

THE MAGAZINE FOR THE UK  
OFFSHORE OIL AND GAS INDUSTRY

ISSUE 41 - SPRING 2018



# Leading from the front

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oil recovery aboard Captain  
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## Best foot forward

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*Taking inspiration from space and  
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# FIELD PROVEN AND COST EFFECTIVE MODULAR RIG SERVICES

Providing global services to  
the **P&A**, **well intervention**  
and **drilling** markets

- 💧 Innovative modular rigs with low POB
- 💧 Well engineering studies
- 💧 Project management and collaboration
- 💧 Engineering and technical support
- 💧 Crewing solutions



## Regulars

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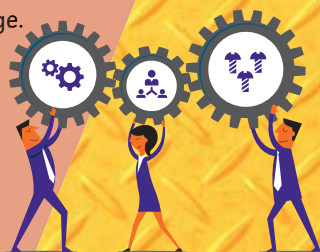
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# Welcome



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I am delighted by three positive announcements early on this year. From Shell's redevelopment of the Penguins field, to BP's two new discoveries in the North Sea, as well as new company Spirit Energy's plans to extend the life of the Chiswick field. When you add into this mix the pioneering polymer enhanced oil recovery project on Chevron's Captain field, which features in this issue (p18), they together illustrate the breadth of opportunities on offer on the UK Continental Shelf.

However, while sentiment is improving, budgets remain tight and parts of the supply chain continue to feel significant pressure.

While 2018 will be a crucial year for our industry, we should take confidence from how far we have come in recent years. We've stayed focused during one of the most difficult downturns the industry has faced by improving efficiencies, driving up production and remaining committed to strong safety and environmental performance (p11). Nevertheless, there is plenty left to do if we are to sustain and deepen our competitiveness over the coming months.

Strong M&A activity last year, the prospect of significant projects securing approval this year and what this could mean for the wider supply chain give us cause to look ahead more positively. We look forward to seeing how the welcome Transferable Tax History measure (p5) opens doors to more asset deals and encourages fresh investment with benefits for future production, jobs and energy security.

But the life cycle of our industry depends on exploration and we must urgently tackle the ongoing low levels of drilling. It's heartening to see companies within our own Wells Forum, as well as the Oil and Gas Authority and Common Data Access Limited (p8) playing their part to stimulate exploration. And it was great to see such a strong turn-out at our recent Exploration Conference as experts shared their learnings.

As an industry, our focus on driving up efficiency remains key and the Competitive Well Delivery Initiative (p25) is a great example (among many others) of where industry is working together to carry out well construction as cost effectively and efficiently as possible to attract vital investment.

And, of course, we must support innovation wherever we can. Two companies – Return To Scene and Wood – reveal how they have taken inspiration from far flung sectors such as forensics and space (p30).

Our new Supply Chain Hub (p7) is designed to give businesses access to organisations, tools and initiatives that will help them become stronger and more competitive. In this issue, we put the spotlight on governmental departments and regional development agencies that offer companies support to grow overseas (p36).

And last but not never least, everything we do depends on the people in our industry, supporting them and encouraging their development. So, I ask you to actively support the AXIS Network featured in this issue (p39) as it champions "better gender balance for better business" – for your business benefit and that of the industry as a whole.

Deirdre Michie, Chief Executive, Oil & Gas UK

**Wireline is published by Oil & Gas UK, the voice of the UK oil and gas industry.**

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**OIL&GASUK**

## 1. M&A activity signals returning confidence to UKCS

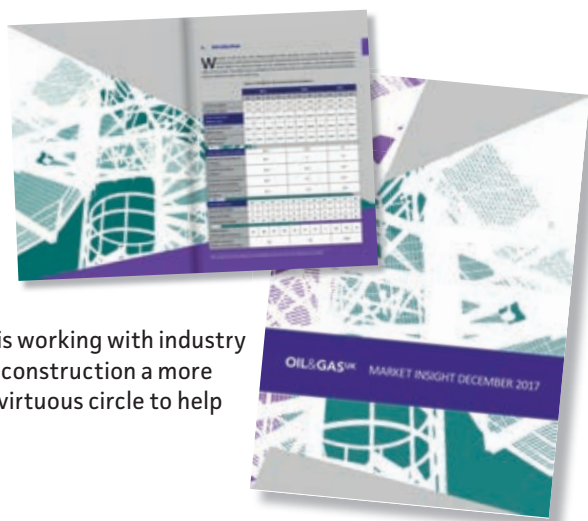
Merger and acquisition (M&A) activity on the UK Continental Shelf (UKCS) surpassed \$8 billion in 2017, pointing to returning confidence in the basin, reveals Oil & Gas UK's new *Market Insight*. There are also signs that many significant projects could secure approval this year, offering a more positive outlook for the whole industry.

Michael Tholen, Oil & Gas UK's upstream policy director, notes that "with Transferable Tax History in play (see story below), we expect that M&A activity will continue into 2018 as established players can more easily divest their non-core assets to companies better suited to invest in them and extend field life. Analysis shows that when an asset changes operatorship, average field life extension of nearly five years is achieved, and I am confident that trend will continue to shape the future of the UKCS."

However, the low level of drilling remains a concern. Oil & Gas UK's Wells Forum is working with industry on a basin-wide performance improvement strategy that will help to make well construction a more efficient and cost-effective process. "Success in our wells strategy will create a virtuous circle to help unlock more opportunities in the basin," adds Michael.

Access the full report at <https://cld.bz/iwBzwOe>.

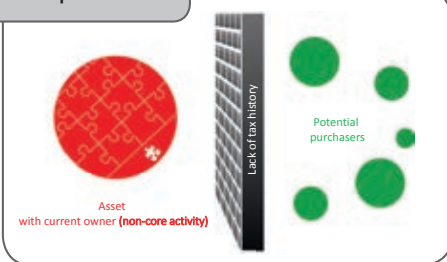
# News



The benefits of Transferable Tax History

## 2. Transferable Tax History holds promise for asset deals

### The problem



As of November 2018, tax history will transfer between the seller and buyer of oil and gas fields on the UK Continental Shelf (UKCS) to help stimulate asset deals and unlock further investment. The measure announced by the Chancellor in the Autumn Budget last year follows extensive consultation and constructive discussions between Oil & Gas UK and Treasury on measures to unlock further asset trading in the UK North Sea.

Transferable Tax History offers benefits to industry, the Exchequer and the wider economy. Deirdre Michie, chief executive of Oil & Gas UK, comments:

"This is a vital step that can bring new investment to increase recovery from existing fields and fund fresh investment, which is key to generating activity for our hard-pressed supply chain. It will also help extend the lives of many mature fields and postpone decommissioning.

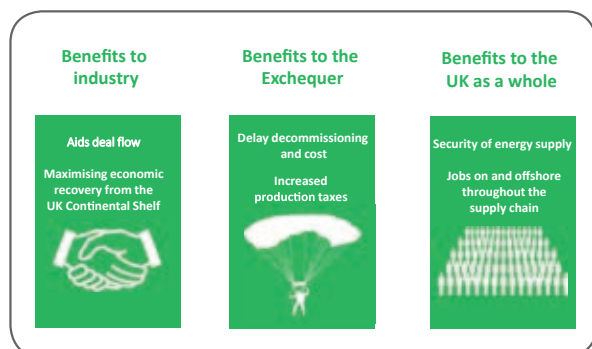
### The result



"While there have been a number of deal announcements in the basin over the last year, these have mostly been for less mature assets, have been extremely complicated and taken a very long time to negotiate. This tax measure should help deals to complete more quickly and in a more efficient way.

"Prolonging the life of mature assets allows industry to deploy its skills and technology to maximise extraction of the UK's oil and gas, increasing production tax revenues to the Exchequer and securing highly-skilled jobs and domestic energy supply".

### The benefits to the Exchequer and wider stakeholders



The Chancellor has also renewed the government's commitment to its *Driving Investment Plan* – another key request from Oil & Gas UK to promote confidence among investors that the UKCS remains a fiscally competitive basin in which to do business. Further announcements include a technical consultation on Petroleum Revenue Tax deductions for decommissioning costs incurred by a previous licence holder and clarification on tariff income treatment within the Ring-Fenced Corporation Tax regime. Oil & Gas UK will work closely with its members and the Treasury, including the new Exchequer Secretary to the Treasury Robert Jenrick MP, to ensure that all these measures support maximum economic recovery from the basin.

See the government's document on *Transferable Tax History Design Principles* at <http://bit.ly/TTHdesign>. For more information, contact Oil & Gas UK's fiscal policy manager, Romina Mele-Cornish, on [rmele-cornish@oilandgasuk.co.uk](mailto:rmele-cornish@oilandgasuk.co.uk).



Image © iStock.com/mikeuk

### 3. Future emissions trading rules could increase compliance costs

Participants in the EU Emissions Trading Scheme (EU ETS) could face increased certificate prices – particularly after 2024 – and fewer free allowances for the offshore oil and gas sector. This follows the EU Council and Parliament's agreement of the rules for greenhouse gas emissions until 2030. It is estimated that the cost of compliance for the sector could increase from around £30 million to over £100 million per annum over the next decade. The exact outcome will also depend on the UK's carbon policy post-Brexit. Oil & Gas UK is working with its members to quantify the impact of different policy options as a basis for discussion with the Department for Business, Energy & Industrial Strategy.

The UK will continue to participate in EU ETS in 2018. The deadline for companies to surrender certificates for the year will be brought forward to 15 March 2019, before the UK leaves the EU. Companies should note the reduced time for verification.

**For more information, contact Oil & Gas UK's energy policy manager, Will Webster, on [webster@oilandgasuk.co.uk](mailto:webster@oilandgasuk.co.uk).**

### 4. Collaboration shifts from aspiration to reality

Ninety-five per cent of operators and suppliers now say collaboration is an integral part of their day-to-day business, according to an annual survey published by Deloitte and Oil & Gas UK. This figure is up from 86 per cent in 2016. The landmark *Wood Review* identified collaboration as a fundamental behaviour towards securing the successful future of the UK Continental Shelf (UKCS).

The survey gathered the views of over 150 companies on the UKCS and returned a 7.1 *Collaboration Index* score, the highest score to date. This represents the third successive annual improvement and, although cost reduction remains the main reason (31 per cent), for the first time, sharing knowledge and learning is considered more important than risk reduction.

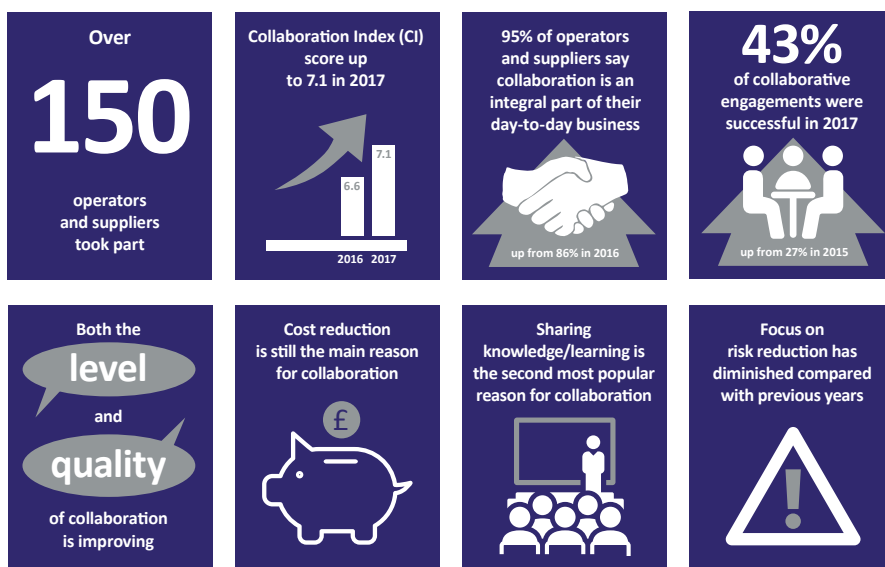
Mariesha Jaffray, Oil & Gas UK's continuous improvement manager, adds: "We can speak with tentative confidence that these behaviours are the new normal. The messages on the benefits of supply chain collaboration are starting to be embedded. The survey also underlines the importance of Oil & Gas UK's Efficiency Task Force, which continues to seek out, promote and provide access to efficient and collaborative practice across the sector."

