

# InnovOil™

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# Material gains

AGR's new  
M<sup>2</sup>™ software  
makes materials  
management easier



Eight ways AGR's M<sup>2</sup>™ software can make your logistics and materials management easier:

1. Full audit trail
2. Continuous tracking through the supply chain
3. Multi-currency capacity
4. Intuitive and easy to use with basic training
5. Works for the user – not the other way round
6. No paperwork required
7. Simple installation process for this new low-footprint application#
8. Can support up to 500 concurrent users

**D**EVELOPED by the user for the user, AGR's revolutionary new M<sup>2</sup>™ software is making logistics and materials management easier for the oil and gas industry. The M<sup>2</sup>™ programme continually tracks the movement of equipment from the moment of selection, through the supply chain to its eventual return.

Streamlining a process that previously required multiple packages from a number of providers, the intuitive software puts users in total control of equipment movements, which prevents losses and eradicates unnecessary costs.

Global oil and gas service provider AGR invested GBP500,000 (US\$770,000) in developing the product, which was created by the company's in-house AGR Software Solutions division.

The M<sup>2</sup>™ system then fully proved its worth in a rigorous challenge – servicing the movement of more than 11,000 tonnes of equipment some 8,000 miles (12,875 km) from Aberdeen to the Falkland Islands. After supporting the AGR-managed drilling campaign on the Ocean Guardian rig in 2010-11, the project is recognised as the largest successful logistics job in the sector to date and has received industry-wide acclaim.

By developing the software in-house, the company was able to capitalise on its vast experience in materials management operations. Following its successful use of the software, AGR launched the M<sup>2</sup>™ product for the oil and gas industry in November 2012, targeting markets in North and South America, Asia-Pacific and Europe.

## Total control

M<sup>2</sup>™ continually tracks the movement of equipment and is unique in that it puts the user in total control by offering a fully integrated system

that is not currently available elsewhere in the marketplace.

The software provides users with a simplified and streamlined materials management system, which helps to prevent loss and to reduce costs by eliminating the need for multiple packages bolted together from a range of different service providers.

There are several core features of the M<sup>2</sup>™ software that are key to users being able to transform their materials management operations and improve their bottom line.

First, in terms of non-conformance reports (NCRS) and document discrepancy reports (DDRS), the system allows non-conformance and/or discrepancy reports to be raised at point of receipt.

Second, the software features a Rental Register, which keeps track of rental goods to highlight equipment to be returned, thereby delivering cost efficiencies.

A third notable feature is the Item Code History. This offers a complete history at a glance, investigating the movement of an item by product code.

Next is the software's Flexible Security Settings, which allow the administrator to set security and permission levels for user access.

Finally, the system is paperless. All approvals are conducted via email alerts, all vendor quotes and orders are delivered electronically via extranet and a full audit trail and authorisation log are stored within the system. The software also integrates fully with finance systems.

AGR is the sole distributor of M<sup>2</sup>™. ■

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# Deep and meaningful

Deep Casing Tools' innovative products cut drilling costs for operators whilst also offering health and safety benefits

**D**EEP Casing Tools combines innovative design with precision engineering to develop and manufacture technology that enables oilfield engineers to land casing and completions first time at target depth (TD) in increasingly demanding wellbore conditions.

The Aberdeen-based company's latest products are Shalerunner™, Turborunner™ and Turbocaser™ Express, which are sacrificial turbine reamer tools designed to help wash and ream casing, liners and completions to TD in holes that have already been drilled. The tools are connected to the end of the string and stay in the hole when TD is reached.

## Shalerunner™ and Turborunner™

The Shalerunner™ and Turborunner™ are free spinning turbine tools that start rotating at low flow rates. They are designed to run on the end of a production liner or lower completion to remove well bore obstructions by circulation alone. Rotating completion strings is not possible and costs can spiral upwards if well obstructions prevent the liner or lower completion from reaching TD, which makes the free spinning nature of Shalerunner™ or Turborunner™ a key feature of the product.

In addition to being free spinning, thereby providing low start up pressures with high speed reaming, the special stall characteristics offered by the Shalerunner™ or Turborunner™ turbine also provide a unique operational safety factor.

When a positive displacement motor (PDM) stalls, the circulating pressure spikes, with the potential of irreversibly activating and setting hydraulic components at the wrong depth. In contrast, when a Shalerunner™ or Turborunner™ turbine stalls, the circulating pressure reduces by several hundred psi, eliminating any risk of setting a liner hanger or packer in the wrong place whilst at the same time providing a warning signal at the surface.

The tool has been successfully used in the North Sea, Middle East and US.

## Turbocaser™ Express

Turbocaser™ Express is based on turbine technology. The consequences of setting casing and liners at the wrong depth can be severe. The presence of any rathole below a shoe can compromise mechanical integrity of the shoe, directional control, hole cleaning, and ultimately the well objectives. All of these factors increase well costs, add risk and delay production.

