-48	Restatements of information			
102-49	Changes in reporting	**Integrated Report: Materiality**		
102-50	Reporting period			
102-51	Date of most recent report	**GRI Report 2017**		
102-52	Reporting cycle			
102-53	Contact point for questions regarding the report			
102-54	Claims of reporting in accordance with the Standards			
102-55	GRI content index			
102-56	External assurance			

TOPIC-SPECIFIC STANDARDS

Economic Topics

Disclosure		Links	External Assurance	UNGC
GRI 201: 2016	**Economic Performance**	**Integrated Report: Financial Capital Integrated Report: Strategy Corporate Governance Report**		
GRI 103-1/2/3:2016	Management approach			
201-1	Direct economic value generated and distributed	**Integrated Report: Summary on Performance, People, Planet**		UNGC
201-2	Financial implications and other risks and opportunities due to climate change			
201-3	Defined benefit plan obligations and other retirement plans	**Financial Report: Retirement benefit obligations**		
GRI 202: 2016	**Market Presence**	**Integrated Report: Employee Engagement**		
GRI 103-1/2/3: 2016	Management Approach			
202-1	Ratios of standard entry level wage by gender compared to local minimum wage			UNGC
202-2	Proportion of senior management hired from the local community		✔ PwC	UNGC
GRI 204: 2016	**Procurement Practices**	**Integrated Report: Sustainability Performance in the Supply Chain Together for Sustainability (TfS)**		
GRI 103-1/2/3: 2016	Management Approach			

204-1	Proportion of spending on local suppliers		✔ PwC	
GRI 205: 2016	**Anti-corruption**	**Integrated Report: Ethics and Compliance**		
GRI 103-1/2/3: 2016	Management Approach			
205-1	Operations assessed for risks related to corruption			UNGC
205-2	Communication and training about anti-corruption policies and procedures			UNGC
205-3	Confirmed incidents of corruption and actions taken			UNGC
GRI 206: 2016	**Anti-competitive Behavior**	**Integrated Report: Ethics and Compliance**		
GRI 103-1/2/3: 2016	Management Approach			
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices		✔ PwC	
	Innovation and Technological Advances			
GRI 103-1/2/3: 2016	Management Approach	**Integrated Report: Innovation and Technological Advances** **Integrated Report: Idea to Market**		
	Digitalization			
GRI 103-1/2/3: 2016	Management Approach	**Integrated Report: Digitalization**		

Environmental Topics

Disclosure		Links	External Assurance	UNGC
GRI 301: 2016	**Materials**	**Integrated Report: Circular Economy** **Integrated Report: Product Stewardship/ Sustainable Chemistry** **Integrated Report: Progress toward environmental targets 2025**		
GRI 103-1/2/3: 2016	Management Approach			
301-1	Materials used by weight or volume		✔ PwC	UNGC
301-2	Recycled input materials used			UNGC
301-3	Reclaimed products and their packaging materials			UNGC
GRI 302: 2016	**Energy**	**Integrated Report: Environmental Protection and Resources** **Integrated Report: Progress toward environmental targets 2025**		
GRI 103-1/2/3: 2016	Management Approach			

302-1	Energy consumption within the organization		✔ PwC	UNGC
302-2	Energy consumption outside of the organization		✔ PwC	UNGC
302-3	Energy intensity		✔ PwC	UNGC
302-4	Reduction of energy consumption		✔ PwC	UNGC
302-5	Reductions in energy requirements of products and services			UNGC
GRI 303: 2018	**Water**	**Integrated Report: Environmental Protection and Resources Integrated Report: Progress toward environmental targets 2025**		
GRI 103-1/2/3: 2016	Management Approach			
303-1	Interactions with water as a shared resource		✔ PwC	UNGC
303-2	Management of water discharge-related impacts			UNGC
303-3	Water withdrawal		✔ PwC	UNGC
303-4	Water discharge		✔ PwC	UNGC
303-5	Water consumption		✔ PwC	UNGC
GRI 304: 2016	**Biodiversity**	**Integrated Report: Environmental Protection and Resources**		
GRI 103-1/2/3: 2016	Management Approach			
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas			UNGC
304-2	Significant impacts of activities, products, and services on biodiversity			UNGC
304-3	Habitats protected or restored			UNGC
304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations			UNGC
GRI 305: 2016	**Emissions**	**Integrated Report: Climate Change Integrated Report: Progress toward environmental targets 2025 Integrated Report: Customer to Cash**		
GRI 103-1/2/3: 2016	Management Approach			
305-1	Direct (Scope 1) GHG emissions		✔ PwC	UNGC
305-2	Energy indirect (Scope 2) GHG emissions		✔ PwC	UNGC
305-3	Other indirect (Scope 3) GHG emissions		✔ PwC	UNGC