**Download the full report at <http://bit.ly/17Collab>.**

### 5. Rewarding good commercial behaviours

Sixteen purchasers and suppliers were recognised for their efforts in improving business relationships and maintaining an efficient supply chain at Oil & Gas UK's Share Fair event on 1 November 2017. The awards acknowledge these companies' compliance with the industry's Supply Chain Code of Practice, which is designed to help industry collaborate more to improve performance, eliminate unnecessary costs and boost competitiveness.

**Find out more about the Supply Chain Code of Practice at [www.oilandgasuk.co.uk/supplychain](http://www.oilandgasuk.co.uk/supplychain).**



## 6. Efficiency champions recognised

Over 60 professionals tasked with promoting efficiency within their companies gathered at an event organised by the Efficiency Task Force (ETF) on 22 November 2017 to recognise their efforts. Held at Nexen's Aberdeen headquarters, the evening saw new ETF chair Phil Simons of Subsea 7 praise those working to improve the global competitiveness of the UK Continental Shelf, encourage industry to continue to support such initiatives and outline the Task Force's ambitions for 2018.

"With a network of 150 champions working in companies right across the UK's offshore oil and gas industry, the Task Force continues to build the foundations for a more sustainable and globally competitive industry," says Phil. "I would urge anyone looking to be at the forefront of industry efficiency to get involved, particularly as we look towards expanding our activities."

Efficiency champions are encouraged to:

- Promote the Industry Behaviours Charter
- Host on-site roadshows to highlight cross-industry initiatives
- Provide quick access to decision makers
- Strengthen industry co-operation through continual improvement in, and support for, industry codes of practice, forums and standards

**Be a champion, contact the team on [efficiency@oilandgasuk.co.uk](mailto:efficiency@oilandgasuk.co.uk).**



Phil Simons, ETF chair (top), praises the work of the efficiency champions



## 7. Your gateway to a stronger and more competitive business

Oil & Gas UK's new online Supply Chain Hub is the industry's gateway to initiatives that aim to promote and maintain a strong and competitive UK oil and gas supply chain.

Matthew Abraham, supply chain and HSE director at Oil & Gas UK, says: "A broad cross-section of stakeholders including government departments, trade associations, innovation organisations and regional development bodies are supporting and contributing to the Supply

Chain Hub. All share the goal of ensuring our supply chain remains anchored in the UK so that we can retain and build on the mature basin expertise we have developed in areas including high pressure/high temperature and subsea engineering – key qualities that differentiate us from our international competitors."

The Hub is a key initiative from the Supply Chain & Exports Task Force that reports to the MER UK (Maximising Economic Recovery from the UK Continental Shelf) Forum.

**Explore the Supply Chain Hub at [www.oilandgasuk.co.uk/supplychainhub](http://www.oilandgasuk.co.uk/supplychainhub). Also see p36 on support available for companies wishing to grow their exports.**

### The Supply Chain Hub can help you:



- **Grow your business overseas** – access advice and support from government departments and regional development bodies



- **Find out about opportunities in decommissioning** – with the latest market insight and resources



- **Make connections** – through a calendar of networking events, forums and work groups



- **Make operations leaner, smarter and more efficient** – tap into expertise, tools and best practice



- **Keep your finger on the pulse** – with the latest industry market intelligence



- **Discover sources of funding** – get direct links to organisations keen to help you grow your business



- **Innovate to create market-ready products and technology** – find organisations offering advice and funding to transform your ideas into commercial reality





## 8. Sharing good practice in exploration

To help improve exploration success in the future and maximise economic recovery from the UK Continental Shelf (UKCS), Oil & Gas UK held its 5th Annual Exploration Conference on 1 February in London. Over 180 guests heard case studies describing the challenges and successes of recent exploration and appraisal wells on the UKCS, as well as offshore The Netherlands.



Katy Heidenreich, operations optimisation manager at Oil & Gas UK, comments: "This event is just one example of how we are working together to replenish production by successfully identifying prospects with the potential to become new development opportunities. The UKCS is a very attractive basin for doing business in and we are working hard to raise awareness of this – more investment will be key to realising the basin's potential within the lifetime of existing infrastructure."

## 9. Boost for competitive well delivery

Industry gathered in Aberdeen on 28 November 2017 to share learnings and experiences from company and cross-industry efforts to improve the performance of wells and reduce well construction costs. Oil & Gas UK and the Oil and Gas Authority's chief executives, Deirdre Michie and Andy Samuel, respectively, delivered a joint keynote speech backing the Competitive Well Delivery initiative.

Facilitated by Oil & Gas UK's Wells Forum, the initiative aims to make the UK Continental Shelf the safest and most competitive mature basin in the world to drill by industry working together to halve well construction costs to accelerate the development of discoveries, extend the life of existing assets and stimulate a rise in exploration activity. So far, Oil & Gas UK has hosted seven well scrutiny sessions bringing industry experts together to examine well design and identify opportunities for improvement. A 'staircase' for basin-wide improvement was also presented at the event and will form the basis for work in 2018.

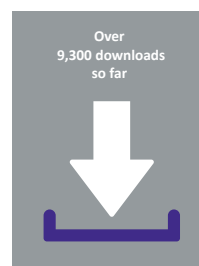
**For more information, please contact Oil & Gas UK's operations optimisation manager, Katy Heidenreich, on [kheidenreich@oilandgasuk.co.uk](mailto:kheidenreich@oilandgasuk.co.uk).**

## 10. Seismic data available for under-explored areas

Data are now available from the latest UK Government-funded seismic programme to promote exploration in under-explored areas of the UK Continental Shelf. The data – published through Common Data Access Limited's (CDA) online platform [www.UKOilandGasData.com](http://www.UKOilandGasData.com) – comprise almost 19,000 kilometres of newly acquired broadband 2D seismic, gravity and magnetic data in the south west of Britain and East Shetland Platform; over 23,000 kilometres of reprocessed proprietary and commercial seismic; and supplementary reports including released well data and joined logs for 236 wells.

CDA release of UK Government-funded seismic in 2017

CDA, an Oil & Gas UK subsidiary, has leveraged its expertise over the past two years to aid the release of geophysical data acquired and processed by the Oil and Gas Authority and funded by the UK Government. The latest data release will support the 31st Offshore Licensing Round, which opens in mid-2018.



**Access the data at [www.UKOilandGasData.com](http://www.UKOilandGasData.com).**

## 11. New guidance aids decommissioning planning

New guidance is available to help companies plan decommissioning more efficiently by determining what information should be retained after an offshore installation is removed. Common Data Access Limited (CDA), Oil & Gas UK's subsidiary, has worked with the Shell Brent Decommissioning Project and the School of Law at the University of Aberdeen to create the first publicly available 'records retention schedule' as a starting point for use in other decommissioning projects.

Daniel Brown, manager CDA projects, adds: "Once the asset is removed to be dismantled, many of the records associated with it are no longer required – but deciding what must be retained, and what may be lawfully destroyed, is not a simple task. A freely available records retention schedule is a first for the oil and gas industry, and we hope it will prove a great time saver as companies seek to meet their legal obligations while recognising their individual business drivers to retain or dispose of asset information."

**Download the legislation review, example schedule and accompanying guidance document at [www.cdal.com/index.php/data-regulations/](http://www.cdal.com/index.php/data-regulations/).**

## 12. Offering the latest in decommissioning intelligence

An insight into how the North Sea decommissioning market will take shape over the next nine years is the focus of one of two new publications available from Oil & Gas UK. The *Decommissioning Insight* captures for the first time an even broader picture of the decommissioning opportunities across the North Sea in the UK, Norway, Denmark and the Netherlands from 2017-25. It reveals that alongside efforts to maximise economic recovery, the decommissioning market is growing steadily. The report should help operators planning to decommission assets and assist supply chain companies in understanding future demand for their services and expertise within a wider North Sea context.

The second publication – the *Steel Piled Jacket Report* – provides an up-to-date overview of decommissioning offshore structures known as steel piled jackets and will be used within the framework of the OSPAR review of regulations for decommissioning this year.

Michael Tholen, upstream policy director at Oil & Gas UK, says: “These reports demonstrate the UK’s growing expertise in decommissioning and these capabilities have been developing alongside the industry’s focus on more productive activities in oil and gas production. They highlight that there is a very real opportunity for the UK’s decommissioning sector to develop competitive capabilities and become a champion of excellence in the global arena.”

**Get your copies of the *Decommissioning Insight* and the report on *Decommissioning of Steel Piled Jackets in the North Sea Region* at [www.oilandgasuk.co.uk/publications](http://www.oilandgasuk.co.uk/publications).**



### The North Sea Decommissioning Market

Decommissioning is a growing market in parallel with the drive to maximise economic recovery of resources



The UK Continental Shelf currently has the largest North Sea decommissioning market reflecting its relative scale and life cycle stage

The fall in oil price has not caused a rush to decommission as companies look to extend or maintain field life by improving efficiencies



Forecast decommissioning expenditure over the next five years:

**£1.7 – £2 billion**  
on the UK Continental Shelf per year

**£400 – £800 million**  
on the Norwegian Continental Shelf per year

**£650 – £800 million**  
total on the Dutch Continental Shelf

Supply chain companies must be able to compete in a global marketplace for decommissioning contracts on quality, efficiency and cost



### Forecast Activity Across the North Sea

Decommissioning activity is forecast on 349 fields across the UK, Norwegian, Danish and Dutch Continental Shelves to 2025



Almost **2,500** wells

are forecast to be plugged and abandoned across the North Sea up to 2025, with more than two-thirds in the UK

Over 200 platforms are expected to be removed in the North Sea from 2017 to 2025



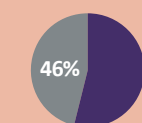
Nearly 7,800 kilometres of pipeline are forecast to be decommissioned across the North Sea



### UK Continental Shelf in Focus

Operators forecast that total decommissioning spend on the UK Continental Shelf will be

**£17 billion**  
between 2017 and 2025



of total decommissioning spend from 2017 to 2025 will be concentrated in the central North Sea

Well plugging and abandonment is the largest category of expenditure at almost 50 per cent



The Oil and Gas Authority is targeting a

**35%**

reduction in UKCS decommissioning costs by 2035

Industry is striving to carry out decommissioning cost-effectively, while maintaining high safety and environmental standards



The average forecast



for well plugging and abandonment has fallen across all well types and regions of the UK Continental Shelf



Download the infographics at <http://bit.ly/DecomFacts>.

### 13. Oil & Gas UK meets Shadow Secretary for Scotland

Lesley Laird MP, Shadow Secretary of State for Scotland, met with Oil & Gas UK representatives on 26 January in Aberdeen, including Gareth Wynn, stakeholder and communications director; Alix Thom, workforce engagement manager; and Rebecca Groundwater, external affairs adviser. After an overview of the industry, its efficiency efforts and Oil & Gas UK's work on Brexit, they discussed how to encourage the take up of STEM subjects at school level, in addition to the Oil and Gas Technical Apprenticeship Programme's work.



Clockwise from top left: Christine Jardine MP; Chris Law MP using BP's virtual headset; Stephen Crabb MP (centre) with representatives from Subsea 7; and Rebecca Long-Bailey MP with two BP apprentices

### 14. A week in Westminster

An oil and gas exhibition at the Houses of Parliament in Westminster last November, organised by Oil & Gas UK, offered a platform to showcase the industry to over 50 MPs from across the UK, including members of the Cabinet and Shadow Cabinet, as well as members of the public, school groups and visiting delegations.

Oil & Gas UK members – including BP, Emerson, Shell and Subsea 7 – were also on hand to showcase their work and technology. Following the success of this event, the association plans to replicate this engagement in the Scottish Parliament.

### 15. CDA wins award for data management course

Common Data Access Limited (CDA) has scooped the Best eLearning/Online Education award from the UK Association Awards for its pioneering Graduate Certificate in Petroleum Data Management. The online course – the first of its kind – is designed to be studied anywhere in the world while working full-time. It is part of a collaborative programme led and funded by CDA and delivered by Robert Gordon University in Aberdeen to establish petroleum data management as a recognised professional discipline.

Malcolm Fleming, CDA's chief executive, comments: "The course is a very significant step towards increasing the status and standing of individuals in the profession, providing for the first time, a benchmark for professional development and recruitment. The valuable input we've received from so many key industry specialists to create the course will help ensure it delivers a generation of academically-qualified data managers that meets the needs of our membership and the wider industry."