Turbocaser™ Express avoids these pitfalls simply by attaching to the casing or liner below the float equipment as part of the shoe track. If obstructions are encountered when running casing or liners, circulation is all that is required to start the reamer shoe rotating at high speed to wash and ream the string to bottom.

In several challenging wells it has been proven successful in reaming tight spots, clearing cavings and fill, and in reducing excessive filter cake build up which had caused differential sticking, particularly in mature fields ▶▶

## Turbocaser™ Express

▶▶ with depleted zones. Once the string is on bottom, and cemented following normal procedures, drill out is the next challenge.

For drill out, the patented Turbocaser™ Express motor has to be drilled through. In a notable design breakthrough, the motor can be drilled straight through in under 15 minutes, faster than the float collars above it. The same drill-out assembly can proceed to drill the next open hole section.

Drill-out operations to date have been completed successfully with PDC, insert and mill toothed bits. Indeed Turbocaser™ Express has also been used with great success in drilling work in the North Sea, Middle East and US.

### Unique approach

Deep Casing Tools' unique and patented technology provide a step change in the process of running tubular, and can be used on any rig or well in the world without the need for special equipment, or additional personnel.

The company's technology adds value to the operator's bottom line by ensuring tubulars reach total depth, thus reducing unplanned well costs and potential HSE exposure. Direct cost savings can also be immediate, through the elimination of wiper trips, clean out and reamer trips that are frequently made before pulling the drilling BHA and running pipe.

As well profiles become more challenging and completion complexity increases, the risk and financial impact of not reaching TD becomes a serious consideration. The industry currently monitors non-productive time (NPT) associated with hole problems and borehole instability.

With a few notable exceptions, the industry does not separately measure or quantify the frequency, impact and cost of not getting tubular right to TD. Deep Casing Tools' innovative technology can remove this risk and associated cost by using downhole motorised reaming tools to clear obstructions and ream tight hole without string rotation.

Powering a reamer shoe right at the bit provides maximum energy without rotating the casing or completion, which has attendant costs and risks.

When TD is reached, the casing and the reamer systems are cemented conventionally and become part of the wellbore casing structure.

### Onshore/offshore

Deep Casing Tools' products are equally effective in offshore and onshore operations. A recent example of the latter was demonstrated in the US, where a major operator decided to challenge the automatic convention of wiper and reamer trips before running the completion in 12,000'+ horizontal sections.

Use of the Turborunner™ powered reaming tool proved that these trips added unnecessary time and cost to the operation. The operator is now extending the length of the horizontal section to access more production from a single lateral, further enhancing field economics.

There is significant potential for this philosophy and approach to be transferred to the typically higher cost offshore environment, which makes the case for operators to use Deep Casing Tools' technology a compelling one. ■

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# Intelligent design

Silixa's intelligent Distributed Acoustic Sensor (iDAS™) pushes the limit of seismic applications

**S**ILIXA Ltd has developed the world's most advanced intelligent Distributed Acoustic Sensor (iDAS™). The innovative application offers a continuum of benefits for a number of wellbore monitoring applications, including: Vertical Seismic Profiling (VSP); flow imaging; hydraulic fracturing (fracking) monitoring; well integrity evaluation such as leak detection; gas-lift optimisation and Electrical Submersible Pump (ESP) condition monitoring.

The iDAS measures the full acoustic field along unmodified optical fibre up to tens of km in length with a spatial resolution down to one metre, capturing the full amplitude and phase of the incident wave on the sensing optical fibre over a wide frequency range <8 mHz and up to >100 kHz with a wide dynamic range (>120dB).

Silixa has developed several advanced embedded data-handling and visualisation tools to process the high volume of data generated by iDAS. The new signal processing allows real-time quality control of the data in a SEG-Y format.

The sensor technology can be combined with the company's industry-leading distributed temperature sensor, Ultima™ DTS, with a temperature resolution of <0.01°C and a spatial resolution of 25 cm.

In addition, the system can be retrofitted on the existing single-mode and multi-mode optical fibres that are already installed for the telemetry

applications without the need for well intervention and shutting off the production.

In a demonstration of iDAS' core attributes, Silixa recently used the technology to acquire simultaneous multiwell VSP. Four iDAS units were retrofitted to existing optic fibres in three offshore wells and simultaneously recorded acoustic signals generated by a towed marine seismic source. The measurements were carried out without disturbing the normal operation of the wells.

