

THE MAGAZINE FOR THE UK
OFFSHORE OIL AND GAS INDUSTRY

ISSUE 38 - SPRING 2017



Executing a vision

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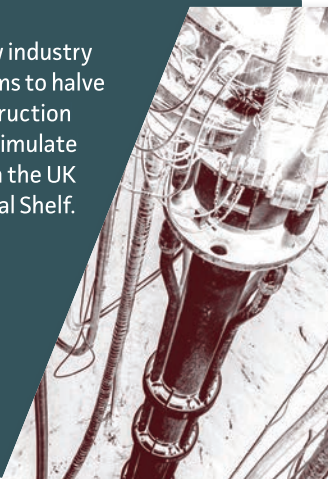
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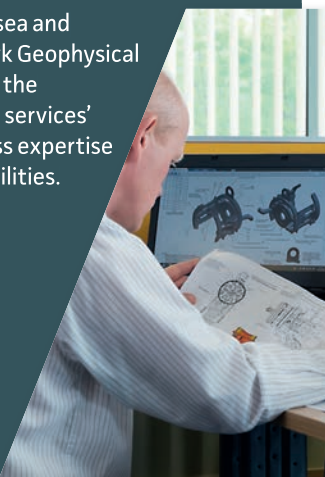
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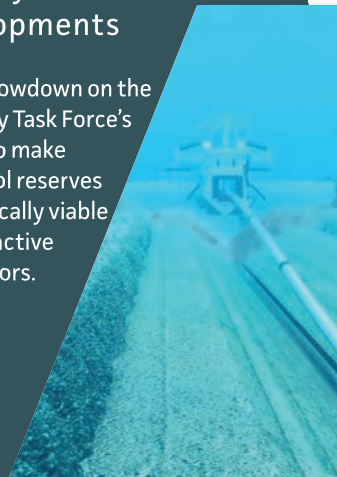
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Welcome



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I think that for many the coming year will remain difficult. But I also believe that perseverance and focus have been the key qualities helping our industry in these difficult times. While the sector is coming together to work smarter and more co-operatively and is improving its competitiveness, there is still much more to do.

This issue of *Wireline* shares some great stories of where industry is in action, actively addressing the issues and turning them into opportunities.

I want to thank all those taking an active part in the Efficiency Task Force (ETF) for the excellent contribution that they have made. Over the past 18 months, through the ETF, industry has pioneered a number of initiatives focused on improving efficiency and industry competitiveness.



By getting directly involved in the Efficiency Task Force, there is an opportunity to get ahead of the curve and realise substantial savings in your businesses.



We are now starting to see tangible outputs. A Tender Efficiency Framework is currently being piloted (p8) to streamline procurement processes. Guidelines have also been released to help companies simplify subsea developments (p18). The latter follows extensive work by a 70-strong work group involving over 30 companies. The team put in an enormous amount of effort to identify, investigate and test approaches as to how subsea developments could be made more cost-effective.

The aim now is to apply the lessons so that stranded small pools of reserves can be brought into production. This could truly be a game changer.

Crucial to maximising the impact of all this work is for operators and suppliers to come together to adopt outputs and use them. I am pleased that the annual *Collaboration Index* shows that companies are collaborating more effectively in support of the principles of the Industry Behaviours Charter (p7).

We need to build on the successes of the past year. We are inviting industry champions to actively share the learnings with colleagues, clients and suppliers. By getting directly involved in the ETF, there is an opportunity to get ahead of the curve and realise substantial savings in your businesses.

So please get in touch with our new continuous improvement manager Mariesha Jaffray to get involved in the ETF (p7) and lead the way.

**Deirdre Michie,
Chief Executive,
Oil & Gas UK**

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Editorial Team
Rupal Mehta and Cymone Thomas

Contributors
Bill Phillips, Lucy Coleman,
Lucy Gordon, Tim Pilgrim
and Trisha O'Reilly

Designed by
David Jeffree

Oil & Gas UK
6th Floor East, Portland House,
Bressenden Place, London,
SW1E 5BH

Telephone: 020 7802 2400
www.oilandgasuk.co.uk

OIL&GASUK



1. Environmental performance captured in key report

Oil & Gas UK's latest *Environment Report* reveals an overall downward trend for the last 15 years in discharges to sea, emissions to atmosphere and accidental releases on the UK Continental Shelf (UKCS) (see infographics below). This is despite the UKCS being a mature basin with technically challenging production. Data to the end of 2015 are captured in this report for key metrics set by the regulators, providing a complete picture of the UK offshore oil and gas industry's environmental performance.

Mick Borwell, health, safety and environment policy director at Oil & Gas UK, says: "The report comes at a challenging time for the UK oil and gas sector, which is working extremely hard to navigate through the downturn, while maintaining environment and safety standards. Last year industry had its first increase in production in 15 years, but we are using the same amount of chemicals and emitting less CO₂ in the production of more oil and gas."

The report is available to download at <https://cld.bz/qgAn4xr>.

All emissions and discharges are strictly controlled and permitted



by the industry's environmental regulator – the Department for Business, Energy & Industrial Strategy

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



There has been an overall downward trend in discharges and emissions since 2000



Emissions and discharges rose proportionally less in 2015 than the upturn in oil and gas production



demonstrating industry commitment to environmental management

The average concentration of oil discharged with produced water under permit was

< 1/2

the OSPAR Commission recommended limit

Oil makes up just over

0.001 per cent



of the total mass of produced water discharged

The same mass of chemicals as in 2014



were used in the production of more hydrocarbons in 2015

CO₂ emissions from UK offshore oil and gas production contributed just over

3%

of the total UK CO₂ emissions

Emissions per unit of production have fallen since 2013



Last year saw the smallest mass of accidental oil released to the marine environment on record at just under 17 tonnes

< 0.00002 per cent



of total oil production

Chemicals accidentally released have fallen by

65%

since 2010 to 225 tonnes – 0.06 per cent of the total chemicals used in production



Download the infographics at www.oilandgasuk.co.uk/environmentreport.

2. ***Brexit and the implications for oil and gas***

Oil & Gas UK continues to engage with members through its Government Relations Work Group and other technical groups to gather intelligence on the implications for industry of the UK leaving the EU (Brexit) and to shape the trade body's policies.

As part of this activity, a breakfast briefing was held on 1 February to explore what effect Brexit might have on international trade for the sector, examining the potential trading relationships and emerging political and legal drivers. Speakers included Ben Digby of CBI, Matt Dunhan of the Global Counsel and Silke Goldberg of Herbert Smith Freehills.

Mike Tholen, upstream policy director at Oil & Gas UK, gave evidence last Autumn to the House of Lords EU External Affairs Sub-Committee inquiry into the UK's trade of goods post-Brexit. Mike emphasised the importance of access to markets for goods, services and skills and to attract investment. Meanwhile, Deirdre Michie, Oil & Gas UK's chief executive, participated in the House of Commons Exciting the EU Committee inquiry into the opportunities and risks for Scotland after Brexit.



Mike Tholen gives evidence to the House of Lords EU External Affairs Sub-Committee and Oil & Gas UK staff meet Norwegian counterparts



Oil & Gas UK representatives also travelled to Norway towards the end of last year for insights into how the Norwegian oil and gas industry manages its relationship with the EU. Hosted by the Norwegian Oil and Gas Association, staff met representatives from the Norwegian Ministry of Oil and Energy, Petroleum Directorate, Safety Authority and Environment Agency. The group discussed working together more closely by sharing details on how their respective industries are addressing the cost and efficiency challenge, managing decommissioning and considering climate change.

Watch Mike Tholen's evidence to the Lord's EU Committee at <http://bit.ly/EUinquiry> and Deirdre Michie's submission to the House of Commons EU Committee at <http://bit.ly/hocEUinquiry>.

3. ***Finding new job opportunities***

Individuals who are at risk or who have been made redundant are encouraged to register for free on Talent Retention Solutions' (TRS) new oil and gas portal. The portal gives access to new job opportunities and allows individuals to promote their skills and experiences to companies that are recruiting.

TRS was set up with the support of the former Department for Business, Innovation & Skills to retain advanced manufacturing and engineering skills in the UK.

The new hub for oil and gas has been developed with the support of Oil & Gas UK, Energy Skills Scotland, OPITO and the Department for Business, Energy & Industrial Strategy. Employers are encouraged to make displaced workers aware of the portal.

Access the portal at <https://talentretention.biz/oilandgas>.



4. Collaboration crucial for future success

Nearly nine out of ten companies now see collaboration as integral to their day-to-day business, according to the results of a survey by Oil & Gas UK and Deloitte released in December 2016.

Commissioned by the Efficiency Task Force, the survey of operators and suppliers also reveals higher levels of successful collaboration than the previous year. Forty per cent of respondents are satisfied with the level of co-operation compared with 27 per cent in 2015. But more work is needed to achieve systematic change.

Stephen Marcos Jones, director of business excellence at Oil & Gas UK, adds: "To see truly sustainable change, we need to look beyond collaboration to cut costs towards projects driven by innovation, knowledge sharing and a desire to work smarter and more efficiently.

"The Efficiency Task Force will continue to support industry collaboration in 2017 through initiatives such as the Subsea Standardisation Project (see p18 of this issue) and the Tendering Efficiency Framework (see overleaf). The Task Force also promotes change enablers such as the Industry Behaviours Charter, the Rapid Efficiency Exchange and the Continuous Improvement Network. Our hope is that future surveys will show further improvements across the sector as a result of these collective efforts."

Find out more about the Collaboration Survey at <http://bit.ly/Collabsurvey>.

5. Efficiency in action

If you are steering an efficiency improvement programme within your company, Oil & Gas UK wants to hear from you so that your learnings can be shared in an online Efficiency Hub and to identify opportunities for you to get involved in the Efficiency Task Force (ETF).

Mariesha Jaffray, continuous improvement manager at Oil & Gas UK, explains: "Over the past year, the ETF has launched a range of industry initiatives as well as good practice guidelines. We have also published compelling case studies demonstrating new ideas for time and cost savings that could be picked up by other companies. We now need industry champions to take ownership of these initiatives, apply the principles and give feedback to industry through the ETF. Taking part allows companies to be early adopters and realise the benefits first."

To get involved or find out more, contact Mariesha Jaffray on mjaffray@oilandgasuk.co.uk.

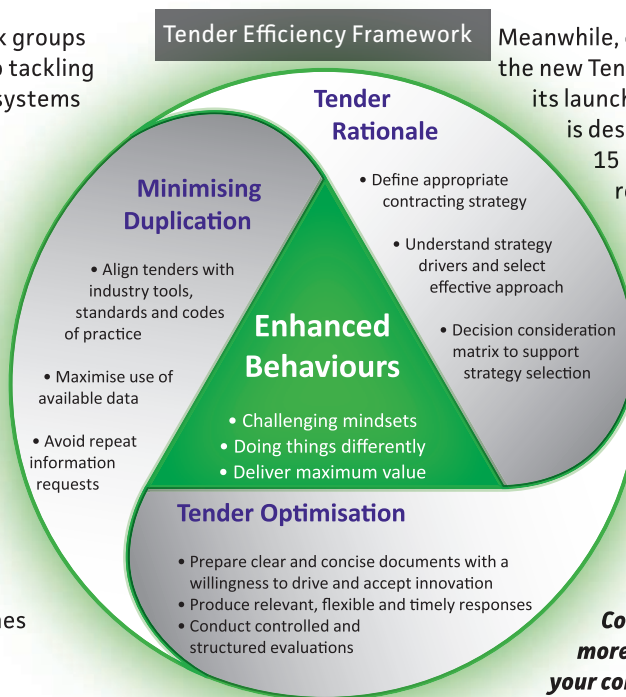


6. Tackling inefficiencies in compression systems and tendering processes

Two Efficiency Task Force work groups have turned their attention to tackling inefficiencies in compression systems and tendering processes.