In a related project, CDA has launched a master's level course with the University of Aberdeen, which starts in September.

**Find out more and apply online for the Graduate Certificate at RGU or Master's Course at the University of Aberdeen by visiting [www.rgu.ac.uk](http://www.rgu.ac.uk) or [www.abdn.ac.uk](http://www.abdn.ac.uk).**



Terry Alexander and Sakthi Norton of CDA

## 16. Environmental performance captured in key report

Oil & Gas UK's *Environment Report 2017* provides a comprehensive picture of the environmental performance of the UK offshore oil and gas industry up to the end of 2016. Data and analysis of emissions to atmosphere, discharges to sea, accidental oil and chemical releases, and waste disposal are captured in this annual report, gathered via metrics set by the regulators. The overall trend shows that discharges, emissions and accidental releases are still trending downwards. While production has gone up, emissions and discharges have not gone up by the same proportion last year.

Louise O'Hara Murray, environment manager at Oil & Gas UK, says: "For the last two years the sector has focused on improving the efficiency of its offshore operations – increasing production while halving unit operating costs despite the challenges of a maturing oil and gas basin. This work has also brought improvements in environmental performance in several key areas, demonstrating that increasing efficiency can also reduce impact on the environment rather than generating greater risk."

The report is available to download at <http://cld.bz/QWQ7dwt>.

### Permitted Offshore Emissions and Discharges

All emissions and discharges are strictly controlled and permitted by the industry's environmental regulator –



The Offshore Petroleum Regulator for Environment and Decommissioning

When applying for a permit for emissions and discharges, industry must consider potential environmental effects and their mitigation



The total volume of produced water discharged to sea under permit fell by 6 per cent



to 155 million cubic metres in 2016

More produced water was reinjected into the subsurface than ever before in 2016



to aid hydrocarbon recovery and minimise discharges to sea

Of the chemicals discharged to sea under permit,

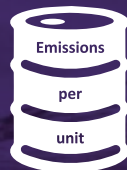
72%

were classified as those that Pose Little Or No Risk (PLONOR) to the environment

Total greenhouse gas emissions comprise



of the UK's total emissions



of production have been falling since 2013

The amount of waste returned to shore decreased by 22% in 2016 – the lowest in a decade



The proportion of associated gas flared continues to fall



### Environmental Performance Benchmarking

The average concentration of oil in produced water fell in 2016



Production increases outpaced chemical discharges to sea in 2016



The average total emissions per operator fell in 2016



### Accidental Oil and Chemical Releases

Accidental oil releases represented

0.00014%



of total production in 2016

Accidental chemical releases



make up less than 0.1% of the total chemicals used offshore

84%

of all accidental chemical releases fell into the low risk or PLONOR categories



Download the infographics at <http://bit.ly/envfacts>.

## 17. *Recognising industry talent*

More than 500 industry professionals gathered to celebrate the talent, ingenuity and enterprise of people and companies in the sector at the 2017 Oil & Gas UK Awards ceremony on 2 November in Aberdeen. “Our awards are a great opportunity to celebrate the good news stories and positive developments that continue to happen despite the difficulties many in our industry still face,” remarks Deirdre Michie, chief executive of Oil & Gas UK. “Our judges had a tough job sifting through really great nominations. These also serve as another reminder of the dedication of those working in our sector and the faith they have in the future of the North Sea, which still holds billions of barrels of oil and gas.”

The evening was hosted by BBC Radio 4 Today presenter Justin Webb. It also included a speech from Steve Phimister, vice president of upstream from event sponsor Shell U.K Limited. He reflected on changing times for the industry as it moves to meet the demands of a fast-changing world.



### ***Apprentice of the Year***, sponsored by OPITO

Samuel Ash of Nexen has earned recognition from his colleagues for his passion and desire to learn. With his safety-first approach to tasks, exceptional technical ability and can-do attitude, he is both a vital team player and one of the Scott platform mechanical team leaders. In support of Nexen's drive for continuous improvement, Samuel has refined routine maintenance activities to ensure compliance with company procedures is more accurate, timely and efficient. He also led large worksopes, including a critically important job to replace a diesel storage pump, ensuring the project was safely completed to avoid any delays in the platform shutdown schedule.



### ***Graduate of the Year***, sponsored by ECITB

Having joined BP as a geophysicist two years ago, Joanna Reynolds has made a huge impact on the business and its people. She took sole responsibility for leading the integrated well planning on two high-risk and complex wells on the Quad 204 project. Through working extensively with colleagues, Joanna successfully identified and deployed a suite of tools to mitigate the key risks. The wells – now being developed – are expected to add substantial value to the Quad 204 project. Joanna also leads BP's new regional graduate network, organising over 25 events annually for charity, increased morale and boosted learning across different disciplines.



### ***Mentor of the Year***

Alexandra Mary Fordham's acumen, accessibility and commitment to mentoring has provided Chevron with a strong pool of competent geoscientists, underpinning the many critical field development decisions that are made daily. Alexandra's mentoring skills are not just confined to Chevron employees. After more than ten years in her role as a self-confessed “dyed in the wool geeky scientist”, she has mentored, motivated and inspired nearly 1,000 school pupils through the STEM in the Pipeline educational programme. Alexandra's technical knowledge and commitment to the next generation embodies Chevron's values, making her an outstanding role model, both in and outside the workplace.



### ***Workforce Engagement SME***

In its transition from an exploration and production company to a decommissioning operator known as Decom Energy, Fairfield Energy has prioritised workforce engagement. This involves building trust within the workforce, restoring confidence and encouraging employees to share a new common purpose. Fairfield aimed to help staff understand how best to develop the capabilities and expertise the company's new business model required. Working with staff across onshore and offshore sites, Fairfield applied a conversational approach to survey the effectiveness of the engagement process, incorporating feedback to guide further improvements in the initiative, successfully ensuring the workforce felt involved as contributors to the company's future.



### ***Large Enterprise***

Help, share and communicate are Proserv's core values that were used to develop its Proserv Academy and establish a virtual training and development organisation for its workforce. The Academy encourages, supports and facilitates learning communities within the company with content including: webinars for technical experts to share knowledge across the business, competency and leadership programmes, and a dedicated online library for employees to share achievements and expertise. Proserv's Academy provides an effective tool for staff, helping them to work towards their goals and the company has already achieved 86 per cent engagement among its 1,400 employees.



### **Business Innovation SME**

Operational Excellence (OPEX) Group is the first company to successfully combine the power of predictive technologies with advanced data analysis techniques to help upstream operators increase oil and gas production and prevent critical system outages. Having pioneered a predictive analysis service, known as X-PAS, OPEX has helped operators to increase production by 2 to 5 per cent and reduce critical system outages by 50 per cent. By bridging the gap between data science and oil and gas operations, the X-PAS service makes use of existing infrastructure and data sources to provide operators with new information about their asset and the ability to accurately predict the future performance of production critical systems.



### **Large Enterprise**

In the current operating environment, Shell continues to reduce costs, transform performance and drive sustainable, continuous improvement in operational efficiency. Decommissioning Shell's Brent Field is complex, with major engineering challenges due to its size, age, interconnecting infrastructure and harsh environment. The project has made exceptional savings, reducing the budget year-on-year since 2014, identifying multiple opportunities to drive efficiencies, reducing offshore hours and down-manning platforms earlier. Shell halved well plug and abandonment costs, introduced new contract models, adopted innovative technologies and enhanced collaborative team cultures, working closely across disciplines and the supply chain. Shell remains committed to sharing lessons learnt with the industry.



### **Diversity and Inclusiveness**

Engineering consultancy Atkins has focused on diversity for many years. Recently, its energy (UK and Europe) business took a fresh look at how current and future employees could fully realise the potential of their contribution to Atkins and its clients. Adopting the principles of positive psychology, Atkins experimented with a strengths-based, rather than a competency-only approach. This encourages people to develop greater self-awareness and understanding of their own strengths and how they interact with their teams. By applying this method to its activities – including recruitment, team workshops, promotion panels and leadership development – Atkins increased inclusiveness as well as successfully attracted applications from a more diverse pool.



### **MER UK Award, sponsored by the Oil and Gas Authority Apache North Sea Limited – Callater Project**

The Callater project achieved first oil in May 2017 only 23 months after discovery, five weeks ahead of the field development schedule, more than 10 per cent under budget, and with an outstanding safety record. This performance was realised through effective collaboration between Apache North Sea, Shell, the regulatory bodies and the UKCS supply chain. The partners worked together through geological evaluations, technical shadowing and by sharing technology. The regulators fast-tracked approvals and the supply chain were engaged early in the project to help formulate specifications, provide pace and innovation. The Callater project is a repeatable, transferable and sustainable example of delivery with collaboration at its core.



### **Total E&P UK and Oil & Gas Technology Centre Asset Integrity Solution Centre**

In an excellent example of collaboration and innovation, Total E&P UK Limited has worked with the Oil & Gas Technology Centre to deliver a series of field trials for new technologies on its Elgin Franklin platform. These technologies relate to two priority asset integrity themes: process vessel inspection and corrosion under insulation. After factoring in the cost of deployment, it is estimated that between now and 2025 these technologies could deliver an industry net economic benefit in the region of £700 million and will significantly contribute to maximising economic recovery from the UK.



### **Ultimate Gold Award, sponsored by The Press and Journal**

As advanced completions director for well and reservoir specialist Tendeka, John Hunter works with his team to invent leading-edge technology enabling his company to deliver maximum value to its clients. John also leads Tendeka's internal SPARK programme, which encourages all departments to provide input to develop new ideas. The programme has already resulted in filing a patent for an innovative method of powering long-term wireless well completions.



# Membership Matters

## 18. Oil & Gas UK creates two new integrated teams

Oil & Gas UK continues to adapt and evolve to ensure it is best positioned to deliver effectively for its members. As part of this, two new integrated teams have been created: stakeholder and communications and supply chain and health, safety and environment, which will work alongside the existing Upstream Policy and Finance and Corporate Services Teams.

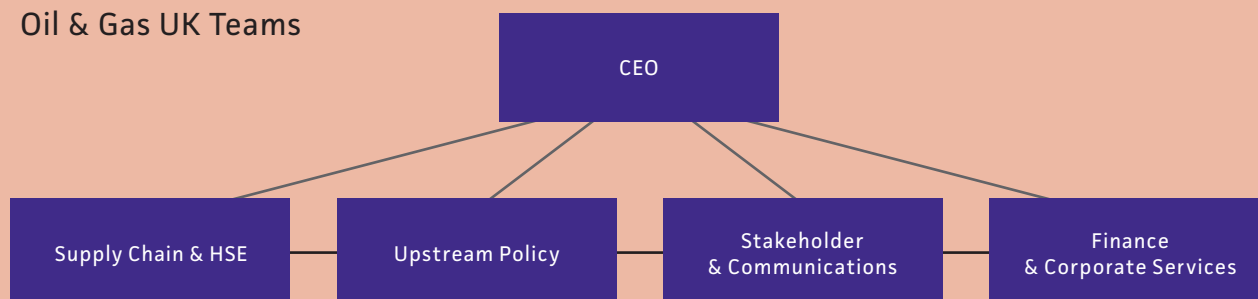
Matthew Abraham leads the Supply Chain and Health, Safety and Environment Team, which also includes employment and skills and continuous improvement leading on the Efficiency Task Force. A Chartered Engineer, Matthew joins the organisation from Expro where, as supply chain director, he was responsible for the global development and delivery of key supply chain functions. Having worked for several companies, including GE Oil & Gas and Vetco Gray, his knowledge of the supply chain and his understanding of HSE operations will ensure that these key areas of focus for Oil & Gas UK will be delivered professionally and effectively and in support of our members.

Led by Gareth Wynn, the Stakeholder and Communications Team includes external affairs, media relations, editorial and design, events and membership. Gareth joins Oil & Gas UK from FTI Consulting where, as senior managing director, he led its energy and natural resources practice in strategic communications. He supported several companies active in the UK oil and gas market and spent time working with a super major in the Middle East. Gareth served as communications director for several large international companies, including EDF Energy. Gareth oversaw communications for the nuclear new build division, which includes the project to construct Hinkley Point C, and he also ran corporate affairs and public affairs teams for Powergen, Eon, Hertz Europe and British Gas.