*(For further details on this case study please see the paper presented at the EAGE conference in Malta this year titled: BG07, Simultaneous Multiwell VSP Using Distributed Acoustic Sensing, by K.N. Madsen (Statoil ASA), S. Dümrong (Statoil ASA), T. Parker (Silixa), D. Finfer (Silixa), P.N. Travis (Weatherford), T. Bostick (Weatherford) & M. Thompson (Statoil ASA))*

As well as the applications detailed above, Silixa is also developing new sensing cables that offer significantly enhanced measurements for many wellbore monitoring applications. ■

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The conference will cover the full spectrum of technologies crucial to production, processing, and environmental remediation, with plenary sessions on nontechnical issues and specific projects. The exhibition will feature technologies, products, and services vital to some of the world's most important oil work.

# Chemical challenges

## Clariant discusses the advantages of and challenges posed by chemical EOR

**C**HEMICAL enhanced oil recovery (cEOR) makes up around 11% of EOR projects globally.

There are many different types of cEOR involving the individual or combined injection of: surfactants that lower the surface interfacial tension between the injected water and crude oil in the reservoir and/or change wettability of the reservoir rock surface, allowing 'desorption' of crude oil; water-soluble polymers, which are added to injection water to increase viscosity, allowing more efficient displacement of crude oil from the reservoir; alkaline chemicals such as sodium hydroxide or sodium carbonate, which are added to the injected water and saponify natural surfactants (in-situ surfactant generation) in crude oil, creating water-soluble soap that increases the pH and mobility of the crude oil.

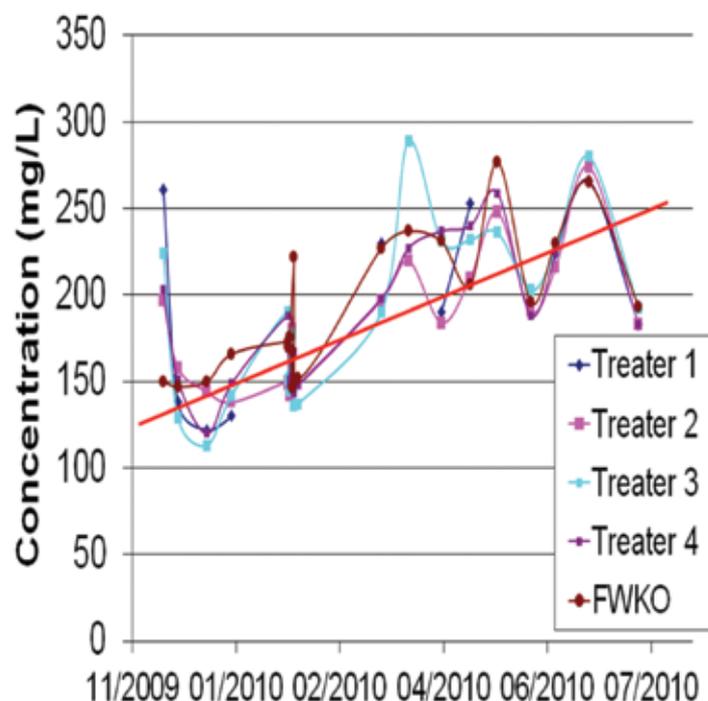
The use of polymer flooding and alkali surfactant polymer (ASP) flooding techniques is becoming commonplace in the oil industry but there is often little consideration given to the implications these EOR chemicals have upon their breakthrough into producer wells.

### Knock-on effects

The impact can be varied, but most commonly can include effectiveness of primary oil/water separation and emulsification. This can have ramifications on water treatment and the removal of oil from water.

The contribution that EOR chemicals can have on reservoir souring is often underestimated, as mineral scale formation can be exacerbated, especially if alkaline surfactants or chemicals are used, and corrosion processes and inhibitors can be affected as surface competition occurs between the corrosion and cEOR products.

All this can result in significant challenges to installing process equipment retrospectively and/or production chemical strategies.



**Figure 1:**  
Polymer breakthrough measured in the process plant

### The most common classes of chemical injected for cEOR include:

**Sulphonates** – secondary alkane sulphonates,  $\alpha$ -ether sulphonates, petroleum sulphonates

**Ethersulphates** – tributylphenol with ethylene oxide ether sulphate, alkylaryl ether sulphates with ethylene oxide

**Ethersulphonates** – alkylaryl ether sulphonates with ethylene oxide

**Ether acetates** – alkyl and alkylaryl ether acetates with ethylene oxide

**Polyacrylamide (PAM) and Hydrolysed Polyacrylamide (hPAM)**

The environmental profile of these cEOR chemicals can be poor. This is especially the case for PAM and hPAM, where it is very typical for operators to reuse the 'contaminated' produced water, adding fresh polymer before reinjecting the treated water.

### Changing tide

An oil and water separation case study is highlighted below. The formation of persistent and stable emulsions should come as no great surprise when one considers the chemistry of surfactants and polymers injected for cEOR.

As these injected chemicals break through into producing wells, the strong chemical interaction of polymers – especially surfactants – attracts them to the oil/water interface, stabilising emulsions and preventing agglomeration, creaming and even settling.