Compression system outages are the main cause of unplanned shutdowns on the UK Continental Shelf and can account for at least 40 million barrels of lost oil and gas production each year.

The operators responsible for the bulk of these outages are working together to identify the root causes. They aim to publish good practice guidelines this year.



Meanwhile, companies are being called on to pilot the new Tender Efficiency Framework following its launch in December 2016. The Framework is designed to help industry save 12 to 15 per cent (or £25 million per year) by removing duplication and non-value added activity and streamlining the procurement process through industry-wide cultural change.

Through an interactive workshop, a number of directors from operator and contractor companies have already signalled their commitment to the initiative and are looking to encourage honest two-way feedback on the tendering process.

Contact Mariesha Jaffray to find out more about the framework and how your company can get involved on mjaffray@oilandgasuk.co.uk.

7. Seminar outlines case for continuous improvement

A strong case for continuous improvement was put forward at a seminar on 1 December in Aberdeen. Delegates heard real examples of how companies are working smarter, innovatively and co-operatively. Wood Group's Phillip Oliver outlined how his organisation has pursued excellence and growth. Technip's Mark Docherty talked about the company's Sea Change Programme, while Aker Solutions' Gary Downs described the benefits of inspiring employees to engage in continuous improvement. Granville Clutterbuck also presented on Nexen's evolving supply chain management programme and Robert Hales of WSP Parsons Brinckerhoff shared learnings from the rail, highways and power industry.

The presentations are available at <http://bit.ly/CI-seminar>.



8. Simplifying commercial and legal practices

A new *Industry Model Form Study Agreement* and the updated Commercial Code of Practice (CCOP) – designed to reduce the legal and commercial complexities of offshore operations – have been released to help unlock new developments. Oil & Gas UK and the Oil and Gas Authority (OGA) support both initiatives.



Mike Tholen, Oil & Gas UK's upstream policy director, comments: "The industry is rising to the challenge set by the OGA, and before that the Wood Review, to remove the barriers to activity in mature areas of the UK Continental Shelf. Industry is increasingly co-operative in its bid to simplify and reduce the time taken to carry out commercial and legal negotiations."

To date, 30 companies have registered their commitment to the refreshed CCOP. It has been rewritten to reflect the obligations associated with MER UK (maximising economic recovery) and best practice in negotiating commercial agreements from across the industry.

Download the Study Agreement at <http://bit.ly/MSA16> and the Commercial Code of Practice at <http://bit.ly/CCoPractice>.

9. North Sea decommissioning to grow steadily over the next decade

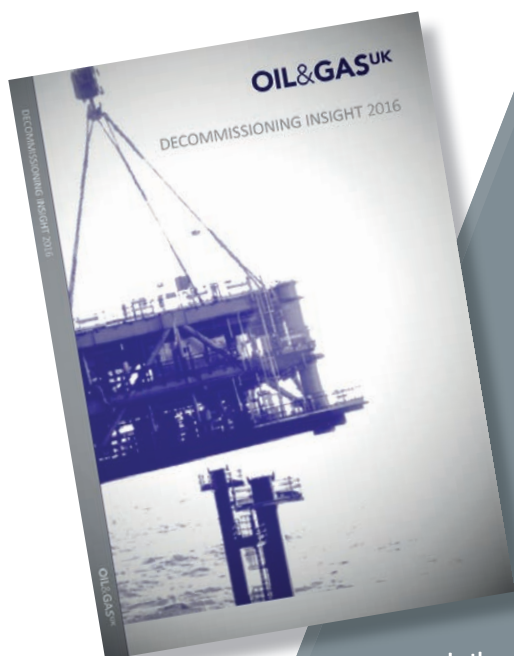
Oil & Gas UK's *Decommissioning Insight* forecasts a gradual but steady rise in offshore oil and gas decommissioning on the UK and Norwegian Continental Shelves over the next ten years. The analysis confirms that, despite low oil prices, there has not been a rush to decommission. Instead the picture is more complex as different market forces influence strategies across the North Sea.

The report marks the first survey of both the UK and Norwegian decommissioning markets and provides the most comprehensive picture to date of anticipated activity in these two countries between now and 2025. Its insights will help operators to decommission effectively and points the supply chain to where demand for services is likely to lie.

Data on 186 projects are captured in the publication. Decommissioning on the UK Continental Shelf from now until 2025 represents a £17.6 billion market. Over 50 per cent of this is in the central North Sea.

Oil & Gas UK is also working on the MER UK Decommissioning Task Force with the Oil and Gas Authority and the Department for Business, Energy & Industrial Strategy to develop new fit-for-purpose technical, commercial and operational solutions to lower the cost of decommissioning while maintaining high safety and environmental standards.

The report is available to download at <https://cld.bz/jb05Hxr>.

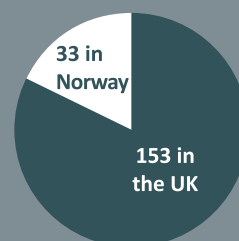


Download the infographics at www.oilandgasuk.co.uk/decommissioninginsight.

Decommissioning is an emerging sector in the UK and Norway, accounting for 2% of total industry expenditure in 2010 increasing to 5% in 2015



Over the next ten years, 186 projects are forecast for decommissioning



Over the next decade across the UK and Norway

More than 100 platforms are forecast for complete or partial removal



>1,800 wells

are to be plugged and abandoned

Close to 7,500 kilometres of pipeline are lined up for decommissioning



On the UKCS

£17.6
BILLION

is forecast to be spent on decommissioning from 2016 to 2025



Between now and 2025,

53%
(£9.4 BILLION)

of UKCS spend will be in the central North Sea

Well plugging and abandonment is the largest category of expenditure on the UK and Norwegian Continental Shelves at around 50%



In the past 12 months, UKCS cessation of production dates have been

deferred



for 33 assets

unchanged



for 135 assets

brought forward



for 72 assets

There are opportunities in the supply chain for companies with competitive decommissioning capability



10. Guidelines on high-pressure, high-temperature wells

New guidelines from Oil & Gas UK focus on wells with high-pressure high-temperature (HPHT) properties. The publication reflects ongoing efforts to continually review and improve the safety of all aspects of well practices on the UK Continental Shelf. It provides information on project planning, HPHT cementing, and well construction, testing and abandonment. The guidelines provide the sector with a common framework to outline good practice, reduce operational complexity and improve safety performance.

Guidelines are free for members of Oil & Gas UK and purchasable by non-members. Download a copy at <http://bit.ly/hphtwells>.



11. MER UK in practice

The Oil and Gas Authority (OGA) is now an independent government company and has published a range of documents outlining strategies for exploration, information management, the supply chain, asset stewardship, decommissioning, technology and enhanced oil recovery. This follows an event late last year on MER UK in Practice where the OGA discussed how it will seek to regulate, influence and promote the UK Continental Shelf to maximise economic recovery.

You can access the MER UK strategies at <http://bit.ly/MERUKstrategies>.

12. CDA's Unstructured Data Challenge

Nine companies have taken part in Common Data Access Limited's (CDA) Unstructured Data Challenge to demonstrate how modern data science techniques can extract value from CDA's archive of 50-plus years of exploration data.

Agile Data Decisions, AGR Software, Cray Inc., Flare Solutions, Hampton Data Services, Independent Data Services, Kadme, New Digital Business and Schlumberger Information Solutions used the data to explore how wells could be drilled more cheaply and with reduced risks; how prospective areas could be identified in a fraction of the time and cost; how time-consuming tasks, such as well log quality control, could be automated; and to identify formation analogues. Initial results from their work were revealed at an industry workshop, jointly hosted with ECIM, on 30 November in Aberdeen. CDA intends to progress the findings in 2017 to improve the accessibility and quality of data held in UKOilandGasData.com and to support industry insight in this important area.



L-R: Lord Dunlop; Councillor Jenny Laing; Sir Ian Wood; Councillor Richard Thomson; Keith Brown MSP; and Colette Cohen

13. Aberdeen City Region Deal signed

Oil & Gas UK hosted the official signing of the Aberdeen City Region Deal by Lord Dunlop, Keith Brown MSP, Councillor Jenny Laing of Aberdeen City Council, Councillor Richard Thomson of Aberdeenshire Council and Sir Ian Wood. The deal, signed in November, commits both the UK and Scottish Governments to invest up to £250 million jointly to boost infrastructure and connectivity in the north east of Scotland. Aberdeen City Council, Aberdeenshire Council and local partners will also invest up to £44 million over the next decade.

The deal includes an appraisal of the region's transport requirements, expansion of Aberdeen Harbour and funding for the Oil and Gas Technology Centre (OGTC). Colette Cohen of the OGTC also addressed the audience.

14. Regional visits raise industry profile

Jesse Norman MP, Parliamentary Under Secretary of State at the Department for Business, Energy & Industrial Strategy, met with Deirdre Michie, Oil & Gas UK's chief executive, when he visited Aberdeen last November.

Such visits are important to Oil & Gas UK's work to raise awareness of industry's vital economic contribution and the challenges it faces. Mr Norman and Deirdre also discussed the government's Industrial Strategy and Brexit. This was followed by site visits to member companies Expro – to tour their workshop and see their well intervention equipment – and NHV Helicopters.



NHV Helicopters' new operational base in Aberdeen

NHV's new operational base at Aberdeen International Airport was officially opened by Deirdre and Simon Gray, chief executive of the East of England Energy Group (EEEGR), last October. Deirdre praised the facility as an example of positive investment in the region and took the opportunity to tour the departure lounge and pre-flight briefing rooms.

Deirdre also hosted a roundtable for local organisations and supply chain companies in Invergordon last Autumn to discuss the impact of current market conditions and how Oil & Gas UK is supporting its members. She toured the Port of Cromarty Firth to learn more about its work in the oil and gas sector – from fabrication to decommissioning.

If you are interested in hosting a site visit, please contact Neil Michie on nmichie@oilandgasuk.co.uk.



15. Size and shape of the offshore workforce

Data are now available from a high-tech two-year study using 3D scanners that has captured the changing size and shape of the UK offshore workforce.

Oil & Gas UK teamed up with Robert Gordon University to gather information about workers' sizes and shapes to inform all aspects of offshore ergonomics and health and safety. The pivotal research has already guided work on helicopter passenger seating.

The data are available to download for a fee of £120 at <http://bit.ly/ss-ow>. All proceeds will go towards further industry research.