L-R: Matthew Abraham and Gareth Wynn, Oil & Gas UK's new directors

### Oil & Gas UK Teams



## 19. New operator co-chair

Ray Riddoch – Nexen's UK managing director and senior vice president, Europe – has been appointed co-chair of Oil & Gas UK's Board. He takes over from Neil McCulloch, who has left EnQuest. Ray has more than 30 years of upstream oil and gas experience and represents the operator community.

**See the full list of Board members at [www.oilandgasuk.co.uk/about-us/executive](http://www.oilandgasuk.co.uk/about-us/executive).**

## 20. Companies join Oil & Gas UK

We are pleased to welcome the following companies to Oil & Gas UK's membership: 3 Verulam Buildings; About Business Support; Anasuria Operating Company; Ancala Midstream Acquisitions Limited; Assured Occupational Health; DCN Diving UK Ltd; Ensco; Ledingham Chalmers LLP; Marico Marine Ltd; Sandton Capital Partners; The FOS Group; Stuart Wright (UK) Limited; and Well-Safe Solutions.

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Business Outlook Report Launch

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**Aberdeen Breakfast**

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**Share Fair Spotlights**  
Aberdeen

5-6 June  
**Safety 30 – Piper Alpha Legacy:  
Securing a Safer Future**  
Aberdeen

26 June  
**London Breakfast**

23 August  
**Share Fair Spotlights**  
Aberdeen

29 August  
**Offshore Safety Awards**  
Aberdeen

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**Aberdeen Breakfast**  
Economic Report Launch

13 September  
**London Breakfast**  
Economic Report Launch

18 September  
**Aviation Seminar**  
Aberdeen

20 September  
**Legal Conference**  
Aberdeen

31 October  
**Share Fair**  
Aberdeen

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**Oil & Gas UK Awards**  
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**Offshore Decommissioning Conference**

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Introduction to Valves | Monday, 16th April

Introduction to Valve Actuators | Tuesday, 17th April

Control Valves | Wednesday, 18th April

Safety Valves | Thursday, 19th April

Valves Advanced Level | Monday, 23rd ~ 24th April

PED/ATEX Directives | Wednesday, 25th April

Safety Integrity Levels (SILs) | Thursday, 26th April

## Summer | 2018

Introduction to Valves | Monday, 2nd July

Introduction to Valve Actuators | Tuesday, 3rd July

Control Valves | Wednesday, 4th July

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“

*The future of the North Sea depends on technology development and deployment to extend the life of existing assets, better define resource potential and increase the economic viability of small pools.*

”

# *All on board with Captain*

It has been a marathon, not a sprint, for those steering a game-changing enhanced oil recovery programme at Chevron's Captain Field. But the pace has picked up in recent months as the prize looms ever closer. *Wireline* reports



**T**he driving principle of reaching every recoverable drop of oil in the Captain field - 90 miles north-east of Aberdeen in the Outer Moray Firth - has steered the development since it was first planned in the 1990s. Indeed, it is only thanks to the foresight applied back then that today's enhanced oil recovery (EOR) project is happening at all.

"The initial design of the Captain FPSO (floating, production, storage and offloading) vessel had the foresight of integrating storage and pumping facilities suitable for polymer EOR at the onset," says Chevron business services manager Tony McGarva. "Due to the heavy nature of the Captain Field oil, traditional recovery mechanisms of water injection will leave a lot of oil unrecovered. Injecting a polymer with the water improves the recovery from the field and will maximise economic recovery. There is no doubt our predecessors' foresight during field design has allowed the EOR field trials to happen."

Put simply, adding polymer increases the viscosity of the water injected into the heavy oil reservoir. With simple water injection in heavy oil reservoirs, the fluid property contrasts involved results in bypassed oil between injection and production wells. The polymer helps achieve a more even recovery/sweeping process, with oil between wells becoming mobilised that would otherwise have remained unrecovered.

### **Economic recovery**

A key tenet for success is making sure the project is competitive over the long term and through price cycles. So, a decision was made in 2016 to split Captain EOR into two stages to be sure of its ongoing viability through learnings. Stage 1 is focused on increasing recovery within the existing platform area of the field (known as area A). It requires small-scale topsides facility upgrade work and a drilling programme that gets under way this year encompassing producer and injector wells. Stage 1 culminates in polymer injection into five long-reach horizontal injection wells.

Stage 2 – currently in a detailed planning phase – would extend polymer EOR into Captain's subsea wells. Project manager Colin Freeland explains: "There's a bit more complexity involved in getting polymerised water to subsea trees rather than 'dry' trees, so we're working on that. There is high value placed on learnings, results and observations from the first phase feeding into the design for Stage 2."

Towards the end of last year, Chevron made the final investment decision to go ahead with phase 1, paving the way for this pioneering application in the North Sea.

Conventional water injection is supporting recovery of around 30-35 per cent of the estimated one billion barrels of oil originally in place at Captain. The field is likely to see an increase in its yield of between 5 and 7 per cent through Stage 1. >

### Potential for polymer

Colin hails the “fantastic” technology involved. “When you cut through the technical complexity and detail, it is a fairly simple concept – increase the viscosity you inject to get more oil out. The technology and activities you need to pursue to make it successful are a challenge though,” he asserts.

Stage 1 is the culmination of a long, but rewarding process to formulate and introduce a bespoke polymer solution that is appropriate for Captain’s unique reservoir characteristics.

“

***For people working on the asset, it’s encouraging that the company is continuing to invest and that the field will be around for a lot longer.***

”

The first serious steps were taken in the mid-2000s. Project subsurface manager Marco Goense was involved in the kick-off meeting back in 2006. “We did some initial work to properly understand the potential incremental recovery. The early work showed there was a prize to pursue and a significant amount of work was done to develop a robust pilot strategy that would stand the test of time through typical industry downturns. Since that time, we’ve experienced two major crashes in the oil price – if we had not already formed a clear view of the ultimate size of the prize and the long-term strategy to mature and implement this technology, we would not have been where we are today.”

Staff at Chevron’s Aberdeen-based Global Technology Company played a pivotal role in reservoir simulation, and the project team worked closely with experts at the operator’s Energy Technology Company laboratories in Houston to develop a Captain-specific polymer solution. The field will reinject all produced water and therefore there is zero discharge of polymer to the marine environment.

A succession of pilot programmes then began in the early 2010s. “The polymer injection pilots at Captain were very carefully designed and monitored so that we could measure the difference



in production rates,” explains Dr Steve Garrett, manager of the Aberdeen Global Technology Centre. “This showed us clearly that it was a case of polymer in, more oil out. So, it was no longer just simulator data,

## *Captain’s journey 40 years on*

**1977**

Discovery of the Captain field on the edge of the Outer Moray Firth

**1997**

First production featuring some of the earliest horizontal wells and electrical submersible pumps to produce heavy oil

**2000-06**

Areas B and C comprising subsea wells come onstream and the field production infrastructure expands to encompass wellhead protector and bridge-linked platforms

**2006**

EOR project kicks-off with development of bespoke polymer solutions and reservoir simulation



but actual data from the field that informed the investment and decision-making processes.”

### ***Leading from the front***

The approach of carefully planning and executing innovative ideas is not new to Captain. “It has hosted several

North Sea technological firsts,” notes Tony, who was indirectly involved with the asset when it was first being developed.

“It featured some of the earliest horizontal wells and electrical submersible pumps to produce

heavy oil. Later, when we brought subsea wells onstream, the business developed hydraulic submersible pumps.”

Asset manager Rachel Stanley, who has also been involved from the start in various onshore and offshore roles, says the asset’s production profile has always been evolving since the field achieved first production in 1997. Areas B and C comprising subsea wells came onstream in 2000 and 2006, respectively, as the field production infrastructure expanded to encompass wellhead protector and bridge-linked platforms. In 2016, Captain yielded its 300 millionth barrel of oil.

“We’re now on our tenth platform drilling campaign and, in 2017, drilled our 63rd platform area well in the field,” Rachel continues. “It’s always been a question of looking for technical solutions to reach undrained oil, and chemical EOR is the next way of doing that.”

She believes “it is a textbook case of maximising economic recovery. It is keeping the field life going, not because we are having to stay for longer to produce the oil we can reach, but because polymer EOR is actually helping us to get more out to keep the field economic for longer.”

The rewards are immense for everyone, from the present-day >

## 2010

First in-field trials of polymer EOR start

## 2016

Captain yields its 300 millionth barrel of oil

## 2017

10th platform drilling campaign under way and final investment decision made to progress Stage 1 of the polymer EOR campaign

## 2018

Execution of Stage 1 of the EOR project, comprising topsides modifications and commencement of an EOR drilling programme

*and beyond...*

300 million barrels recovered so far of the estimated one billion barrels of oil at Captain. Stage 1 EOR is forecast to see an increase in yield of between 5 and 7 per cent in the impacted area with subsequent expansion potential beyond this initial Stage 1 scope.

“

*There are of course other heavy oil offshore fields in the North Sea and worldwide, and this presents an opportunity for others to learn and export our experience.*

”



offshore installation manager James Howitt, who has been involved with the asset in various roles over the past 20 years, to Lynsey Thomson, who has just completed a four-year apprenticeship at Chevron and is now a process technician aboard Captain.

James observes how the operation today bears little resemblance to how it was when the FPSO first began producing. “It’s good to see that 20 years down the line, we’re still producing, we’re still making good production rates and we’re looking forward as well. For people working on the asset, it’s encouraging that the company is continuing to invest and that the field will be around for a lot longer.”

For Lynsey, the opportunity to work on Captain so early on in her career is a welcome one. She has a hands-on role supporting the bunkering and recirculation of the polymer product and making sure systems are working efficiently to support its deployment. “It’s good to be on an asset where something so innovative is happening, and I’m working with experienced people who are dedicating a lot of their time to help me and others develop.”

### **Exporting EOR**

Moreover, although Captain EOR is a project anchored in the UK, the model could be applied to other projects

globally – exporting domestic skills, knowledge and technology.

UK supply chain operations have played a significant role in the Stage 1 upgrade work: incumbent contractor Petrofac has performed much of the modifications work to the topsides; Worley Parsons has supported engineering activities; Honeywell has undertaken instrumentation and controls work; and Wood has completed initial subsea work.

“Polymer is used elsewhere in onshore fields, but Captain EOR is leading the industry – certainly at this scale – offshore,” notes Steve. “That’s important because there are of course other heavy oil offshore fields in the North Sea and worldwide, and this presents an opportunity for others to learn and export our experience.”

To that end, Chevron is part of an EOR Task Group, led by the Oil and Gas Authority, which has developed a starter pack to support other operators looking to introduce polymer EOR (see box-out right).

For the team behind the project, all this offers positive evidence of the UK Continental Shelf’s competitiveness



Chevron's Energy Technology Company Laboratories in Houston, USA

## EOR for starters

“Successful enhanced oil recovery (EOR) can play a significant role in maximising economic recovery from the UK Continental Shelf (MER UK) by increasing the volume of recovery, extending field life, creating and maintaining jobs, helping to stimulate field redevelopments and deferring decommissioning,” enthuses Oil and Gas Authority (OGA) area manager, Eric Marston.

So, encouraging industry uptake of EOR is an integral theme of the joint OGA-industry MER UK Asset Stewardship Board, with a delivery programme that sets out near-term and long-term priorities and opportunities in this space.

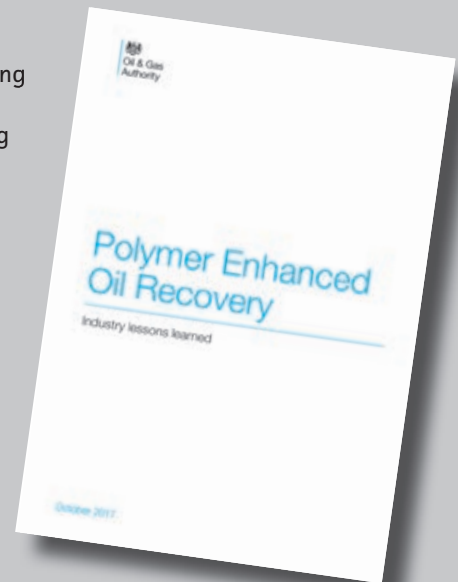
The OGA’s ambition for EOR is to:

- **Drive** economic development of 250 million barrels of incremental reserves primarily through polymer EOR over the next decade; work with operators and the supply chain to support existing projects; ensure readiness for future projects; and drive risk reduction by technical and economic improvement.
- **Demonstrate** a proven offshore operation of low-salinity EOR by 2021 and encourage EOR evaluations for all new projects.
- **Advance** the next tranche of EOR technologies and develop a roadmap for their economic implementation.