PAM and hPAM also introduce higher viscosity to the produced water. ▶▶



► fluids, which (according to Stoke’s Law) affects settling efficiency.

It is clear that owing to the breakthrough of these cEOR products, new demulsifier and water treatment chemicals are required. It is common for chemical consumption of emulsions stabilised by cEOR breakthrough to be higher than those associated with primary or secondary recovery.

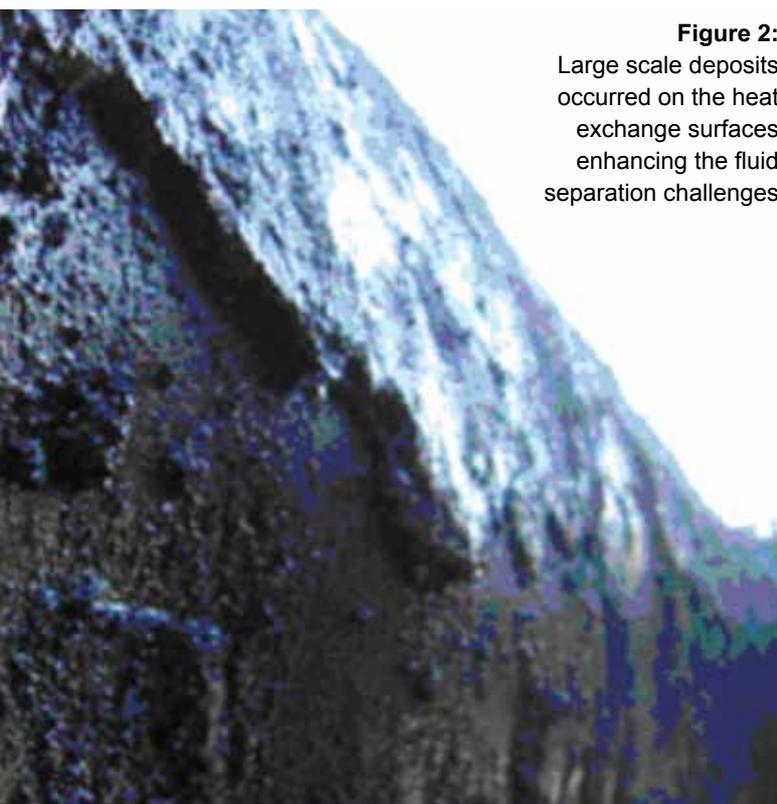
**Case study**

This case tracks the continual improvement cycle for the fluid separation process of a heavy oil field where a cEOR polymer flood was experiencing breakthrough into the producing wells. This posed a major challenge for the operator of this 13-16° API oilfield.

Demulsifier was injected in two separate locations: first, a series of injection points out in the field, and second, at the processing facility. A significant amount of polymer was being measured in the processing plant vessels (see Figure 1). The polymer flood utilised a mixture of PAM and hPAM of varying anionic charges and molecular weights.

The separation challenge was exacerbated by the formation of large-scale deposits on the surfaces of the heat exchange devices (see Figure 2) which resulted in less heat being transferred to the fluids in the vessels. This meant more challenging separation and the requirement for any injected demulsifier to have the ability to ‘cold treat’ the produced fluids.

Field testing was performed and enabled the transition to a more suitable demulsifier product to cope with the challenge of cEOR polymer breakthrough. Based on the results, a blend of ethylene oxide/propylene oxide (EO/PO) block polymers and an alkoxyated amine was found to be the most efficient treating combination.



**Figure 2:**  
Large scale deposits occurred on the heat exchange surfaces enhancing the fluid separation challenges

The new product was very good for fast water drop, and the basic sediment and water (BS&W) of the processing vessels was much improved.

Some general plant trends have been plotted in Figure 3, which shows the evolution of the sales BS&W with total oil and water flow rates. Figure 3 illustrates the relationship between the sales BS&W and the volume of water the field produced and handled at the battery and it can be seen that as the produced water rates rose, the lease automatic custody transfer (LACT) BS&W also increased. It can be seen that the significant up-kick in BS&W is contemporaneous with the onset of EOR polymer breakthrough.