16. Managing cumulative risk offshore

Technical specialists from across industry have come together to develop the *Cumulative Risk Guidelines*. Published by Oil & Gas UK, the guidelines aim to increase awareness of cumulative risk and provide guidance on how to manage it.

Mick Borwell, health, safety and environment policy director at Oil & Gas UK, explains: "Minor deviations in hazard management can occur and have a small associated risk when examined on their own. However, when these are considered cumulatively there is potential for a significant change in overall risk. These guidelines will aid offshore installation managers, operations managers and asset managers in developing a framework for assessing cumulative risk and suggest different approaches and methods."

Guidelines are free for members of Oil & Gas UK and purchasable by non-members. Download a copy at <http://bit.ly/CRg16>.



Image ©iStock.com/mikeuk

17. *Guidelines on drones encourage 360-degree view of offshore systems*

Oil & Gas UK has released guidelines on unmanned aircraft systems (UAS) in response to increasing use of drone technology in the offshore environment. The aim is to maintain consistency with the high safety and operating standards already adopted on the UK Continental Shelf. The guidelines have evolved from lessons learnt and share best practice, procedures and the certification needed to be compliant with UAS regulations.

Trish Sentance, health and safety manager at Oil & Gas UK, adds: "We expect UAS usage to grow. The technology is particularly attractive for improving safety, for example, sending unmanned aircraft instead of people into confined spaces to conduct inspections reduces risk. It is also effective and efficient. The intention is to encourage offshore operators planning on using this emerging technology to think about the whole operating and safety system offshore and not just the air vehicle."

The guidelines have been developed by a work group set up by Oil & Gas UK, comprising industry, aviation safety experts and UAS operators.

They are free to members of Oil & Gas UK and available to non-members for a fee at <http://bit.ly/UAS2017>.



Membership Matters

18. *Oil & Gas UK's Board appointments*

Oil & Gas UK has announced six new appointments to its Board. Representing the operator community are Bill Dunnett, managing director of Repsol Sinopec Resources UK; Cory Loegering, region vice president and managing director for Apache North Sea; Greta Lydecker, managing director of Chevron Upstream Europe; Robin Allan, Premier Oil's director, North Sea and Exploration; and Terri King, president UK of ConocoPhillips. Peter Wilson, vice president, operations, Rowan Companies, has been appointed to contribute to the representation of contractors and supply chain companies on the Board.

L-R: Bill Dunnett of Repsol Sinopec Resources UK, Cory Loegering of Apache North Sea, Greta Lydecker of Chevron Upstream Europe, Peter Wilson of Rowan Companies, Robin Allan of Premier Oil and Terri King from ConocoPhillips



19. *Companies join Oil & Gas UK*

We are pleased to welcome the following companies to Oil & Gas UK membership: Bird Control Group; BOARD International; Carjon-NRG; Orca Subsea Ltd; ROMAR International; The North East England Chamber of Commerce; and White & Case LLP.

Our membership relations advisers Mark Mullins and Shahana Shami are committed to ensuring that Oil & Gas UK membership is carefully tailored to your needs so please contact them with any queries on membership@oilandgasuk.co.uk.

20. Celebrating industry talent

Over 450 guests gathered to celebrate the ingenuity and enterprise of people and companies in the sector at the Oil & Gas UK Awards in November. The event marked the tenth year of the Awards, for which an unprecedented number of nominations were received. All the finalists are testament to the exceptional work being delivered by remarkable people across the industry.

Oil & Gas UK's chief executive, Deirdre Michie, remarks: "We all know that our industry continues to face challenging times and that tough decisions have had to be made. This is why it is more important than ever that we come together and take time to celebrate the great people and achievements that have made this industry a national treasure that we are all very proud of.

"It is through the tenacity and determination of our industry's workforce that over the last five decades we have pushed the boundaries of technology to meet the engineering challenges of operating in one of the most hostile basins in the world. Our Awards highlight and share the examples of success in the last year, inspiring our drive for improvement in the future."

The evening was hosted by the BBC's Scotland editor, Sarah Smith. It also included a speech from Ben Taylor, country commercial lead at Shell U.K. Limited – the Awards' principal sponsor. He reflected on an ever adapting industry as it responds to oil price fluctuations, a maturing basin and the decision to leave the EU.



Apprentice of the Year *Sponsored by OPITO*

Louise Jamieson, apprentice production operator at Total E&P UK, has shown a level of commitment and competency in a physically demanding role that has far surpassed the expectations of her superiors. Arriving at Total's Shetland Gas Plant during its construction phase, Louise was the only apprentice to volunteer and initiate the development of specific training material about the new gas plant. She became a leader in delivering this technical training for other apprentices and operators. The result was a full complement of competent operators ready for the plant start-up. Thanks to Louise, Total saved time and money by creating and delivering their training in-house. She is a role model to those around her and has impressed operators with her 'can-do' attitude.



Graduate of the Year

Sarah-Alice Davies, CWI engineer – design at Shell U.K. Limited, is one of the first graduates to attain two international postings at difficult remote locations. Sarah helped deliver first shale oil to the Middle East from Jordan's deserts and supervised rig and interventions operations in the jungles of Gabon. She uses her linguistic and interpersonal skills to deliver Shell's global operations on time and under budget. Now with the UK completions design team, she is tackling the industry's challenges by engineering innovative and cost-effective solutions.



Mentor of the Year

Girish Rajkumar Kabra, Centrica's development manager, understands the importance of good mentoring and its ability to transform careers. He has gained knowledge and experience from working on three continents, which he brings to his mentor-mentee relationships. His collaborative approach is supported by a clear structure to help his mentees develop their full potential. Many are already working at senior positions on medium to major projects at young ages. As a fellow of the Institution of Chemical Engineers, he continues his support for both the global process engineering community as well as the oil and gas industry as a whole.



Workforce Engagement (SME)

Merlin Energy Resources Ltd impressed judges with its climate of openness and transparency. Management give staff monthly updates on revenue, profit and costs. This enables staff to make prudent decisions about how much of the profit they should share as a bonus. Merlin's employee-led approach has paid dividends when it comes to business success. Happy and engaged teams mean that they can devote more energy to customers and their needs.



Workforce Engagement (Large Enterprise) *Sponsored by the ECITB*

Nexen Petroleum UK Ltd has been inspired by the cycling world and the philosophy behind the 'marginal gains theory' to encourage the workforce to drive improvements and better working practices in everyday tasks. The concept involves breaking down routine activities to find small efficiencies or improvements that add up to significant benefits and savings. Focusing on key business areas, managers were inundated with over 130 ideas for this campaign. One example included a workshop on water injection, resulting in a 40 per cent improvement in water injection rates.

Pictured: Tim Wright

Pictured: Ray Riddoch

Pictured: Chris Fleming



Business Innovation and Efficiency (SME)

Cyberhawk Innovations' work in bringing unmanned aerial vehicles (UAVs) to the oil and gas sector stood out to the judges. One of the biggest milestones in recent years is the ability to conduct internal inspections. In 2015, Cyberhawk carried out the world's first inspection of an internal storage tank using an UAV on board a Maersk floating, production, storage and offloading vessel on the UK Continental Shelf (UKCS). UAVs can inspect areas that are simply not humanly accessible, such as live flare stacks. It also avoids the high cost requirement to shut down production for straightforward condition monitoring activities, saving millions.

Pictured: Mark Richardson



Business Innovation and Efficiency (Large Enterprise)

Centrica has been recognised for supporting an onshore trial of a new technology for well abandonment. Interwell's thermite plug seals off the well by melting both the well components and the rock formation around them to recreate the cap rock. This is expected to be superior to the traditional cement plug in terms of long-term environmental integrity. The trial results demonstrated that this technology could reduce abandonment costs in the North Sea by more than 50 per cent.

Pictured: Louise MacDonald



Diversity and Inclusiveness

Amec's graduate diversity profile has improved by sourcing a wider range of candidates from different educational establishments and from outside the industry through two bespoke recruitment programmes. The company has employed nearly 300 people since 2013. Amec has also increased the percentage of female and non-British graduates. Engagement with a greater gender mix, generation spread, multi-national workforce from a cross-section of industry has resulted in Amec delivering better customer outcomes and solutions.

MER UK Awards sponsored by the Oil and Gas Authority

ETAP Partners – BP, Shell, Esso, JX Nippon and Zennor Petroleum

The ETAP development has one of the most complex commercial arrangements on the UKCS. This was becoming a barrier to investment and value recovery activities. The partners took the innovative step to realign the ownership interests, associated decision making process and cost-sharing to best reflect the remaining value of the fields. This unique approach showed that with the right leadership engagement, a sustainable framework that stimulates investment and changes behaviours can be delivered even in the most challenging circumstance, benefiting all and importantly making a positive contribution to MER UK.

The Southern Wye Project Partners – ConocoPhillips, Repsol Sinopec Resources UK, Maersk Oil, Ithaca Energy and JV Partners

Over a four-month period, the companies – working with key contractors across the supply chain – safely executed a fast-track and complex subsea tie-in, the Southern Wye Project. Success of this greatly accelerated project stemmed from the positive engagement of senior management who led a cultural change that saw all parties overcoming commercial, legal and logistical challenges with support from the Oil and Gas Authority. The behaviours during the project embody MER UK and demonstrate that overall value can be increased through collaboration.

Significant Achievement Award

Jeremy Cresswell, energy editor at the *Press & Journal*, has been acknowledged with this award for his tireless work over the years to champion our industry. He has been involved in the Oil & Gas UK Awards for ten years, most recently as a judge for the Apprentice of the Year Category.

Jeremy joined the *Press & Journal* in 1989 as energy correspondent and later launched Energy – the successor to the *Offshore Journal* supplement – which he had edited since 1992. He is also a visiting professor at Aberdeen Business School and has published five oil and gas-related books – the latest one being *ABZ and Big Oil – 50 years of Black Gold in the Silver City*.