To create the right conditions to meet this ambition, the following areas are considered crucial to advance polymer EOR:

- **Cost reduction** – the creation of a competitive, robust supply chain to improve polymer EOR economics and reduce risk.
- **Collaboration** – share lessons learnt to build EOR knowledge and competency on the UKCS and reduce barriers to development at both producing and future fields; collective approaches will be developed to manage the risk profile of EOR developments and mitigate common risks.
- **Sustainability** – identify potential standardisation of EOR-related technologies such as industry standards for testing polymers.

To this end, the OGA has published a guide to lessons learnt with input from Chevron’s Captain team, Shell, BP’s Quad 204 Schiehallion project and Statoil’s Mariner programme. The publication, designed to help oil and gas operators apply polymer EOR more widely on the UKCS, explores the size of the prize, the benefits of the technology, and key areas for collaboration including testing and standardisation; health, safety and environment considerations; and de-risking such projects.



Download the guidance at <http://bit.ly/OGApolymerEOR>.

*It’s good to be on an asset where something so innovative is happening, and I’m working with experienced people who are dedicating a lot of their time to help me and others develop.*

and potential to investors. Chevron Upstream Europe managing director, Greta Lydecker, concludes: “The future of the North Sea depends on technology development and deployment to extend the life of existing assets, better define resource potential and increase the economic viability of small pools.

“Chevron’s decision to proceed with the first phase of Captain EOR is testament to our commitment to advancing technology in the pursuit of the UK Government’s and industry’s joint maximising economic recovery

strategy, and aligned with Chevron Upstream’s strategy of extracting value from our existing asset base. I’m pleased with the collaboration of our critical business partners in the supply chain who have helped us develop this technology. Our polymer provider is a key part of the team and we are growing this technology together.”

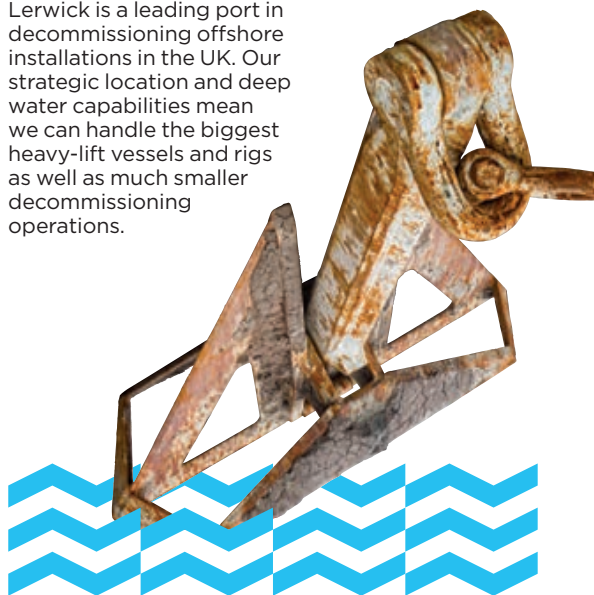


<http://bit.ly/ChevronCaptainField>

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# BEST FOOT FORWARD



As industry looks to a brightening horizon in 2018, champions across the sector are working to keep efficiency at the top of the agenda. *Wireline* sheds light on how industry-devised tools are unlocking efficiency gains.



Image ©iStock.com/curraheeshutter

Up to £5.5 billion worth of new capital projects could be approved in 2018, the most in any year since 2013. For an industry that continues to navigate one of the toughest downturns on record, the growing chorus of experts giving signals of cautious optimism is a welcome confirmation that the hard work to future-proof the UK's oil and gas sector is beginning to pay off.

The industry's Efficiency Task Force (ETF), managed by Oil & Gas UK, has been at the heart of the unrelenting pursuit of sustainable change. It is encouraging collaboration and embedding smarter ways of working to improve the UK Continental Shelf's (UKCS) competitiveness and ensure it remains attractive for investment.

The combined efforts of the ETF and companies themselves have helped the sector make major strides in improving production and capital development efficiency, as well as reducing unit operating costs by half between 2014 and 2016 – more than any other basin in the world.

Such has been the response to the industry's efficiency challenge that an online, one-stop gateway to tools, initiatives and best practice that companies can share and use was launched last year. The Efficiency Hub is the only place where industry's drive for efficiency can be viewed as a joined-up success story, showcasing over 100 case studies from companies that have made significant efforts to sharpen their operations.

"I think we can say with confidence that our combined efforts have really

made a difference," reflects Oil & Gas UK's continuous improvement manager Dr Mariesha Jaffray. "But we know that we have much more to do. Our ultimate aim is to create a sustainable industry that has a competitive edge in a lower oil price world. We always recognised that this wasn't going to be achieved through a singular, 'big bang' style change, but through a drumbeat of concerted actions targeted from management to shop floor."

#### **Vehicles for change**

One of the 'drumbeats' driving practical change are the guidelines promoted by the ETF in areas such as subsea, maintenance, compression systems and tendering. "We know it might not grab the headlines, but we're finding it's these less sensational vehicles for change that are really helping us to deliver results," explains Katy Heidenreich, operations optimisation manager at Oil & Gas UK.

Tasked with co-ordinating and enabling operational improvements throughout the sector, Katy is quick to praise the real-world impact of recently updated guidelines to help industry maintain well life cycle integrity: "We have a scheduled review process for all of our existing guidelines, so when the time comes to revisit these or develop new ones, they are examined, assessed and improved by a panel of technical experts; in this case the Wells Forum made up of senior wells managers. Their contribution not only means we are producing guidelines that are a true reflection of industry good practice in relation to the subject matter, but also the whole process echoes the collaborative approach we

***"We are producing guidelines that are a true reflection of industry good practice, but also the whole process echoes the collaborative approach we know we need to continue to champion if we are serious about improving efficiency across the basin."***





know we need to continue to champion if we are serious about improving efficiency across the basin.”

The effectiveness of industry-led guidelines is echoed by Mariesha, citing the positive impact of moves to secure standardisation in subsea developments. “Before the oil price slump, I think we’d all become set in our ways. The financial pressures presented us with an opportunity to look at our ways of working and to ask tough questions on whether these could be simplified.”

This simplified approach is at the core of the ETF’s *Subsea Standardisation Guidelines*. Many operators recognised the additional cost burden and scheduling implications that came with bespoke requirements. The potential of future subsea developments and other small pool reserves could be maximised by employing more cost-effective ways to carry out

“***This gives the supply chain an opportunity to provide the best solution for the job, letting industry standards do their work and driving up best practice in the process.***”

these projects. The guidelines encourage companies to take a new, more standardised approach to specifications, technology, processes and hardware. “This gives the supply chain an opportunity to provide the best solution for the job, letting industry standards do their work and driving up best practice in the process,” Mariesha adds.

She continues: “The question often asked is ‘will industry-wide standardisation ultimately unlock efficiency gains in the long term, but hinder the individual successes/ unique selling points of companies in the short term?’. My response to that would be absolutely not. From the very beginning, we have always been keen to emphasise that these are guidelines and are in no way prescriptive. So, if you find that only some of the guidelines work for your company, that’s fine. Others might work better if tailored to fit your own >



Illustration @iStock.com/sorbetto

**“Arguably, it was easier to spur change during the tougher times. Our next step will be to continue to work through the Efficiency Task Force and with our members to permanently embed this approach.”**

processes. We know from speaking to our members that the best approach is one that promotes collaboration across industry, so that we can learn lessons and drive the adoption of best practice, while recognising that professionals in companies are best placed to understand how to develop the most efficient processes for the specific needs of their companies.”

### **Embedding efficiency**

Oil & Gas UK is now looking for more companies to pilot the guidelines and to give feedback on their success and how the publications could be updated or enhanced so that the cycle of continuous improvement is maintained. Anecdotal reports and a number of case studies confirm the guidelines are kicking off different ways of thinking, but the teams behind them would be the first to admit they still need to capture more feedback.

Companies willing to share lessons are encouraged to contribute case studies to the industry's Efficiency Hub. “We're alive to the fact that making the guidelines work requires an ongoing conversation with companies. It's why we set up the Efficiency Champions Network, so that we can build relationships and get the right guidelines to the right people,” says Mariesha.

Katy agrees: “We know that the guidelines format works, so what we're saying to our members is try these out, take them on board and feed back to us on their impact and how they could be developed further.”

Looking at the bigger picture for the UK's offshore oil and gas industry in 2018 and beyond, it's clear to see why Oil & Gas UK continues to make the case for smarter and more collaborative ways of working. The low level of exploration, appraisal, and development drilling, for example, remains a concern, with just 80-85 wells drilled during 2017.

The guidelines are part of a wider industry pursuit to stimulate a rise in well construction activity. The Competitive Well Delivery Initiative, led by Oil & Gas UK's Wells Forum, aims to reverse the decline in well construction activity in the basin. Cross-industry workshops and well

scrutiny sessions have so far seen companies challenging well designs and identifying opportunities for improvement and significant cost savings.

“By making the UKCS the safest and most competitive mature basin in the world to drill, the aim is to attract investment into the basin and retain drilling rigs and skilled staff in the UK,” asserts Katy. “There is significant potential left in our basin – not only are our discovery costs in line with our peers, but smaller discoveries go on to be developed in the UK than elsewhere in the world, making it a very attractive destination for infrastructure-led exploration.”

Mariesha concludes: “Arguably, it was easier to spur change during the tougher times. Our next step will be to continue to work through the ETF and with our members to permanently embed this approach.”



[www.oilandgasuk.co.uk/efficiency](http://www.oilandgasuk.co.uk/efficiency)  
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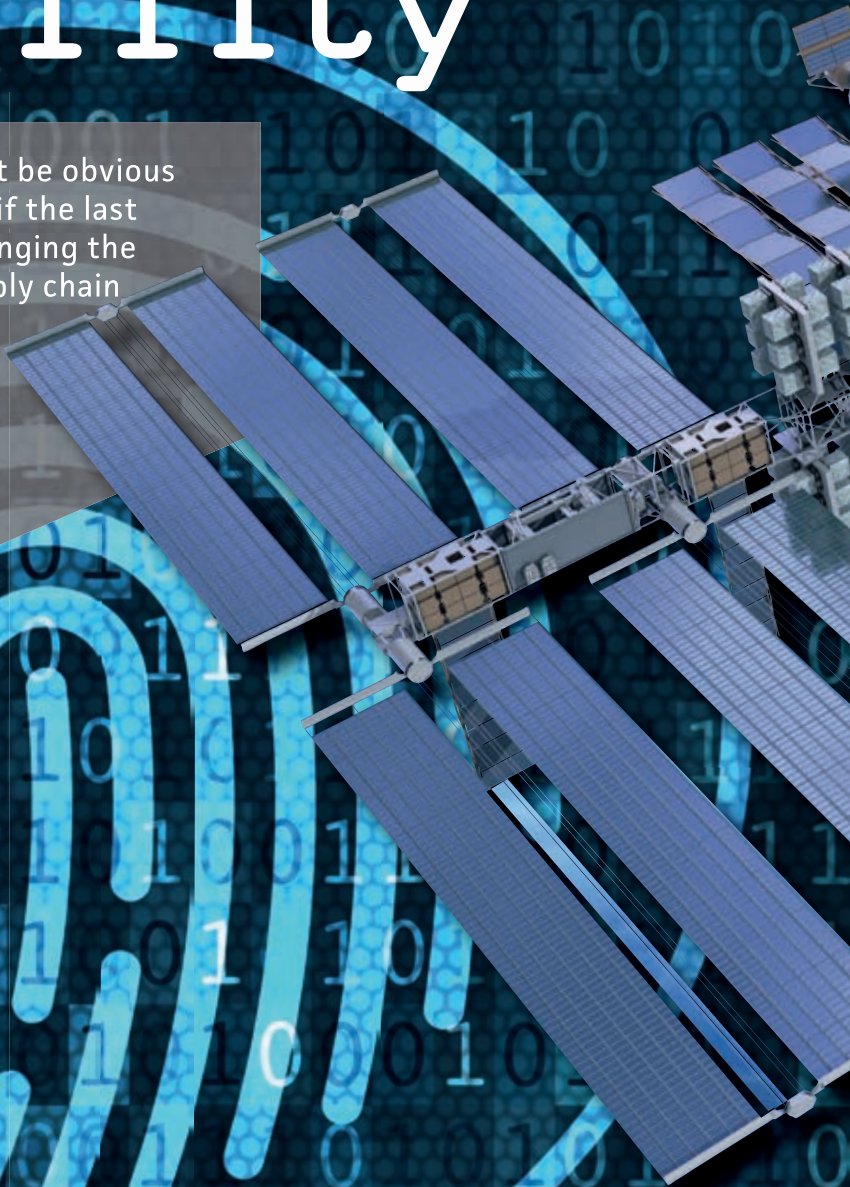