**Conclusion**

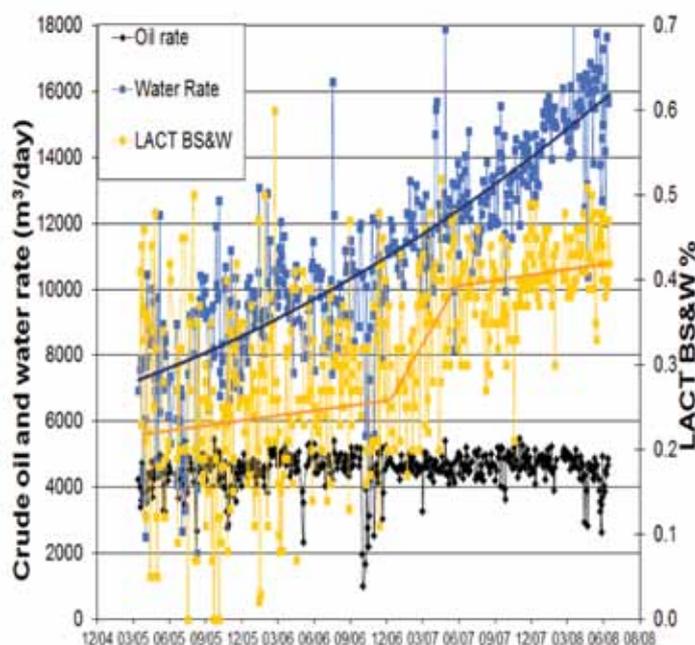
In conclusion, EOR methods can often result in processing, flow assurance or integrity related challenges that otherwise would not have manifested, and the case study exemplifies this.

It is possible to mitigate challenges induced by EOR applications but the solutions are often complex and require time to identify and solve.

Furthermore, breakthrough of chemicals used in EOR is not predictable, nor is it a linear problem that becomes more challenging with time. It is dynamic, unpredictable and requires an equally dynamic and robust monitoring and mitigation strategy. ■

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**Figure 3:**  
Sales BS&W against production. The sharp increase in BS&W is contemporaneous with significant polymer breakthrough into the processing vessels

# Clariant Oil Services

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Arena International is proud to announce that the Oil and Gas Technology Forum, will return to Amsterdam on September 17th-19th 2013. Celebrating its 4th anniversary, the event promises to be one of the most exciting gas focused events of the year, bringing together key executives from industry and state agencies to see the latest opportunities and how to overcome challenges in natural and unconventional gas exploration and production.

Our senior line-up will be delving into the pressing issues of the day, with sessions focusing on: Exploration and production, innovative technology showcase, operational excellence, protecting the environment and gas transportation and storage 'game changers'.

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- **DAVID MESSINA, MANAGING DIRECTOR, HUTTON ENERGY**
- **FRANCISCO P. DE LA FLOR GARCIA, DIRECTOR OF REGULATION, ENAGÁS**
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# G3i shrugs off extreme Siberian temperatures

INOVA's G3i™ system is making waves in the seismic industry

**S**ALES of INOVA's G3i™ mega channel system have passed 100,000 channels since its introduction to the seismic industry just one year ago. Companies have been quick to pick up on the breadth and productivity benefits that the cable-based land recording system brings to their exploration initiatives. The highly flexible system has scaling functionality that meets operational requirements for a broad range of surveys – from low channel counts to higher channel counts used for high-density, wide-azimuth acquisition.

The G3i system was launched a year ago to give customers more options to meet their land seismic equipment and operational needs. Since the delivery of the first system sale to BGP, G3i has been used throughout Asia in varying climates and environments, including urban, desert, and mountainous areas.

Additionally, G3i is being deployed in complex terrains for customers in Russia.

For instance, GeoGlobAll Group looked at – and purchased – the G3i system based on its reliability and high performance, operational flexibility and practical approach to training offered by INOVA. GeoGlobAll seismic crews deployed G3i for a commercial acquisition in West Yakutia on December 1, 2012. GeoGlobAll is a multi-profile oilfield service enterprise that includes geological, geophysical and drilling capabilities.

Despite temperatures dropping to minus 45 degrees Celsius – minus 49 degrees Fahrenheit – G3i has continued to demonstrate its rugged capabilities in the extreme Siberian cold. Results have impressed GeoGlobAll's management, and its Yakutskgeophysika unit, and they are committed to furthering their partnership with INOVA and the use of their technologies.

"We offer customers the best choice for a high-performance system that provides the data quality necessary to compete in the oil and gas industry. In the end, it is about achieving the highest levels of productivity coupled with technology that offers the best imaging quality for reservoir characterisation for our customers. INOVA ranks number one for rugged equipment that successfully operates and performs consistently in the field," said John Bell, Senior Vice President Business Development and Global Sales for INOVA.

INOVA is a joint venture owned 51% by BGP, a wholly owned subsidiary of China National Petroleum Corp. (CNPC), and 49% by ION Geophysical Corporation. ■

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## SUMMIT GUIDE



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# Taking stock

Thames Stockholders holds a comprehensive stock range of metals and plastics, whilst offering oil and gas operators essential testing and evaluation services

**T**HAMES Stockholders is part of the Smiths Metal Centres group and is a leading supplier of metals and plastics into a number of high-tech industries, including oil and gas. As a group, it employs over 280 people throughout the UK, many of whom are experienced alloy and market specialists, enabling it to give high-quality technical and commercial assistance to its customers.