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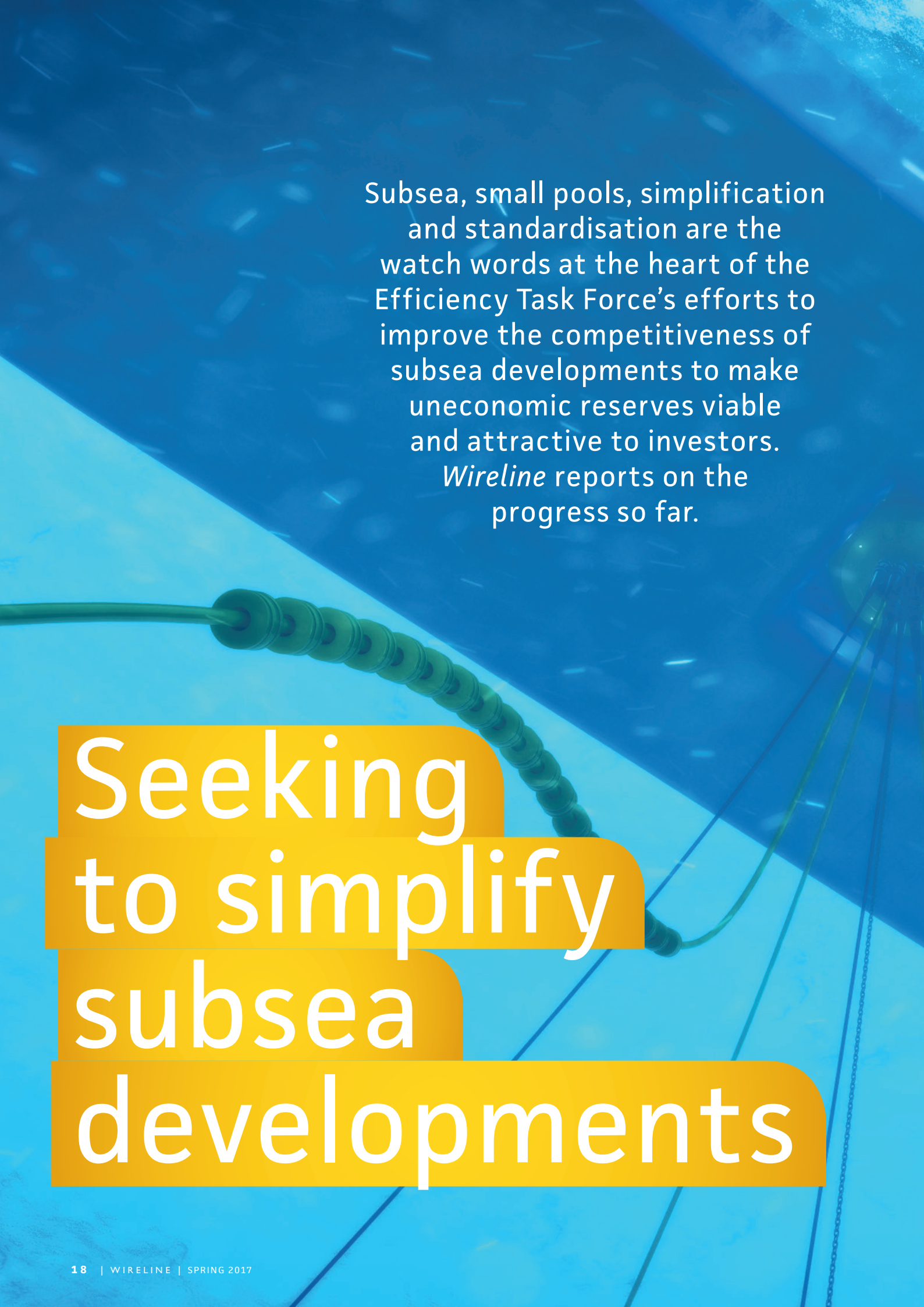
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The background of the page is an underwater scene. A large, blue, curved structure, possibly part of a subsea wellhead or platform, dominates the upper half. A green cable with a series of dark, circular connectors runs diagonally across the middle. Several thin, dark lines, likely mooring cables, extend from the right side towards the bottom. The water is a deep blue with some light reflections.

Subsea, small pools, simplification and standardisation are the watch words at the heart of the Efficiency Task Force's efforts to improve the competitiveness of subsea developments to make uneconomic reserves viable and attractive to investors.

Wireline reports on the progress so far.

Seeking to simplify subsea developments



The industry has the expertise today to develop more competitive ways to bring small pools into production.



More than three billion barrels of oil equivalent (boe) are stranded across the UK Continental Shelf (UKCS) in around 350 unsanctioned discoveries. Of less than 50 million boe each, these 'small pools,' are currently economically challenging to produce.

"Past tendencies to gold-plate and over-specify have been a major contributor to pushing up operating costs," insists Steve Duthie of Technip UK Ltd. "However, the industry has the expertise today to develop more competitive ways to bring these small pools into production by adopting a simplified and fit-for-purpose approach to subsea developments."

Together with Guy Trumper, also of Technip, Steve is leading the Efficiency Task Force's (ETF) Subsea Standardisation Project and believes strongly that there is a significant opportunity to realise the UKCS' full potential.

Connect four

The challenge has brought more than 70 people from 31 individual companies to work together on the project. The group's diverse make-up allows it to look at the problem from the multiple perspectives of the key stakeholders, namely operators, design consultants, manufacturers, fabricators and installation contractors.

The first step was to review the behaviours and existing practices of the oil and gas industry and other sectors, including automotive and aerospace, to identify an approach to restore competitiveness.

Guy explains: "The group's initial hypothesis was that standardisation of existing technology and development of new technology would be the most influential factors in improving efficiency and reducing costs. But from the initial research it became evident that changes in behaviours, practices and culture were key to providing immediate solutions. The direction and the focus of the group therefore evolved to identifying a more simplified and fit-for-purpose approach to project delivery.

"And this understanding then gave us the basis for a series of workshops with industry to bring fresh thinking into the discussion."

From this initial research, four key themes emerged through which subsea developments could be made more competitive.

- Companies could benefit from working to **industry codes and standards** instead of prescriptive, bespoke and non-value adding specifications.
- **Processes** relating to documentation, management of interfaces between companies, review cycles, reporting, inspection and testing could be simplified.
- **Alternative methods** in design, fabrication, manufacturing and installation, including how this work is scheduled, could improve efficiency.
- **Hardware** interfaces could be standardised and components made interchangeable through standard designs and re-use capability. >

These standardisation themes were then applied to four existing UKCS subsea projects to investigate how they could have delivered savings and improved efficiency vis a vis existing bespoke working practices.

Guy explains: “These were typical subsea developments such as an FPSO (floating, production, storage and offloading vessel) riser system; two subsea pipeline tie-backs connecting the fields to host platforms; and a subsea manifold and bundles pipeline system that connects multiple subsea wells.”

“When taken together, the results showed many opportunities for improving project delivery, with the potential to deliver savings between 15 to nearly 30 per cent,” outlines Steve.

Applying the same principles, an exercise was carried out to further demonstrate the impact of industry’s bespoke ‘preferential requirements’ on cost and schedule. Across 16 scopes of a subsea development, a reference case (a simplified and fit-for-purpose approach) was scored against nine of the operators’ preferential requirements.

Steve adds: “The results of this ‘strawmen exercise’ were very powerful and clearly highlighted how the current approach contributes to higher costs and longer project schedules.”

He continues: “However, the overall savings and weighting of each of the standardisation themes will vary from

project to project, by the cultures and behaviours adopted and the perception of risk. Therefore, how a company approaches and adopts the principles into their own practices will be crucial. Early engagement with the supply chain is important.”

Prospects for Pegasus

The next step was to apply the findings to a UKCS prospect to investigate whether this could support the prospect becoming economically viable. Centrica’s West Pegasus field, a three well tie-back in the southern North Sea, was chosen as a case study.

In all, by applying the standardisation themes, the group identified savings of up to 25 per cent through design optimisation; revised field layouts; manifold simplification; pipeline, flexible riser and umbilicals optimisation; efficiencies in valves, trees and controls systems manufacturing; and by combining umbilicals in pipeline trenches.

Steve says: “Our work on West Pegasus shows us that the three areas with the most potential to deliver cost and schedule savings are in processes; code, standards and specifications; and alternative methods and technology. There are opportunities in standardising hardware too, but these may be constrained by commercial sensitivities arising from proprietary equipment within individual companies; however, there is the potential for significant savings in the longer term.” >

“*Early engagement with the supply chain is important.*”

Subsea trenching plough. Image courtesy of Technip

1

**MORE THAN THREE
BILLION BARRELS
OF OIL
EQUIVALENT
(BOE) ARE
STRANDED IN
AROUND 350
UNSANCTIONED
DISCOVERIES**



**OF LESS THAN
50 MILLION BOE
EACH, THESE
‘SMALL POOLS’
ARE CURRENTLY
ECONOMICALLY
CHALLENGING
TO PRODUCE**



SUBSEA STANDARDISATION – THE LOWDOWN

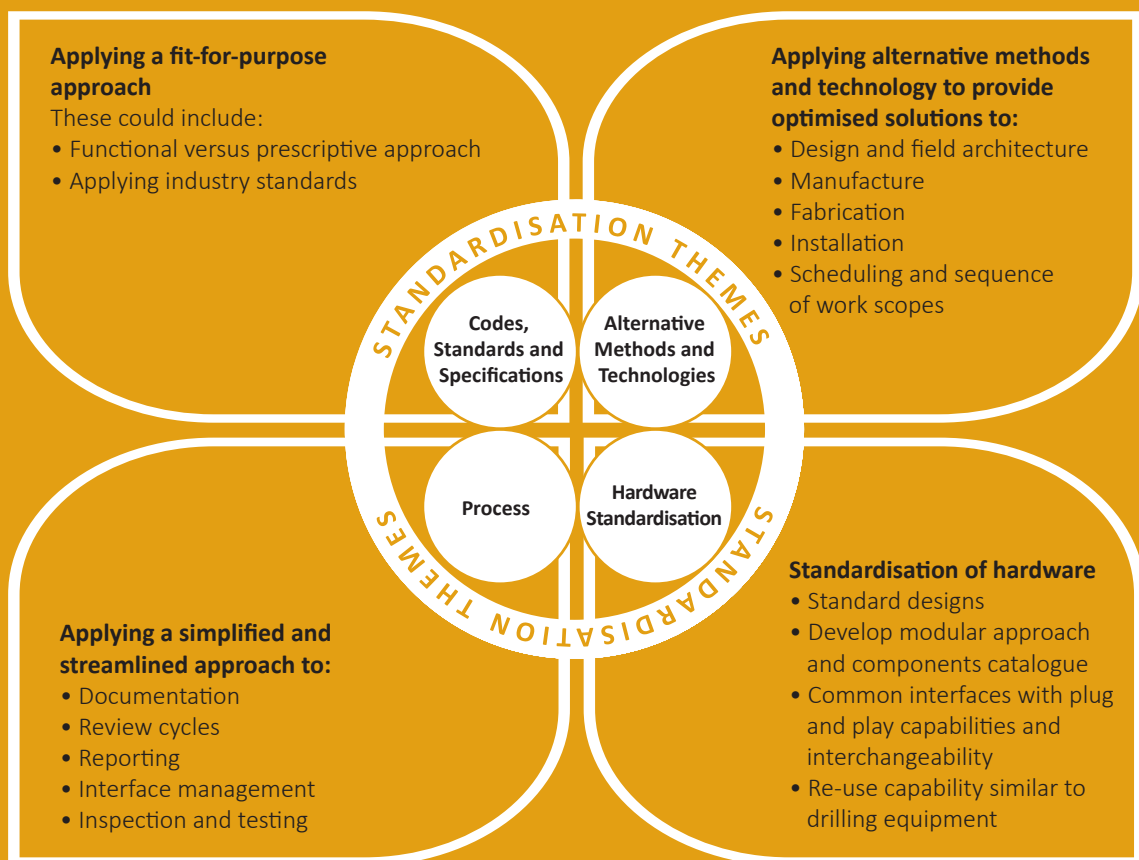
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INDUSTRY'S CURRENT PREFERENTIAL
'BESPOKE' APPROACH CONTRIBUTES TO HIGHER
COSTS AND LONGER PROJECT SCHEDULES