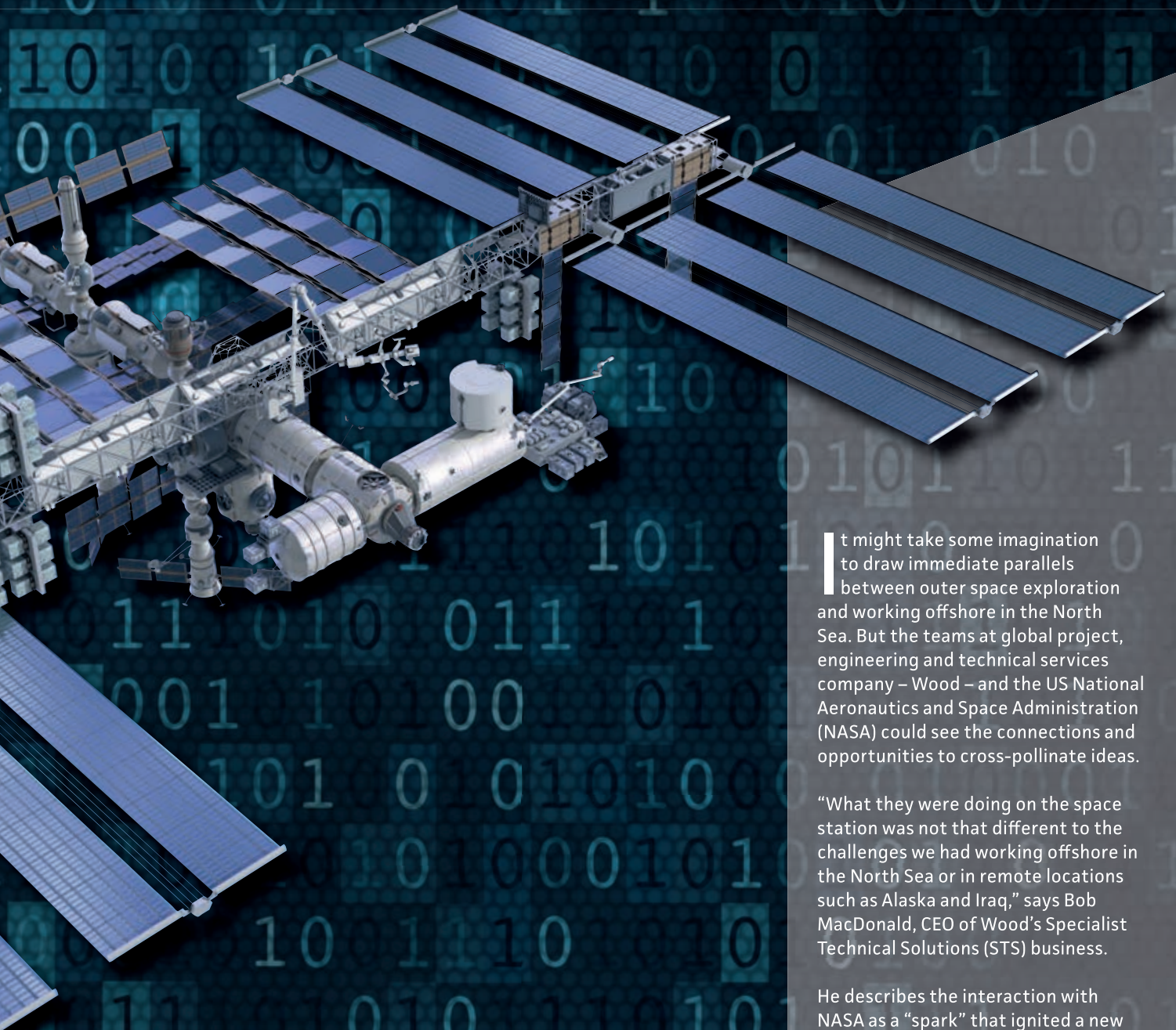
*Review maintenance summaries and incidents*

**Bentley**  
Advancing Infrastructure

# Pushing the realms of possibility

Space exploration and forensics might not be obvious sources of inspiration for oil and gas. But if the last few years have taught us anything, challenging the norms are critical for future success. Supply chain companies Return To Scene and Wood reveal how they landed on innovative ideas by pushing the realms of possibility.





It might take some imagination to draw immediate parallels between outer space exploration and working offshore in the North Sea. But the teams at global project, engineering and technical services company – Wood – and the US National Aeronautics and Space Administration (NASA) could see the connections and opportunities to cross-pollinate ideas.

“What they were doing on the space station was not that different to the challenges we had working offshore in the North Sea or in remote locations such as Alaska and Iraq,” says Bob MacDonald, CEO of Wood’s Specialist Technical Solutions (STS) business.

He describes the interaction with NASA as a “spark” that ignited a new approach within Wood. While NASA wanted to find out more about Wood’s progressive approach to safety leadership, Wood saw potential to take learnings from NASA’s management of maintenance and repair on the International Space Station.

Although space wasn’t the final frontier for the eWorking programme that was subsequently spawned at Wood to support safety and efficiency, the origins of the real-time worksite-to-office collaboration initiative were inspired by NASA nearly three years ago. >

“What they were doing on the space station was not that different to the challenges we had working offshore in the North Sea or in remote locations such as Alaska and Iraq.”

“In forensics, R2S enables experts all over the world to examine fingerprints, DNA and other evidence...now it enables offshore engineering specialists to scrutinise images and data and make informed decisions.”

From there, Wood has developed an innovative suite of technological solutions now used in the UK North Sea and around the world, embedding fresh confidence that approaches adapted from other sectors could benefit its customers. This is

Return To Scene started off as a multimedia design business that was asked by police to support an Aberdeen crime investigation nearly 20 years ago. It took high-definition images at the scene so that teams of police officers

“Our VAM tool helped the operator understand the impact of the fire while minimising the number of people required to go to the facility,” explains managing director Bob Donnelly. “The principles of the forensic system remain. In forensics, R2S enables experts all over the world to examine fingerprints, DNA and other evidence... now it enables engineering specialists to scrutinise images and data and make informed decisions. We provide unique access to an asset containing lots of equipment and information; in effect, we bring that asset and its data onto people’s desks.”

Once Return To Scene’s personnel complete their technical work offshore, the high definition 360-degree photographic images are delivered to the operator client in the software model. The operator then provides access to the supply chain companies involved so all parties can work together from the same imagery. A typical three-day deployment to an offshore installation to conduct surveys can be performed in 20 minutes with the technology.

### **Rapid response**

Remote, technologically advanced working is also the order of the day at Wood for enhancing its maintenance and repair service to clients.

The core offering of its eWorking programme is eXpert, which features a handset that incorporates a camera to relay high-quality video and audio in real-time to experts in Wood’s offices internationally.

“We simply need to have the kit positioned on the asset and have someone ready to operate it,” says Wood’s Bob MacDonald. “So, instead of the prolonged process of getting a specialist on site and all the costs

something that is now happening more and more within Wood.

### **Digital detectives**

Meanwhile, Aberdeen-based Return To Scene can claim, with good reason, to take a forensic approach to its work on assets across the UK North Sea and around the world.

That’s because the company’s centrepiece product – an advanced visual asset management (VAM) tool, R2S, that creates a virtual offshore environment – first took shape in the world of police investigations.

could scrutinise and share evidence without having to enter the confined location. The assignment’s success allowed the company to grow its client base among law enforcement and security operators while evolving the VAM technology.

It was more than a decade ago, on the doorstep of offshore oil and gas upstream activity, that Return To Scene then spotted an opportunity to broaden its client base further. This was expedited when it was asked to support an offshore asset coming back onstream after a fire.



Return To Scene’s personnel taking high-definition 360-degree images for its R2S Visual Asset Management technology

“Instead of the prolonged process of getting a specialist on site and all the costs and resources involved, in the space of a few minutes we can get the right expert in front of a screen to assess any given worksite problem and work out the best resolution.”



Wood's eXpert handset can relay video and audio in real-time

and resources involved, in the space of a few minutes we can get the right expert in front of a screen to assess any given worksite problem and work out the best resolution.

“It’s moving us on by reducing time for problem solving and resulting implementation, while saving on the costs associated with mobilisation, helicopter flights for example, and even shutdown at offshore and remote locations.”

Wood cites how one offshore customer has saved an estimated £30,000 during a four-week trial of eXpert. “Whether

it’s £30,000 or a saving of millions of pounds by averting a shutdown, these are big numbers that can be saved by simply providing immediate access to the right people,” asserts Bob.

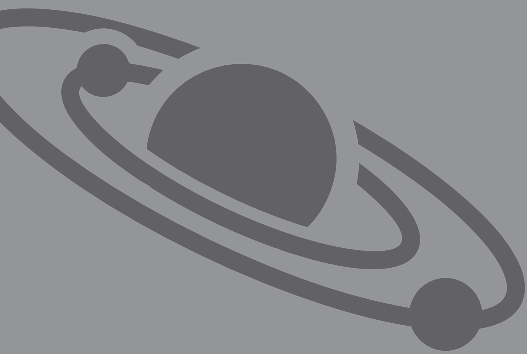
eXpert is now in use internationally including in the Gulf of Mexico and the Middle East. Wood is introducing it to new client teams and operations on a monthly basis. eXpert can also be used to familiarise personnel with assets, support walkarounds and inspections, showcase work updates and share information across locations – more ‘eyes on the job’ helps to improve the quality of decision-making.

Wood has since looked to add more proactive elements to the programme, as exemplified by its eWorkpack solution. The paperless work management system electronically transfers data and information between the office and the front-line worksite to provide greater efficiency and assurance in construction and turnaround activities.

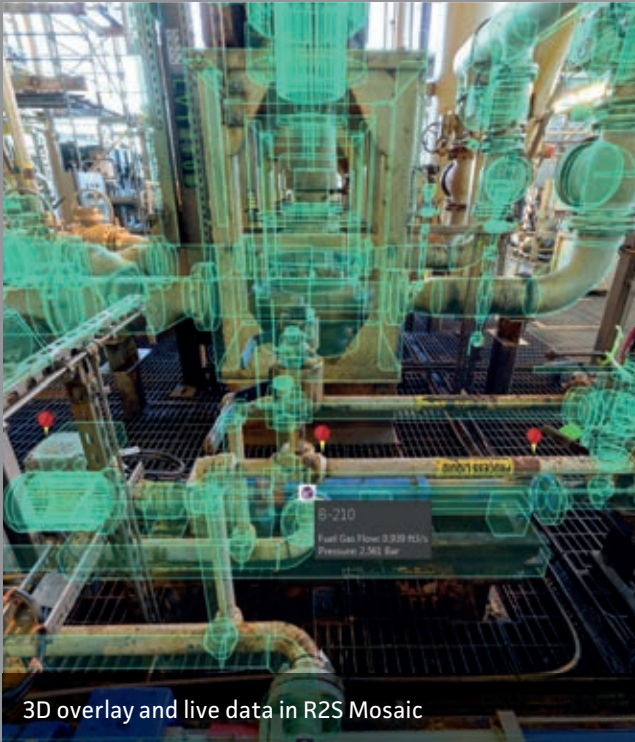
Moreover, the principle of transferring ideas across sectors is now embedded within Wood, which provides services in other fields including automation and mining. Bob cites how its exploratory work on how robotics is used in the car industry may be successfully applied to its business. This work is part of a wider culture of innovation that is focused on designing, building and deploying new, technically-advanced solutions that help customers reduce capital spend and operating costs.