When failure is not an option, companies must have absolute faith in the materials they are using – and Thames Stockholders can provide the range of testing and evaluation needed for peace of mind with its “in house” UKAS accredited materials-testing laboratory.

Some of Thames Stockholders’ customers are applying mechanical properties right up to safe limits and need to have certainty about the materials being used. The group’s qualified metallurgists can provide, and advise on, a comprehensive range of material testing and evaluation options, including alloy selection.

Thames Stockholders holds AS9100 Rev C/BS EN 9100:2009, AS9120 Rev A/BS EN 9120:2010 and ISO 9001:2008 quality approvals and these are complemented by over 40 other aerospace and high-technology group approvals from major customers. It also conducts regular internal audits and has its own training manager.

The group was originally established in 1780 and has continued to grow to become a world-class supplier to industries of all types and sizes. Its headquarters are in Biggleswade, Bedfordshire, where it has a 100,000-square foot (9,000-square metre) facility, holding around GBP16 million (US\$24 million) worth of material encompassing 15,000 core product specifications in what is regarded as the widest ex-stock product range in Europe.

Thames Stockholders’ comprehensive stock range is controlled by a barcode traceability system and includes stainless steel, super duplex, aluminium bronze, phosphor bronze, copper, brass, titanium and aluminium. The group is also one of the first stockists to keep ranges of genuine 3.2 certified material predominantly for the oil and gas industry.

Thames Stockholders operates a key supplier programme through which it secures quality-assured products from approved suppliers, allowing it to offer consistent product performance across its range of materials. The company also gets the benefit of flexible capacity reservations, accurate delivery estimates, competitive market prices and full technical assistance from the people who manufacture the material.

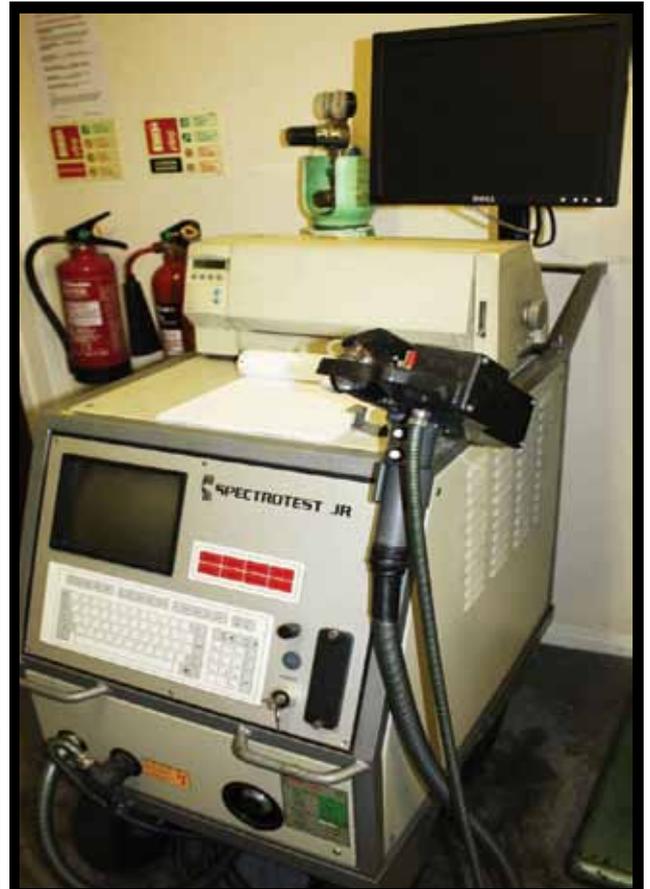
## IT platform

A major strength of the business is its next-generation IT platform that ►►



Above: Thames Stockholders warehouse

Right: The groups in-house UKAS accredited materials testing laboratory



► was written in-house by Smiths using a team of experienced software developers. As well as controlling the procedure for each order raised, Goldeneye, as the system is known, has been developed over the last six years to run a sophisticated material requirements planning (MRP) programme with a target of servicing 98% of customer enquiries from stock.

True object orientated programming within Goldeneye gives Thames Stockholders the ability to install this state of the art computer system into a customer's premises tailoring it to their unique requirements. This service, known as a 'supplier managed inventory' (SMI) dramatically improves the supply chain efficiency and could lead to significant cost savings for the customer.

Examples of this include: moving stock over to Thames Stockholders to free up more space at a customer's premises; reduced stock finance costs; just in time delivery of cut pieces to machine side; and bespoke packaging/labelling.

Importantly the customer still retains control of the stocking parameters but some or all the other functions dependent on the customer's requirements are moved over to Thames Stockholders. This unique system has been created exclusively for use by Thames Stockholders and Smith Metal Centres customers and has already been

installed at many major OEM and large sub-contractor accounts.