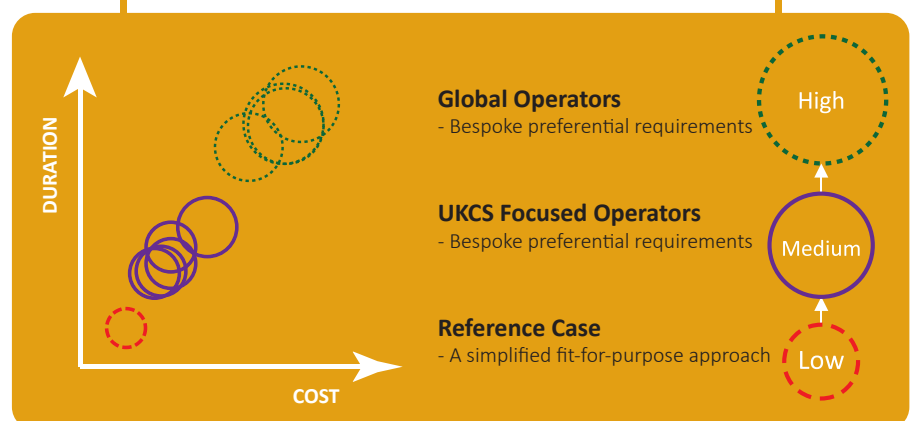
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FOUR KEY AREAS HAVE EMERGED THROUGH WHICH
SUBSEA DEVELOPMENTS COULD BE MADE MORE COMPETITIVE



4

WITH THE
POTENTIAL
TO DELIVER
SAVINGS OF 15
TO 30 PER CENT
ON THE
UK CONTINENTAL
SHELF





This project is an example of the type of work that the industry needs to do more of. Adopting the approach and mindset championed by the Efficiency Task Force subsea group will make a major contribution to MER UK.



Most recently, the ETF group has also presented the findings of its review of another UKCS prospect, this time provided by Chevron Upstream Europe. Analysis of a satellite field in the Moray Firth area, near the Chevron-operated Captain field, revealed that savings of up to 25 per cent could again be achieved.

Integrated solutions

The findings from the Subsea Standardisation Work Group are now being shared with industry. Steve presented the work at Oil & Gas UK's Share Fair last November and *Application Guidelines* have now been released. These provide a list of worked examples and identify the behaviours, cultures and practices needed to effect a change in approach to unlock reserves on the UKCS.

The ETF also feeds into the joint industry-regulator MER UK (maximising economic recovery from the UKCS) Task Forces. The development of small pools is a priority for the MER UK Technology Leadership Board.

Commenting on the ETF's progress, Walter Thain, managing director of Petrofac's Engineering & Production Services West business and ETF chair notes: "Experts in all aspects of subsea development were brought together to look at this issue with rigour and from multiple perspectives. This was a

What some of the other partners say



**Blaza Jovanovic,
Senior Development Engineer, Centrica**

"The Pegasus project team is very pleased with the outcome from the subsea standardisation case study...which has increased our confidence in the project's economic viability."



**Carlo Procaccini,
Head of Technology, Oil and Gas Authority**

"Reducing subsea costs is critical for the development of marginal oil and gas pools in mature and frontier areas of the UKCS. This high quality report, backed by real case studies, will gain good traction with the industry."



**Richard Hinkley,
General Manager Projects and Future Growth,
Chevron Upstream Europe**

"Through the Subsea Standardisation Project, the Efficiency Task Force is showing what can be achieved when the industry works together. This is a great example of the efforts being undertaken to help maximise economic recovery from the UKCS. The findings outlined in the report are both impactful and measurable and should be considered a foundation for future subsea projects in the basin."



**Stephen Marcos Jones,
Business Excellence Director, Oil & Gas UK**

"This project demonstrates the capability of industry to successfully collaborate and knowledge share. We must now extend this approach to other scopes to ensure the benefits are maximised throughout."



**Graham Whitehead,
Subsea Operations and Projects Manager, EnQuest**

"The success of the Subsea Standardisation Project demonstrates that significant cost and schedule savings are achievable while maintaining delivery, safety and long-term reliability. The Application Guidelines capture the learnings and solutions in a very practical way."



**Mark Richardson,
North Sea Projects Group Manager, Apache North Sea**

"This project provides irrefutable evidence on how the industry should be changing to maximise economic recovery. The whole industry needs to take notice and apply these findings."

key factor in the quality of the findings that we now need to build on.

"This project is an example of the type of work that the industry needs to do more of. It supports the ETF's objective to deliver behavioural changes to compete effectively in a sustained low oil price environment. Adopting the approach and mindset championed by the subsea group will make a major contribution to MER UK." 🗣️



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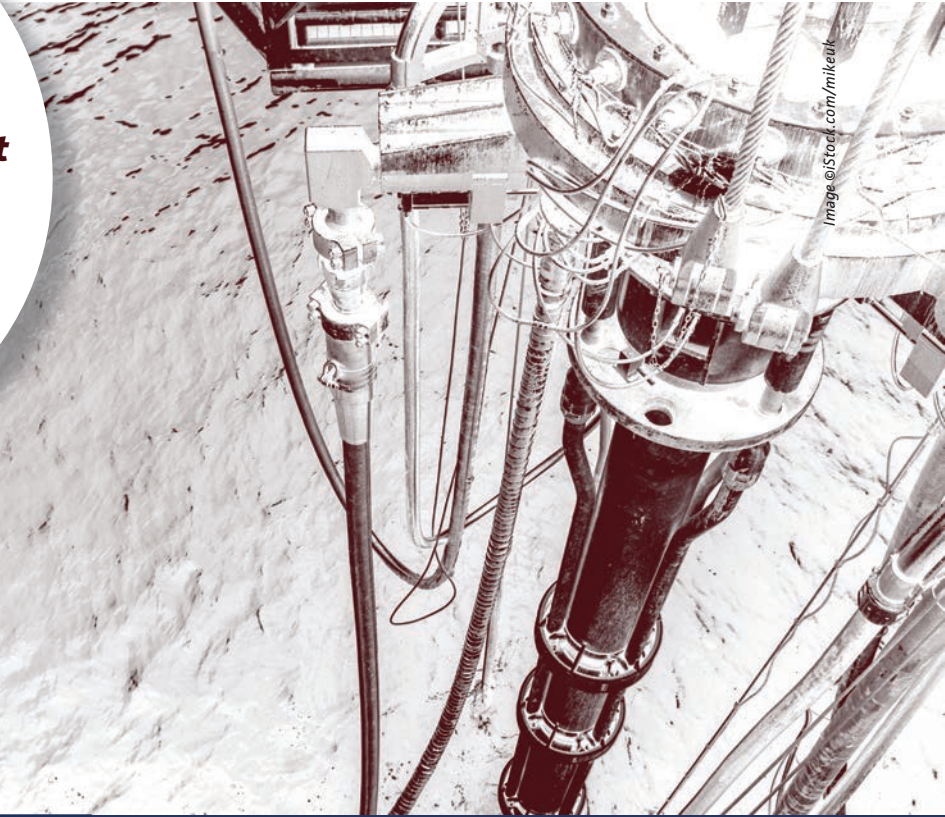
With exploration drilling at an all-time low and development drilling at its lowest since the 1970s, industry has kicked off a cross-sector project to explore how well construction costs may be reduced to stimulate activity.

Wireline finds out more from Katy Heidenreich, operations optimisation manager at Oil & Gas UK.

“Analysis of developments in the central North Sea shows that the time taken to drill wells of roughly the same length essentially doubled between 2004 and 2014...a marked reduction in efficiency.”

The goal is to halve well construction costs to accelerate the development of discoveries, extend the life of existing assets and stimulate a rise in exploration activity.

”



Q: What is the Well Cost Reduction Initiative?

A: Well cost reduction is one of the four priority areas of the MER (maximising economic recovery) UK Technology Leadership Board, jointly run by industry and the Oil and Gas Authority (OGA). The goal is to halve well construction costs to accelerate the development of discoveries, extend the life of existing assets and stimulate a rise in exploration activity. The Well Cost Reduction Initiative was set up in 2015 to drive the project forward, supported by Oil & Gas UK's Wells Forum.

Q: What is the scale of the challenge?

A: There are still significant reserves in the central North Sea and so the group made this region its priority. Analysis of developments in the area shows that the time taken to drill wells of roughly the same length essentially doubled between 2004 and 2014.

This marked reduction in drilling efficiency has been one of the contributing factors to well construction now accounting for between 30 and 50 per cent of total capital expenditure on the UK Continental Shelf. It is therefore unsurprising that securing capital to drill new wells has become increasingly difficult in the current downturn.

Exploration and appraisal activity fell to an all-time low of 23 wells last year and there were fewer development wells drilled in 2016 than in any year since the 1970s. This poses a significant threat to the industry's efforts to deliver MER UK. We need to make sure that the basin remains efficient and competitive so that we can continue to attract investment, and retain drilling rigs and skilled personnel in the UK.

Q: What was the focus of your activities in the first year?

A: Oil & Gas UK's Wells Forum, which is attended by operator and contractor companies, was instrumental in helping us get industry aligned on our priorities for the year to halve the cost of well construction in the UK. We also had a very strong steer from a workshop held in January 2016 that was attended by over 100 people from 40 companies.

Our focus areas are a mixture of quick wins and some longer-term initiatives. For example, we set up a series of 'scrutiny sessions', where an operator offers up a proposed well design for peer review. These sessions are hosted by the operator and supported by Oil & Gas UK, with voluntary 'scrutineers' from across the industry.

These are a really great example of industry working together to share knowledge and experience in the joint pursuit of finding ways to reduce costs. Four of the sessions run in 2016 identified opportunities to save costs of between 15 to 30 per cent through measures such as optimising design, sharing knowledge between operators, and improving confidence in the use of unfamiliar technologies.

A longer term priority is to see how we can improve operational efficiency across the basin as a whole. Since last November, nine operators and project management companies have been volunteering part-time resource to analyse performance across eight operators and identify activities where efficiencies could be made. >

Oil & Gas UK's Wells Forum – what does it do?

The cross-industry Wells Forum is made up of senior managers from operator and contractor companies. The forum provides a platform for members to share best practice, review well life cycle issues and interact with other industry stakeholders.

Examples of the forum's activities are:

- Identifying industry best practice and developing guidelines and standards applicable to UKCS well design, construction, management and intervention operations.
- Advancing the Well Cost Reduction Initiative.
- Identifying opportunities to unlock potential production improvement (and ultimate recovery) through increased well interventions.
- Providing regulators and stakeholders with a vehicle to discuss cross-industry issues relevant to improving health, safety and environmental excellence.

Find out more, contact kheidenreich@oilandgasuk.co.uk.

Q: What is the role of technology?

A: The industry wouldn't be where it is today without technological innovations. It plays a significant role in efficiency and cost reduction. However, with budgets tightly constrained, there is a heightened aversion to risk and lower tolerance to failure. This makes the technology hurdle even higher. We can help to improve confidence in trying something new by providing a platform for operators to share their experiences.