### **Adding value**

The most recent iteration of Return To Scene’s VAM technology is R2S Mosaic, which links the user to other operational data associated with the equipment in a captured image. >



“It's not just small updates or improvements to software, but more significant jumps in functionality that can add extra value in efficiency and savings.”



3D overlay and live data in R2S Mosaic

This can range from inspection schedules and drawings to integrity and sensor systems, providing a complete overview of the live status of the equipment.

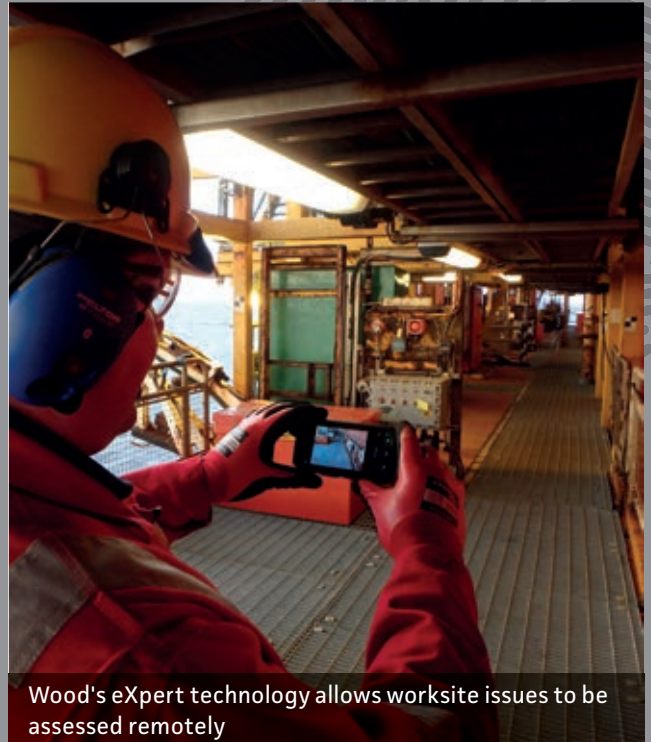
The recent development has been driven primarily, though not exclusively, by developments in oil and gas. Head of product development Martin MacRae says: “We apply our experience to the challenges facing the industry and work to address them. It’s not just small updates or improvements to software, but more significant jumps in functionality that can add extra value in efficiency and savings.”

Those advances have included adapting technology developed for the forensics industry to enable comparison of fingerprints. It is now used to present ‘before’ and ‘after’ comparisons of

offshore facilities so that operators can assess the work on an asset and assure integrity.

For Return To Scene, the oil and gas industry has shaped up to be one of its key markets, although it very much still services the law enforcement sector. Since the late 2000s, the company has provided services on nearly 100 UK North Sea assets for close to 20 operators and is increasingly supporting operators internationally, primarily in North America, but also in the Middle East, Australia and elsewhere.

The company has representatives in the USA and Dubai, but its 35-strong Aberdeen workforce performs the technical work on each project. “It means we’re in effect exporting our technology, skills and experience to



Wood's eXpert technology allows worksite issues to be assessed remotely

various locations around the world,” adds Return To Scene’s Bob Donnelly. “Most of our customers get a return on investment very quickly because of the number of journeys offshore that they eliminate. The general feedback from our customers is their return on investment is multiple.”



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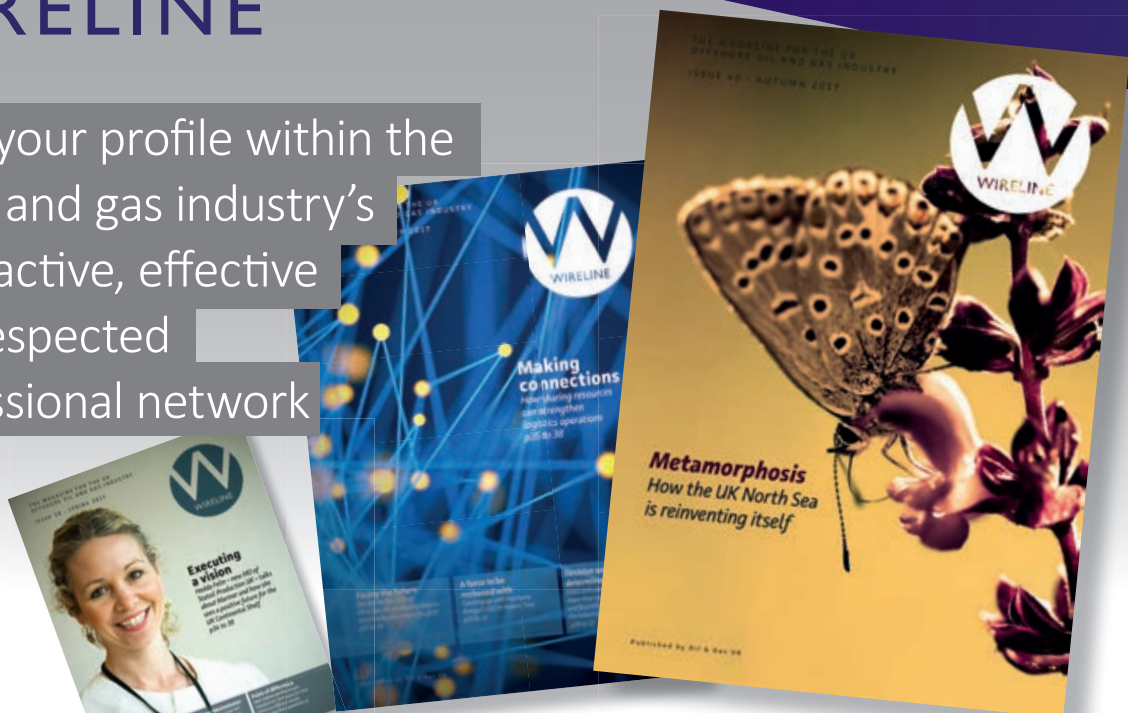
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The new online Supply Chain Hub from Oil & Gas UK offers a one-stop gateway to initiatives, tools and advice to help businesses in the sector strengthen and grow, support local, national and global competitiveness, and ensure activities and expertise are anchored in the UK. *Wireline* catches up with some of the key government departments and regional development agencies offering companies their support to expand their businesses overseas.

### *Oil and Gas Authority (OGA)*

While the OGA does not directly regulate the service sector, it recognises that a strong supply chain is essential to maximising economic recovery from the UK Continental Shelf (MER UK).

Through the Supply Chain and Exports Task Force, part of MER UK Forum, the OGA works collaboratively with industry, governments and trade associations to develop and sustain a strengthened UK-based oil and gas supply chain, which can compete globally and support its vision of how the UK service sector could grow its share of both the domestic and global market between now and 2035.

This collective effort is focused on anchoring activities and expertise in the UK and further developing the country as a centre of excellence, as well as identifying opportunities to promote UKCS exports across the globe and assisting companies to increase their international footprint. The group also works to improve collaboration to address issues such as cost efficiency and technology deployment.

The Task Force has key relationships with the Department for Business, Energy & Industrial Strategy, Scottish Enterprise, the Department for International Trade and Oil & Gas UK, as well as other MER UK Task Forces in the MER UK Forum. In addition, the OGA has been instrumental in raising the profile and product range of the UK Government body UK Export Finance and supporting individual companies with ambitions to export services and products.



[oga.merukforum@ogauthority.co.uk](mailto:oga.merukforum@ogauthority.co.uk)

### UK Export Finance (UKEF)

This is the UK's export credit agency, which exists to ensure no commercially viable UK export fails for lack of finance or insurance in the private sector. UKEF provides government-backed finance and insurance for suppliers of any size, across all sectors and to over 200 markets.

It helps UK companies win export contracts by providing attractive financing terms to their buyers, enabling companies involved to fulfil contracts by supporting working capital loans and contract bonds, and to be sure of getting paid by insuring against buyers defaulting.

In the last financial year alone, UKEF has helped 221 exporters sell overseas through £3 billion worth of support and a range of free, impartial guidance around eligibility for specialist trade finance.

Somerset-based FTI is a non-metallic insulation cladding manufacturer for oil and gas firms. In 2017, it was awarded a US\$8.5 million contract from Petronas, the Malaysian state-owned oil company that operates a large number of liquefied natural gas lines.

Under the contract terms, Petronas required FTI to provide US\$1 million worth of bonds to secure the business – often a challenge for exporters in the sector, as the large deposits required for banks to issue these bonds can restrict an exporter's cashflow especially for SMEs. UKEF helped FTI meet the contract requirements by providing its bank with a guarantee for 80 per cent of the bond, allowing FTI to retain the working capital it needs for its business operations. FTI went on to secure a contract with Petronas in March 2017.



[www.gov.uk/uk-export-finance](http://www.gov.uk/uk-export-finance)  
[customer.service@ukexportfinance.gov.uk](mailto:customer.service@ukexportfinance.gov.uk)

### Scottish Development International (SDI) including Highlands and Islands Enterprise and Scottish Enterprise

This international arm of Scottish Enterprise, Highlands and Islands Enterprise and the Scottish Government, supports the internationalisation of Scottish companies at all stages of their exporting journey. With 28 international offices, it has a strong global presence, bringing local knowledge and extensive contacts. Its GlobalScot network, made up of Scots or people with an affinity to Scotland, draws on years of success and experience in international markets to provide Scottish businesses with advice, assistance and expertise.

Its services range from specialist trade development advice, including international strategy, market insight and identification of international partners, to helping companies gain access to networks and events. There is also an extensive programme of events including exhibitions and trade missions that help companies access new international markets. For example, the Scottish Pavilions at major oil and gas trade shows including the Offshore Technology Conference in Houston, Offshore North Sea in Stavanger and ADIPEC in Abu Dhabi.

Scottish Enterprise and SDI contributed to Scottish drilling company GeoSonic's international success by providing a tailored programme of support that included funding to help cover the cost of attending key conferences and exhibitions, market intelligence, research and access to new international partners and networks.

GeoSonic has since tripled its growth in just four years by expanding its business into Europe. By the end of its first year, the company was already receiving enquiries from France, Poland, Spain and Sweden and began to service contracts in Europe from its company base in Alloa, Scotland. Recognising an in-market presence would help grow its international activity further, the company has since acquired a couple of French companies and amalgamated them under the name GeoSonic France. This has provided a strong base for developing its presence in mainland Europe.



<http://bit.ly/SDIexport>  
<http://bit.ly/HIetradesupport>

### *Invest Northern Ireland (Invest NI)*

Northern Ireland-based supply chain companies looking to diversify into new sectors and markets can take advantage of the increasing number of offices Invest NI has established around the world. It has a presence in locations including Singapore, Doha, Toronto, Hong Kong, Johannesburg, Madrid, Sydney, London, Dublin, Boston, New York, Beijing and Dubai. Regional managers and supporting consultancy services based at these locations provide tailored market research to help grow exports into their respective markets.

This regional business development agency helps companies at key stages in the export process. Its suite of services range from specialist trade development advice and research, international market development support and an extensive programme of events to facilitate businesses in accessing and developing markets outside Northern Ireland.

Invest NI offers a programme of workshops that help businesses at all levels of export capability develop their knowledge and skills in the exporting process. It also helps fund the cost of translating marketing material and helps with interpreting services at its trade missions and overseas exhibitions. Specialist legal services are also available to businesses for preparing agent or distributor agreements and establishing a legal entity in the export market.



<http://bit.ly/InvestNIexport>

### *UK Department for International Trade (DIT)*

DIT champions a free-trade approach and focuses on helping innovative British companies to start exporting, working alongside UK Export Finance. From 2015-16, DIT helped a range of UK companies win oil and gas-related contracts worth over £3.4 billion.

Companies can access DIT's team of experienced oil and gas specialists for expert advice. DIT also offers high level government-to-government support to companies competing against other foreign companies and works with national and international oil companies to establish their UK supply chain requirements.