Furthermore, Thames Stockholders' additional processing options provide the company with the possibility to supply customers with engineering raw materials in sizes, lengths, finishes and coatings that are already one step closer to the finished components they require.

The company offers billet cutting on one of its 35 fully automatic bandsaws, plate sawing, guillotining, coil slitting, vinyl coating and tube honing, all of which are carried out in-house.

To complete the process the customer's material would then be delivered on one of the 50 lorries within the group's fleet to ensure it arrives on time and packed as per the client's instructions.

Thames Stockholders offers its customers an unrivalled level of service that has been developed over a number of years. The company welcomes opportunities to discuss future material requirements, and how to streamline the raw material supply chain, potentially reducing costs beyond that of the material price alone.

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## The Standards Leadership Council offers interoperability strategies between oil and gas industry standards bodies

**T**HE formation of the Standards Leadership Council (SLC) by nine of the leading standards bodies associated with the oil and gas industry has afforded interoperability opportunities that will benefit the oil and gas industry.

The SLC's mission is to identify points of intersection between the various standards, initiate collaborative projects to identify interoperability and to address best practices common to standards bodies such as; defining business value of open standards, financial sustainability and membership relationship management and ultimately communicating that message to the upstream industry.

In late 2011, the leaders of Energistics, PPDM and PIDX International came together to discuss how best to address the perception that competition exists between standards bodies in the oil and gas industry. The resulting plan was to invite nine standards organisations that provide services to the industry to a meeting in early 2012 to discuss common challenges and to initiate collaboration. The intent was to start a dialogue with top executives from each of these organisations about collaboration. The result was an enthusiastic response and the formation of the SLC.

The vision of the SLC is to provide a neutral environment for leaders of not-for-profit oil and gas standards organisations to communicate and collaborate regularly to avoid competing for resources, memberships and duplication of efforts.

The SLC is developing a methodology to determine the most important points of intersection between its member organisations. It is not a simple two-dimensional exercise and the council continues to refine its techniques to ensure that the points of intersection are addressed in a manner that will identify collaborative projects that can

be initiated in the short and long term.

A graphic (above) has been developed to allow industry members to visualise on a single page the whole of an oilfield and where each organisation fits and where opportunities to intersect appear. The Council has also focused on how best to communicate the standards landscape to the industry.

### Tactical approach

SLC's tactical approach has been to focus on understanding its member organisations and how they relate to the industry and each other. The Council has spent considerable time identifying the points of intersection so it can focus on the most important opportunities for collaboration to benefit the industry.

The SLC has been received enthusiastically by the oil and gas industry, with the Council's members keen to ensure that they speak with one voice on the subjects of open standards adoption, points of intersection and collaboration in projects. This movement to closer co-operation by the standards organisations will be reflected in a more efficient approach to industry standards development and adoption.

Those organisations and their remits are available on the newly formed SLC website ([www.oilandgasstandards.org](http://www.oilandgasstandards.org)), which provides a single location for SLC event information, presentations from previous forums and information about each member. ■

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# The special ones

SpecTec has unveiled its latest special technology – AMOS

**S**PECTEC'S Asset Management Operating System (AMOS) is a powerful Windows-based application suite capable of handling most of the daily enterprise resource planning (ERP) functions encountered within organisations that comprise multiple (remote) locations.

AMOS delivers a total solution for the marine and energy industries, combining leading edge approaches to maintenance, inventory and purchasing.

The AMOS application is modular, scalable, work flow driven and can suit any type of business process. Furthermore, it is easy to use, role driven and oriented towards key performance indicators (KPI).

The application can be customised easily to satisfy the most demanding and complex requirements whilst remaining suitable for a user spectrum ranging from entry level up to complex administrator/management level users. It reduces operational complexity, increases management control and decreases the cost of ownership. Indeed, the proven return on investment offered by AMOS is significant within the first two years of operations.

SpecTec's skilled and experienced staff provides consultancy services, following tried and tested methodologies, that ensure an operator's AMOS application is optimally configured and implemented. Services offered by the company include database construction, training, maintenance optimisation, spare parts optimisation, criticality analysis and reliability centred maintenance (RCM) studies.

The AMOS software has been developed as a global product and for that reason all relevant documentation is supported in eight different languages, including Russian, Arabic and Chinese.

## Special features

The word 'special' is part of SpecTec's fibre. SpecTec means 'Special Technology,' which is an apt description for the AMOS application.

It is a tailored user-friendly market tool that can deliver customised solutions without a massive amount of additional services and people.

It allows full Assets Cycle Management through the procurement, maintenance, logistic and spare parts process, in order to ensure a non-stop flow of oil. This is crucial, since anything that stops oil from flowing, such as an equipment failure, costs money.