Q: Why should companies support the Well Cost Reduction Initiative?

A: There has to be a step change across the basin if we are to achieve lower well construction costs that are truly sustainable. There are many operators who have already, individually, made significant cost reductions, but there is a greater prize to be had in working together – operators, well services contractors and drilling contractors. Only then can we hope to establish a new, lower, sustainable benchmark for well construction.

With broad industry uptake of the outputs from all these initiatives, we estimate that, overall, the combined savings could be the equivalent of the cost of constructing 40 wells by 2020.

Q: What are the biggest challenges?

A: One of the greatest challenges we face today is the enduring impact that the protracted downturn is having on many businesses. These are still tough times. Our job is to keep focused on the initiatives that will protect the basin's competitiveness for the longer term. It is testament to the spirit and character of this industry that we have our members support and their understanding of the critical role they can play in applying the outputs and learnings. 🌱

We can help to improve confidence in trying something new by providing a platform for operators to share their experiences.



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Greg Clark MP

Greg Clark MP – Secretary of State for Business, Energy & Industrial Strategy – shares his thoughts on the importance of the UK offshore oil and gas industry and his priorities for the Industrial Strategy and Brexit.

Q: What are your top priorities as Secretary of State for the Department for Business, Energy & Industrial Strategy?

A: My Department will play a fundamental role in creating an economy that works for everyone – so that there are great places in every part of the UK for people to work and for businesses to invest, innovate and grow. To achieve this, I have identified four key priorities for the Department for Business, Energy & Industrial Strategy (BEIS).

First, my Department must deliver an ambitious, long-term Industrial Strategy. It will lay the foundations for reinvigorating UK economic performance and will be fit for the challenges of the future.

Second, we will maximise investment opportunities, build business and investor confidence and deliver the best results for the UK from Brexit.

Third, we must promote competition and responsible business practices to safeguard consumers and workers. We will improve corporate governance and ensure that there is a labour market that offers everyone quality, well-paid jobs and better working conditions.

Fourth, in order to meet our needs for the future, we will upgrade and diversify our energy supplies, ensuring that they are smarter, cleaner, more secure and more affordable for consumers and businesses.

Q: You visited Aberdeen and met with industry representatives just weeks into your new role – what was your impression of the sector?

A: When I was the Shadow Energy and Climate Change Secretary, I was lucky enough to visit Aberdeen several times in the period before the 2010 election, so it was great to be back and re-acquaint myself with a sector that is so important to the UK.

Meetings with the Oil and Gas Authority (OGA), Oil & Gas UK and an industry roundtable left me impressed by the strength and vibrancy of an industry working hard to weather the headwinds of lower oil prices. A great deal has been achieved, but there is more to do to secure the future of the UK Continental Shelf (UKCS).

I am excited by the potential of the Aberdeen City Region Deal – and especially the new Oil and Gas Technology Centre which it is funding – to generate growth in the area's economy. A visit to ROVOP, a small subsea company, underlined for me the huge potential that our oil and gas service industry has for export growth. And I ended the day with an excellent discussion with local business leaders at the Aberdeen and Grampian Chamber.

Q: Could you outline how the government's Industrial Strategy will work, what role you foresee the oil and gas industry playing, and how companies can get involved in the development process?

A: All governments have an industrial policy, but there's a difference between industrial policies that emerge

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The Industrial Strategy green paper provides a further opportunity for voices across the sector to help shape policy development.
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[I am] impressed by the strength and vibrancy of an industry working hard to weather the headwinds of lower oil prices.

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accidentally as a by-product of other policies and those where the impact of government policy on industry is carefully co-ordinated across government to achieve a strategic purpose. For this government, that purpose is to create an economy that works for everyone by upgrading the capacity of people and places to participate in productive activity. Investment in skills, innovation and infrastructure will be of particular importance.

As well as being internally coherent, government action must also be informed by businesses and communities, who are best placed to understand the needs of enterprise where it actually happens. During the weeks ahead, I and my ministerial team will be travelling to every part of the country to truly listen to what business in Britain has to say. The Industrial Strategy green paper provides a further opportunity for voices across the sector to help shape policy development.

Q: How do you intend to make a success of Brexit for the offshore oil and gas industry?

A: The British people have voted to leave the EU and we will work hard to get the best deal for Britain – and that includes our offshore oil and gas industry. We will continue to engage with industry on a range of issues, including Brexit, and we will listen carefully to their concerns. The UK remains part of the EU until the exit negotiations are complete and the UK formally leaves the EU. In the meantime, the UK will continue to participate in the EU process and will seek to engage constructively in ongoing business. On issues specific to the UK oil and gas

industry, the recently independent OGA will retain primary responsibility for upstream licensing and regulation. My Department is working closely with the Department for Exiting the EU to understand the impact of Brexit on the sector and to ensure that its interests are represented in negotiations.

Q: How do you intend to build upon the work the UK Government has done to support the industry through the downturn?

A: The UK Government remains committed to supporting this important sector. Over the past two years we have provided a package of measures worth £2.3 billion to support the industry and ensure the UK has one of the most competitive tax regimes for oil and gas in the world. We have invested £40 million in new seismic surveys to stimulate exploration activity, which is crucial if we are to realise the estimated 10-20 billion barrels of recoverable resources still left. Together with the Scottish Government, we have invested £250 million in the Aberdeen City Region Deal, which includes the development of the Oil and Gas Technology Centre.

In addition, we have established the OGA as an independent Government Company, equipped with the necessary powers to act as a strong, independent world-class regulator and asset steward. The OGA is working to maximise economic recovery of oil and gas from the UKCS in order to support the industry and the jobs it creates. 

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My Department is working closely with the Department for Exiting the EU to understand the impact of Brexit on the sector and to ensure that its interests are represented in negotiations.

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POINT



OF DIFFERENCE

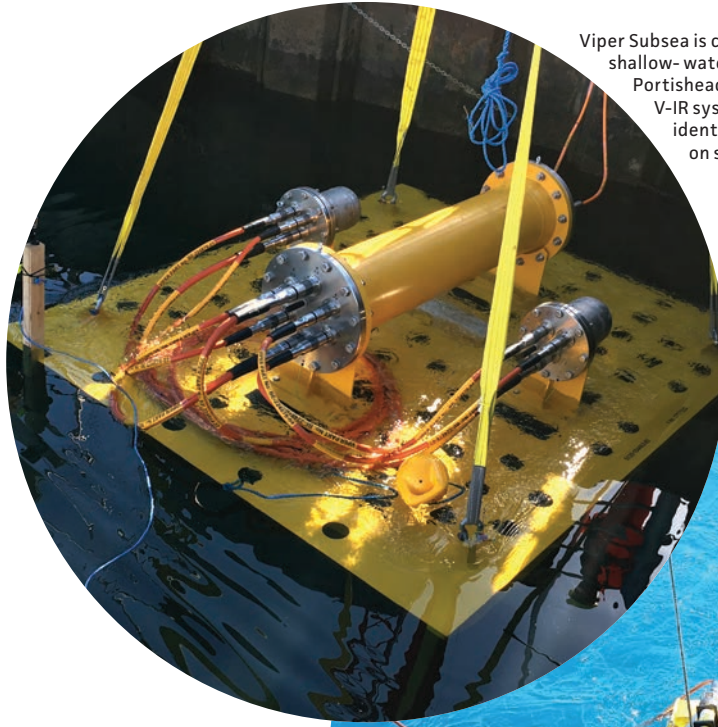
The downturn in the industry has been particularly tough on the supply chain. But it is not all bad news.

Wireline speaks to Viper Subsea and Benchmark Geophysical, which exemplify the UK oilfield services' world-class expertise and capabilities and its ability to create value for clients in the current climate.

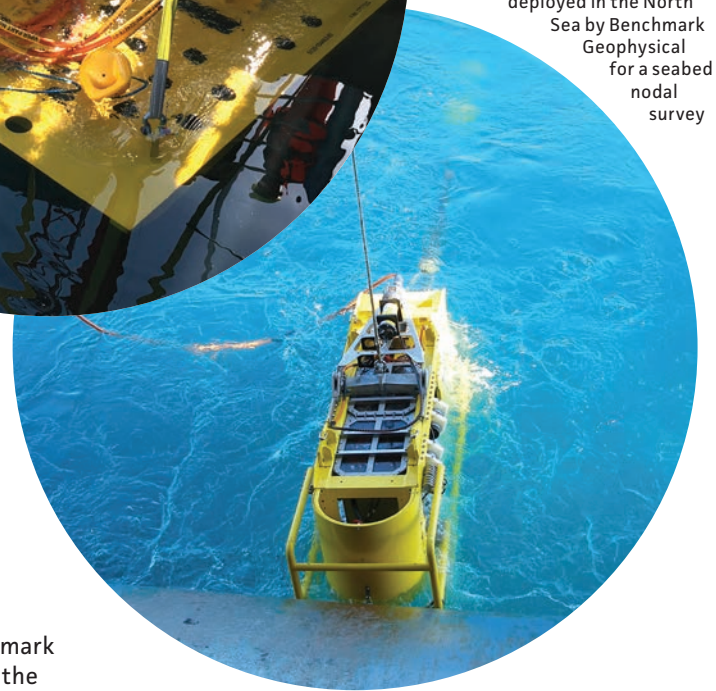
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The UK is highly regarded worldwide in oil and gas – we hear that wherever we go.

”



Viper Subsea is carrying out shallow-water field trials at Portishead Marina of the V-IR system, designed to identify electrical faults on subsea installations



Electromagnetic source deployed in the North Sea by Benchmark Geophysical for a seabed nodal survey

When

Viper Subsea and Benchmark Geophysical were given the royal seal of approval last year with Queen's Awards for Innovation and International Trade, respectively, their achievements were all the more significant against the backdrop of an extremely tough period for the oil and gas industry. Like all companies in the sector, to survive, they have had to demonstrate more than ever that their products and services can deliver efficiency and quality combined, creating value for their clients.

Viper Subsea, based in Aberdeen and Portishead, Somerset, designs and supplies hydraulic, chemical and electrical subsea distribution systems and equipment. It received the Queen's Award for Innovation in 2016 for its V-LIFE technology.

V-LIFE is essentially an electronic unit that sends signals to the electrical conductors in subsea umbilicals (cables). Retrofitted to topside located electrical power units, this piece of kit can extend offshore field life by reversing the effects of water ingress into subsea cable insulation

and so deferring or removing the need for cable replacement. V-LIFE also monitors the subsea umbilical's insulation resistance, voltage and current for regular integrity reports. The technology has been vital in helping the company turn a profit even in the current market.

Managing director Neil Douglas says: "Until 2014, we were growing at a rate of 45 per cent a year on average. But like everyone else, we hit stop in 2015 with a 30 per cent drop in revenue, although we were still profitable.

"Most of that fall was because of a reduction in hardware sales. But V-LIFE has bucked the trend. It has seen an exponential upward curve in terms of uptake because it offers a low-cost alternative in subsea equipment replacement and intervention. It has proved its value in two recent instances when it enabled production restarts following electrical >

Image far left

Viper Subsea spends 30 to 40 per cent of its engineering effort on research and development

Image left

The Benchmark Geophysical team receives the Queen's Award from HM Lord Lieutenant of Surrey – Mr Michael More-Molyneux

failures that had stalled the subsea control modules.”