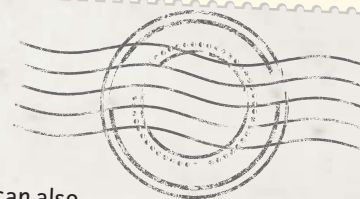
To help match UK companies with opportunities overseas, DIT runs campaigns in specific markets, that currently include Iraq, Saudi Arabia, Oman, East Africa, Senegal and Mauritania, Brazil, Norway, Mexico, Azerbaijan, Kazakhstan and India. Companies can also gain deeper insight into potential new markets overseas through DIT's network of UK diplomats and locally engaged experts who are based at embassies and high commissions around the world. Advice is available to help UK companies meet local content requirements so that they fulfil their obligations to help primarily developing countries grow their own domestic capacity.

Since 2003, for example, the UK-Kazakhstan partnership programme has brokered 68 partnerships. DIT estimates that this has generated £1.5 billion for these UK businesses over this period.

In 2016, DIT launched the flagship [great.gov.uk](http://great.gov.uk) export platform to broaden awareness of the thousands of export opportunities worth millions of pounds available to the UK supply chain. To date, [great.gov.uk](http://great.gov.uk) has promoted 11,400 export opportunities and helped around 2.7 million users either begin or grow their exporting journeys.



Department for  
International Trade



[enquiries@trade.gsi.gov.uk](mailto:enquiries@trade.gsi.gov.uk)  
<http://great.gov.uk>

# Diverse & dynamic



As an organisation that incorporates both men and women's perspectives, AXIS Network is promoting the concept of 'better gender balance for better business' in the industry. *Wireline* caught up with one of the co-founders Jenny Junnier.

**I**t was when Jenny Junnier returned to work after becoming a mum in 2008 that the issue of gender balance and her role in cultivating diversity and supporting her peers really began to crystallise in her mind.

"Until then I'd been largely oblivious to the issue, but when

I got back to work I started to think about what I wanted to do next," she explains. "I began to see the value of becoming a role model: a professional person, determined to realise my potential in my career while also being a parent. I began to research the issue of gender diversity and joined a women's network at my then employer.">



**“  
The gender pay gap  
focus is not only  
providing hard data,  
but it’s also getting  
people talking about  
the issue. They’re  
asking themselves  
the question, what  
is driving that pay  
difference?  
”**

Now an Aberdeen-based senior audit manager at Deloitte, she believes it is a no-brainer that “with better gender diversity and balance you get better business”. It is this ethos that forms the bedrock of the Aberdeen X-Industry Support (AXIS) Network that she co-founded in 2014.

At that time, the fledgling network initially involved just a few like-minded individuals, but since then has grown to a membership of more than 600 people from 160 organisations. The group’s drive is to achieve gender balance in the workplace and to

pursue very practical measures to achieve that goal. Its activities include networking and development events as well as role model/mentoring programmes. It also provides a personal support environment and an online community forum.

One of the key features of the network is that it isn’t a women-only environment – there are two men on the committee and around 20 per cent of the membership is male. “We’re trying to make the industry a better place for both men and women to work in. It has to work well for both genders if it’s going to work at all,” notes Jenny.

“We share a passion for making a difference and while we’re proud to have achieved a great deal, we believe we can do even more. We always want people selected on the basis of the best person for the job. Improving the gender balance means more emphasis on targeting women to encourage them to apply for roles. It also means supporting women inside organisations and developing a pipeline of talented women, so there are more potential applicants.”

#### **Industry insight**

The issue of gender balance was not yet front of mind for Jenny when she graduated in business studies from Sheffield Hallam University in 1998.

Originally from Blyth in Northumberland, Jenny had by then already secured a training contract with EY in Aberdeen. She’d opted to move north to join her husband-to-be, whose family were based in the north-east of Scotland.

“I chose audit as a specialism because it interested me. Being project based, the work involves going out to clients, understanding their accounts and business processes – this gives me work variety I enjoy.”

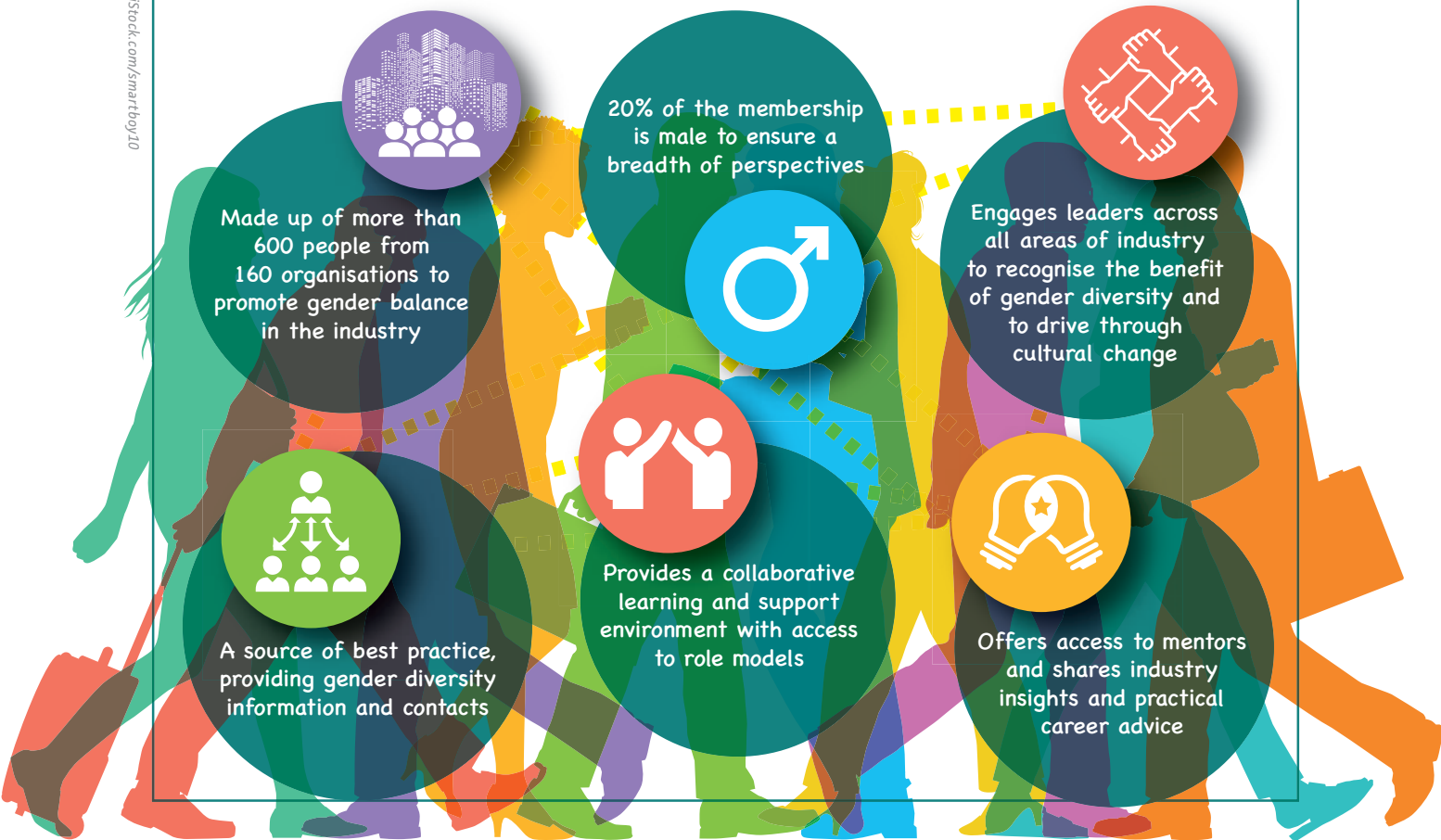
She quickly fell in love with life in Aberdeen – and the energy industry – since settling in the city. “I immediately had the sense that Aberdeen has the best of a lot of worlds – it has everything that comes with city life, but it’s also a big town with a community feel to it, while offering the chance to enjoy the seaside and the countryside.”

Jenny worked her way up to the role of senior manager, with an almost exclusive focus on oil and gas clients while also supporting in-house training and learning and development.

In 2014, she sought to broaden her horizons – as well as her knowledge of oil and gas – by moving into the industry itself. She spent time in senior accounting and financial roles with Subsea 7 and the

## AXIS Network in a nutshell

Image © Stock.com/smartboy10



Centurion Group before returning to professional services taking up her present-day role with Deloitte in April 2017. Here, she remains primarily focused on oil and gas.

"I gained invaluable experience from working in the industry, but I wanted to come back into practice and take my career to the next level. In my current post, I am focused on developing the people in my team to perform the most effective, efficient audits ensuring we provide the best quality service to our clients. And, as part of a global firm, I have access to a vast and diverse group of colleagues who provide a range of advice and services to clients, including those who have been supporting the industry through the recent challenging environment."

### Balancing act

That perspective positions her well to lead the AXIS Network, which has become a significant part of her life.

Back in 2013, the women's network at EY, her place of work at the time, had considered extending its activities into the wider industry. "We began to look for women in senior posts in oil and gas – women who were CEOs, partners, directors and the like – and we really struggled to find many," says Jenny.

However, things took a decisive turn in their favour at the Offshore Europe 2013 event. Jenny went along to a Women in Industry lunch, which was attended by Princess Anne. The Princess Royal was supporting a campaign to encourage more females into the industry. "It was very well attended, and I remember sitting there thinking 'this is amazing – we're really talking about this'. There was a real buzz and it confirmed to me that this was something we needed to take forward."

It was the catalyst for a meeting in January 2014 that proved to be the first step in establishing the >

***Our male participants have made a proactive contribution from the outset, offering a different perspective on the core workplace issues for women as well as those areas that equally relate to men including flexible working and achieving a work/life balance.***



*The AXIS Network has a vision of 'a prosperous and sustainable Aberdeen energy industry with equal gender diversity'. There are a lot of good people in the industry whose voices aren't always heard and some great people who have left that we need to get back.*



AXIS Network. There were around 15 people who attended, including engineers and women involved in professional services, administration and business development. "One of the things that quickly became clear was that the issue of gender balance wasn't about one company or one discipline – it cut across the entire industry," notes Jenny.

Over subsequent months, a seven-strong committee worked out a vision, strategy and charter, and the network was formally launched. It has gone on to secure support from several industry organisations and collaborates with other like-minded groups.

Jenny notes that the oil price drop in 2014 initially worked against AXIS as industry inevitably had to prioritise its response to the changing economics. However, as the sector resets and places a premium upon collaboration, Jenny believes AXIS is a great example of that principle in action. "One of the things we're really proud of is that the network shows how collaboration can make a difference. Our male participants, for example, have made a proactive contribution from the outset, offering a different perspective on the core workplace issues for women as well as those areas that equally relate to men including flexible working and achieving a work/life balance."

One of the network's most recent events focused on the male perspective and was held close to International Men's Day in November 2017.

Jenny continues: "The AXIS Network has a vision of a prosperous and sustainable Aberdeen energy industry with equal gender diversity. There are a lot of good people in the industry whose voices aren't always heard and some great people who have left that we need to get back. The AXIS Network aims to find those voices and work within the industry to increase the diversity of thought needed to encourage innovation, creativity and the collaboration required for future success. The numbers now involved in the network and the profile attained are now helping to drive the message."

And while AXIS is focused on the retention, progression and return of women within the industry, it is also working alongside organisations such as WISE, the Energy Institute Young Professionals Network and the Society of Petroleum Engineers, which encourage girls and young women into the industry.

### ***Pays to be transparent***

Recent legislation that means companies with over 250 employees must publish details of any pay gap between male and female employees is

increasing the spotlight on groups like AXIS. "This is a hot topic right now," says Jenny. "The gender pay gap focus is not only providing hard data, but it's also getting people talking about the issue. They're asking themselves the question, what is driving that pay difference?"

The AXIS Network is now planning its next moves, which could involve extending its reach into other industries in the Aberdeen area to help achieve the wider goal of sustainable employment in the region in the long term.

The work of Jenny and her network colleagues has already been acknowledged: she travelled to the House of Commons in 2017 to collect the Women's Business Council's Getting On award – presented to those who help women enhance their careers.

"It was amazing to be recognised. The Council is a national organisation, but has looked at the work we're doing in Aberdeen and felt it merited recognition." 



[www.axisnetwork.co.uk](http://www.axisnetwork.co.uk)

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for Enterprise:**  
Innovation 2016