SpecTec spends heavily in research and development and currently reinvests 15% of its revenue into the oil and gas sector. AMOS is approved by Bureau Veritas, DNV, Lloyds Register, RINA and GL classification societies.

The software has been designed specifically for organisations consisting of multiple sites, where remote site communications may be unreliable or insufficient to support a centralised database solution.



The AMOS tools used for managing the replication of data provide robust and reliable solutions to transfer/replicate every running database (by sending and receiving data) from remote sites to the office or headquarters via several unique data transfer methodologies.

AMOS can be integrated easily with any third-party systems, including e-business providers, financial software applications and integrations with Automation Plant/Condition Based Maintenance programmes.

Furthermore, SpecTec continues to establish partnerships with providers of solutions that will complement and enhance the AMOS scope.

SpecTec has designated support centres in each oil-producing region around the world. These hubs together with the company's AMOS Support Desk System provide an effective support service to AMOS customers that use the company's products.

SpecTec comprises a network of 25 offices in 19 countries, and more than 300 staff to service its clients' needs.

AMOS is an essential tool for oil and gas companies for a number of reasons. It enables them to improve their operations, streamline processes, reduce risk, increase profitability, implement best practices and simplify decision-making. ■

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# Cutting out the middle man

EMM Corp is a one-stop service company for the oil and gas industry

**E**MM Corp offers high performance products that match the technically demanding requirements of today's oil and gas industry.

The company, which is part of the Usha Martin Group, is one of the largest global suppliers of wire rope products, shackles, slings, lifting and rigging gear, including marine mooring equipment and anchoring systems.

The company is unique in that it is not simply a stockist. Instead, it is a one-stop service company, offering heavy spooling services, proof testing and inspection facilities, full rigging shop services covering pressed terminations from a diameter of 3mm up to 102mm, and wire rope socketing.

EMM remains in control of its wire rope from the manufacturing phase right up to the point of sale, with no third-party involvement. While most manufacturers offer a rope-only solution, EMM provides a complete turnkey product including installation, removal of existing wires, spooling/pre-tensioning and testing/inspection services throughout the life of the rope.

Founded in 1996, EMM has longstanding relationships with several multinationals and is dedicated to delivering premium service to all of its clients at all times.

In terms of innovation, the company is in the process of developing wire rope at lengths of over 3,000 metres and diameters of up to 152mm, which is ideal for deepwater operations.

EMM has the largest stockholding of wire ropes in the UK with approximately 3,000 tonnes at its facility in Dyce. The company's four manufacturing facilities around the globe mean it is well placed to support operators wherever they are active.

## Subsea equipment

The company offers a wide range of subsea handling equipment. The first notable piece of kit in this regard is its subsea lever hoist, which is capable of hoisting up to 10Te safe working load (SWL).

The subsea lever hoist was tested with over 700 hours continuous exposure to an industry-generated test programme drawn up and agreed upon by a group of independent professionals. The programme included over 50 individual load tests on the same hoist of varying weights and at various timescales.

The next bit of technology worth highlighting is EMM's specialised



remote operated vehicle ROV operable subsea chain hoists, capable of lifting up to 20Te SWL. The company can provide three types of interface for ROV chain blocks: hydraulic hot stab connection type A dual port; rotary torque receptacle classes 1, 2 & 3, and manual D-Handle, T-Bar or fishtail direct drive. EMM is able to tailor its products to suit the customer's needs, for example including marine specific friction discs helping to provide a highly efficient and reliable braking surface for use in the most extreme conditions. The company can also provide bespoke chain lengths to suit the customer's application.

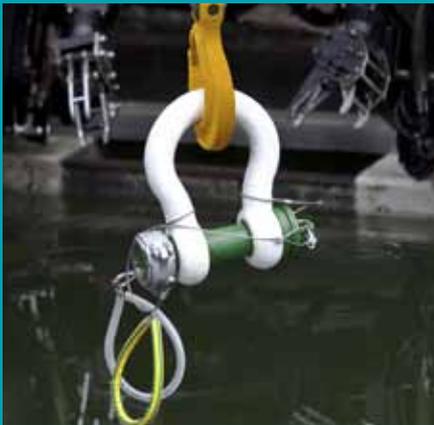
EMM also offers a full range of ROV-friendly shackles and safety hooks. All can be individually configured to a client's specific application requirements. The shackles can be supplied in the following designs: screw pin (comes with drive ring); double R-Pin release; spring release; self-ejecting and hydraulic operation. ROV hooks are offered in several configurations, such as: HEX shank safety hook; eye type safety latch hook; self-locking type and special one-off designs.

All of EMM's equipment has been developed by the company working closely with its clients and suppliers. Its range of applications has undergone rigorous salt spray and immersion testing to ensure reliable quality performance. ■

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To find out more about how EMM Corp can help you please contact us today.

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