Since the technology was launched in 2013, Viper Subsea has supplied over 40 V-LIFE systems around the world as far afield as Indonesia and Australia. “We’ve been told that the technology can save clients £10’s of millions,” adds Neil.

And the sales have helped the business expand, with plans to add to the current staff of around 46.

“We’re expecting 25 per cent growth over the current financial year and further growth in the future.”

Think quality and value

Richard Llewellyn, managing director of Benchmark Geophysical, echoes the view that the downturn has given his company a unique platform to promote how its services can bring cost-effective gains for clients around the world.

The business offers geophysical exploration and production project management. It provides personnel to support field operations, to plan and specify survey operations, and for contractor selection, quality assurance and data processing.

Diversification will lead to greater product sales, which, in turn, drives down our costs and has knock-on benefits for our oil and gas offerings... We need to secure as much of the UK supply chain as possible for when the industry fully recovers.

occur in the most extreme places around the globe, from the highest to lowest, from the wettest to driest, and from the hottest to coldest. They present real logistical challenges and our front-line people are very experienced and knowledgeable in tackling the problems thrown up by these extremes.”

He continues: “For us, it’s about avoiding the Five Ps – poor planning provides poor performance. We’ve been able to demonstrate that, properly managed, a project can be dramatically shortened and be far more cost-effective while still maintaining the quality, results and safety performance. The losses incurred from inadequate project planning and preparation run into billions of dollars and are often not accurately identified unless there is a failure.”

Think exports

This approach has meant that Benchmark is still doing well despite the oil price fall and continues to successfully export its concept. “Because of our reputation, our geographical spread and our network of contacts, we are picking up some attractive new contracts in north-east China, the Middle East, Africa and the Gulf of Mexico and see the potential for more,” notes Richard. No wonder the company scooped the Queen’s Award for International Trade last year.

It’s important that the company also has profile as an active industry player.

Viper Subsea
R&D design office

V-LIFE hardware can extend offshore field life by reversing the effects of water ingress into subsea cable insulation

V-LIFE has seen an exponential upward curve in terms of uptake because it offers a low-cost alternative in subsea equipment replacement and intervention.

A team of three is based in Farnham, Surrey, supported by a core pool of around 40 experienced consultants worldwide who deliver front-line services.

“We show clients how beneficial our services can be and the difference between good and bad quality,” explains Richard. “Geophysical surveys

It supports the development of best practice guidance published by the International Association of Oil & Gas Producers; was a founding member of the International Energy Consultants Organisation; and is also a member of prominent trade bodies like Oil & Gas UK. "We benefit from this activity by tapping into wider knowledge of what is going on in the sector," says Richard.

He points out that being based in the UK is a big asset for the firm. "It gives us advantages in terms of transport links and mobility as well as the commercial and political environment. The UK is also highly regarded worldwide in oil and gas – we hear that wherever we go."

Think innovation

With this in mind, reinvestment of Viper Subsea's profit into product development has been a consistent theme to tackle problems and challenges in the industry.

Neil outlines: "Typically, we spend between 30 and 40 per cent of our engineering effort on research and development (R&D) and currently our engineers account for about 75 per cent of our staff, so R&D is a significant investment for us. It means that we have a pipeline of new products and patents."

As part of this agenda, shallow-water trials began last April at Portishead Quay of a system designed to identify electrical faults on subsea installations.

Known as V-IR, the technology has been developed with the support of Total, BP, Shell and Chevron.

And in recent times, Oceaneering International Services took a minority equity interest in the business, while Viper Subsea itself took an equity stake last year in US-based Livewire Innovation. "The former helps us broaden our international horizons while the latter gives us access to a unique technology (an anomaly detection system – spread-spectrum time domain reflectometry)," says Neil.

Think resilience

And Neil believes strongly that the UK supply chain's proven ability to adapt should stand it in good stead in the long term.

Viper Subsea is diversifying to keep the firm sustainable and, in turn, support its oil and gas activities. It has started qualifying technologies for transport

and defence, where the loss of utility services, such as a high value electrical cable, represents critical failure.

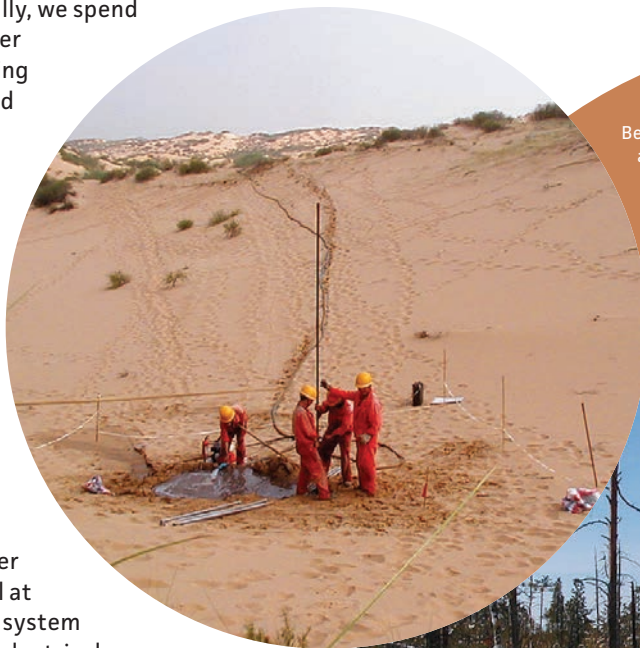
Neil asserts: "Diversification will lead to greater product sales, which, in turn, drives down our costs and has knock-on benefits for our oil and gas offerings. You can either sit still and accept we are in a time of cuts, or understand that there's a market to pursue for technology when it saves money for clients or enhances their capability."

"We need to secure as much of the UK supply chain as possible for when the industry fully recovers if we are to avoid capacity problems from shutting down and mothballing parts of the chain. We need to keep it going and growing. For a lot of businesses, what they are doing in oil and gas will present opportunities in other industries." 



www.benchmarkgeo.com

www.vipersubsea.com

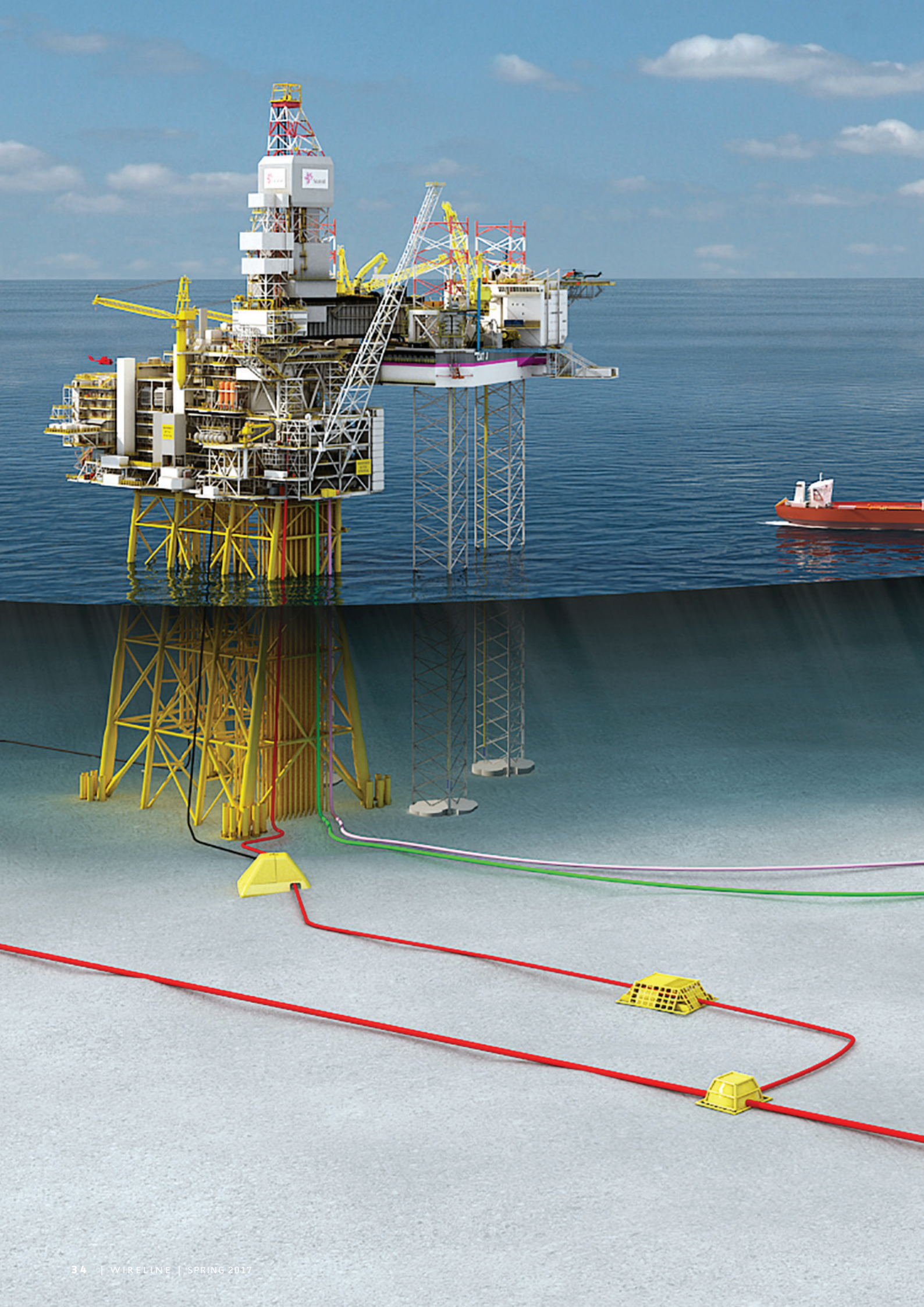


Benchmark Geophysical carries out a 2D seismic exploration survey in the Gobi Desert in China

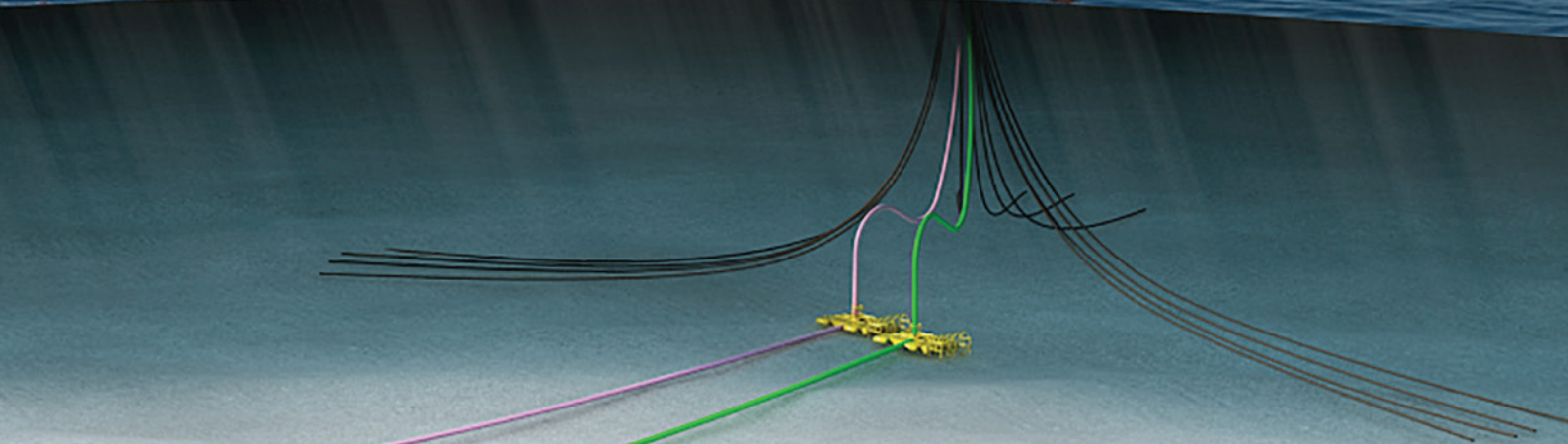


Benchmark Geophysical on a 2D seismic operation in Siberia

“We’ve been able to demonstrate that, properly managed, a project can be dramatically shortened and be far more cost-effective while still maintaining the quality, results and safety performance.”