305-4	GHG emissions intensity		✔ PwC	UNGC
305-5	Reduction of GHG emissions			UNGC
305-6	Emissions of ozone-depleting substances (ODS)			UNGC
305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions		✔ PwC	UNGC
GRI 306: 2016	**Effluents and Waste**	**Integrated Report: Environmental Protection and Resources** **Integrated Report: Progress toward environmental targets 2025**		
GRI 103-1/2/3: 2016	Management Approach			
306-1	Water discharge by quality and destination		✔ PwC	UNGC
306-2	Waste by type and disposal method		✔ PwC	UNGC
306-3	Significant spills		✔ PwC	UNGC
306-4	Transport of hazardous waste			UNGC
GRI 307: 2016	**Environmental Compliance**	**Integrated Report: Environmental Protection and Resources**		
GRI 103-1/2/3: 2016	Management Approach			
307-1	Non-compliance with environmental laws and regulations			UNGC
GRI 308: 2016	**Supplier Environmental Assessment**	**Integrated Report: Sustainability Performance in the Supply Chain** **Together for Sustainability (TfS)**		
GRI 103-1/2/3: 2016	Management Approach			
308-1	New suppliers that were screened using environmental criteria		✔ PwC	UNGC
308-2	Negative environmental impacts in the supply chain and actions taken		✔ PwC	UNGC

Social Topics

Disclosure		Links	External Assurance	UNGC
GRI 401: 2016	**Employment**	**Integrated Report: Employee Engagement**		
GRI 103-1/2/3: 2016	Management Approach			
401-1	New employee hires and employee turnover		✔ PwC	UNGC
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees			
401-3	Parental leave			UNGC

GRI 402: 2016	**Labor/Management Relations**	**Integrated Report: Employee Engagement**		
GRI 103-1/2/3: 2016	Management Approach			
402-1	Minimum notice periods regarding operational changes			UNGC
GRI 403: 2018	**Occupational Health and Safety**	**Integrated Report: Occupational Health, Safety, and Well-being**		
GRI 103-1/2/3: 2016	Management Approach			
403-1	Occupational health and safety management system			
403-2	Hazard identification, risk assessment, and incident investigation			
403-3	Occupational health services			
403-4	Worker participation, consultation, and communication on occupational health and safety			
403-5	Worker training on occupational health and safety			
403-6	Promotion of worker health			
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships			
403-8	Workers covered by an occupational health and safety management system		✔ PwC	
403-9	Work-related injuries		✔ PwC	
403-10	Work-related ill health		✔ PwC	
GRI 404:2016	**Training and Education**	**Integrated Report: Talent Attraction and Development**		
GRI 103-1/2/3: 2016	Management Approach			
404-1	Average hours of training per year per employee		✔ PwC	UNGC
404-2	Programs for upgrading employee skills and transition assistance programs			
404-3	Percentage of employees receiving regular performance and career development reviews		✔ PwC	UNGC
GRI 405: 2016	**Diversity and Equal Opportunity**	**Integrated Report: Employee Engagement**		
GRI 103-1/2/3: 2016	Management Approach			
405-1	Diversity of governance bodies and employees		✔ PwC	UNGC
405-2	Ratio of basic salary and remuneration of women to men		✔ PwC	UNGC

GRI 406: 2016	**Non-discrimination**	**Integrated Report: Human Rights**		
GRI 103-1/2/3: 2016	Management Approach			
406-1	Incidents of discrimination and corrective actions taken		✔ PwC	UNGC
GRI 407: 2016	**Freedom of Association and Collective Bargaining**	**Integrated Report: Human Rights**		
GRI 103-1/2/3: 2016	Management Approach			
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk			UNGC
GRI 408: 2016	**Child Labor**	**Integrated Report: Human Rights**		
GRI 103-1/2/3: 2016	Management Approach			
408-1	Operations and suppliers at significant risk for incidents of child labor			UNGC
GRI 409: 2016	**Forced or Compulsory Labor**	**Integrated Report: Human Rights**		
GRI 103-1/2/3: 2016	Management Approach			
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor			UNGC
GRI 412: 2016	**Human Rights Assessment**	**Integrated Report: Human Rights**		
GRI 103-1/2/3: 2016	Management Approach			
412-1	Operations that have been subject to human rights reviews or impact assessments	**Corporate Website: Human Rights**		UNGC
412-2	Employee training on human rights policies or procedures			UNGC
412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening			UNGC
GRI 414: 2016	**Supplier Social Assessment**	**Integrated Report: Sustainability Performance in the Supply Chain Together for Sustainability (TfS)**		
GRI 103-1/2/3: 2016	Management Approach			
414-1	New suppliers that were screened using social criteria		✔ PwC	UNGC
414-2	Negative social impacts in the supply chain and actions taken		✔ PwC	UNGC
GRI 415: 2016	**Public Policy**	**Integrated Report: Policy and Stakeholder Relations**		
GRI 103-1/2/3: 2016	Management Approach			
415-1	Political contributions			UNGC
GRI 416: 2016	**Customer Health and Safety**	**Integrated Report: Product Stewardship / Sustainable Chemistry**		

GRI 103-1/2/3: 2016	Management Approach			
416-1	Assessment of the health and safety impacts of product and service categories			
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services			
GRI 417: 2016	**Marketing and Labeling**	**Integrated Report: Product Stewardship / Sustainable Chemistry**		
GRI 103-1/2/3: 2016	Management Approach			
417-1	Requirements for product and service information and labeling			
417-2	Incidents of non-compliance concerning product and service information and labeling			
417-3	Incidents of non-compliance concerning marketing communications			
GRI 418: 2016	**Customer Privacy**	**Integrated Report: Customer Relationships Integrated Report: Market to Customer**		
GRI 103-1/2/3: 2016	Management Approach			
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data			
GRI 419: 2016	**Socioeconomic Compliance**	**Integrated Report: Ethics and Compliance**		
419-1	Non-compliance with laws and regulations in the social and economic area			