Open for business



Now at the helm of one of the biggest North Sea developments of recent years – the Mariner project – Hedda Felin's recent appointment as managing director of Statoil Production UK comes at a pivotal time for the UK Continental Shelf and for the company's operations in the basin. *Wireline* caught up with the new face to the UK industry.





amid a difficult economic climate, Statoil's strategy for the UK Continental Shelf (UKCS) brings positive news and signals a strong vote of continuing confidence in the basin's prospects.

Something Hedda Felin, recently appointed managing director of Statoil Production UK, emphasised when the company moved into large new headquarters in Aberdeen last September with plans to recruit 40 more onshore roles.

That will take overall numbers to around 180 – a far cry from 2013, when the organisation first established a presence in the city with a handful of staff.

The Aberdeen team is now preparing for a busy period ahead of first oil from the Mariner field in 2018. Last November, Statoil began pre-drilling production wells for Mariner. The Noble Lloyd Noble – the largest jack-up rig in the world – is currently positioned over the Mariner jacket. Up to five wells will be drilled before the platform topside modules are installed, supporting around 500 jobs on the UKCS.

And more than 1,500 workers in the supply chain are expected to be involved in the year-long hook-up and commissioning campaign that is likely to kick off this summer.

“It is a tough time for the industry. But Statoil has a long-term commitment to the UKCS, developing something new, contributing to local jobs and creating value,” says Hedda. “You can sense that excitement in the corridors of Statoil House. It’s a great example of how we can work together to maximise economic recovery.”

The best is yet to come

Mariner, a £4.5 billion project sanctioned in 2012, has been many years in the making. It marks Statoil's first operated offshore oil and gas development in the UK. In total, up to 100 reservoir targets could be drilled over the field's lifetime. And with expected recoverable reserves of 250 million barrels of oil equivalent, the field represents a new hub 150 kilometres east of the Shetland Isles that will continue to operate for decades to come.

Its development is a key component of Statoil's wider UKCS strategy. The company's UK portfolio also includes interests in partner-operated fields – Alba and Jupiter. And more recently, in December 2016, Utgard – a field development that straddles the UK and Norway in the North Sea – was sanctioned for development. Statoil is the operator of both its UKCS and Norwegian licences.

Hedda notes that “the UKCS is one of the key growth locations in Statoil's international portfolio and an interesting opportunity.

“

Statoil has a long-term commitment to the UK Continental Shelf... contributing to local jobs and creating value.

”

The Mariner Journey – a £4.5 billion project

2012

Final investment decision to develop the Mariner field

2013

Start of jacket construction and Statoil opens an office in Aberdeen to prepare for operations on Mariner

2015

Jacket installed.
The development concept centres on a production, drilling and living quarters platform and a separate floating storage unit of 850,000 barrels capacity

September
2016

Move to new headquarters in Aberdeen at Statoil House with plans to recruit 40 more onshore roles, taking the total number of employees in Aberdeen to 180

“We have increased our exploration acreage position significantly in recent years, based on the belief that large discoveries can still be made. Our ambition is to drill up to three exploration wells in 2017 – one in the Mariner area and two elsewhere.

“Companies often pull back from exploration work in difficult times, but we don’t want to do that. And with state-of-the-art technology and an open office layout designed for collaboration, the new Statoil House in Aberdeen will help us deliver safe and efficient operations.”

Well grounded

Bringing Mariner on-stream in a much different climate to the one when the project was conceived is further motivation for the new MD. From a young age, she harboured ambitions for a career where she could have real impact. Back then, she thought that would be as a diplomat.

After studying international business, history, languages and economics in France, she realised the energy and dynamics of a business environment would best suit her ambitions. She joined a management consulting business in a role that took her to Africa, China, France and Holland and exposed her to the work of international companies.

Joining Statoil as a consultant nearly a decade ago, she soon realised it was the ideal match for her. “Statoil is such a pillar of Norwegian life,” says Hedda, who originally comes from near Oslo. “And I’d always been fascinated by the oil and gas industry and the ripple effects on wider society. My father

“*I’d always been fascinated by the oil and gas industry and the ripple effects on our wider society.*”



Hedda Felin, managing director for Statoil Production UK

“*We have increased our exploration acreage position [on the UKCS] significantly in recent years, based on the belief that large discoveries can still be made.*”

worked in the offshore industry and I’d heard a lot about it from him.”

Hedda subsequently joined the Statoil staff, working on downstream efficiency projects, before moving into exploration around six years ago. She’s been part of the global exploration management team for three years, and was latterly vice president for safety and sustainability within exploration. In making the switch to Aberdeen, she is responsible for Statoil’s upstream development and production activities in the UK and Ireland.

Her background in safety, sustainability, risk assessment and efficiency is not >

November
2016

Statoil begins pre-drilling production wells for the Mariner field using the Noble Lloyd Noble – the largest jack-up rig in the world. Up to five wells will be drilled, supporting around 500 jobs on the UKCS

2017

Platform topsides installation. 1,500 workers in the supply chain are expected to be involved in the year-long hook-up and commissioning campaign

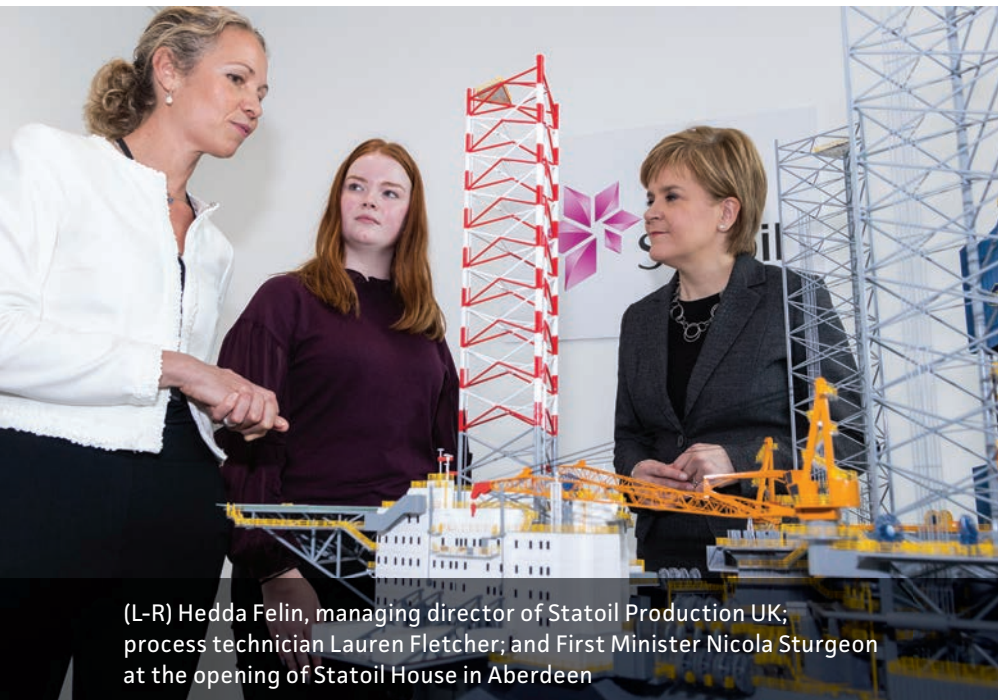
2018

Mariner comes on-stream with average production of 55,000 barrels per day during plateau

2048

The field is expected to be produced for at least 30 years. The infrastructure represents a future hub 150 kilometres east of the Shetland Isles with expected recoverable reserves of 250 million barrels of oil equivalent

and beyond...



(L-R) Hedda Felin, managing director of Statoil Production UK; process technician Lauren Fletcher; and First Minister Nicola Sturgeon at the opening of Statoil House in Aberdeen

only crucial as the firm moves forward with Mariner, but is also particularly pertinent to the industry's current drive to improve efficiency while maintaining its safety and environmental standards. She believes: "The industry's difficulties mean there's a huge responsibility being placed on operators to make radical changes, and not simply just to cut costs until the oil price recovers."

Chain reaction

When the oil price dropped, Statoil set a challenge for its staff worldwide to come up with ideas to improve efficiency and make operations sustainable in a new market. Hedda explains that this "has helped us take the average break-even price from 70 dollars per barrel to 40 dollars across the portfolio of Norwegian Continental Shelf-operated assets".

One of the key areas for improving technical efficiency has been in drilling operations. "We've managed to reduce the cost per well by 40 per cent by simply giving our wells function a more precise mandate. It's about being focused on our technical objectives – on what we need to achieve and not deviating from that," asserts Hedda.

The response across the company has been very strong and the momentum is now being cascaded through the new Aberdeen stronghold as they plan for operations at Mariner. "People here

have seen that industry ripple effect – how much the wider community is hurting because of the downturn – and that's a big motivation to contribute with their ideas.

"Pre-drilling, for example, will enable production from Mariner to reach plateau faster. It is also an important learning period for us in terms of understanding the reservoir and identifying potential efficiencies for future wells. There will be many wells over the lifetime of the Mariner field, so standardisation is key."

At the same time, she says, safety and preparedness have been constant features of the pre-operation phase. "We've been using this time to build a culture that reflects those principles and make them a priority for everyone," explains Hedda.

Common goals

She also feels there are diverse opportunities to pursue the efficiency agenda in the wider industry and plans to tackle this with Mariner. "Operators can't do it alone. The supply chain has undoubtedly been hit hard. Companies understand the pressures and there is much more collaboration towards common goals. We are working closely with our key contractors Noble Drilling and Schlumberger on the Mariner pre-drilling campaign and appreciate the good relationship we have.

“There’s a huge responsibility being placed on operators to make radical changes, and not simply cut costs until the oil price recovers...I have a good feeling about how UK operators will work together in the future.”

"And operators themselves needn't always see one another as competitors – we can look to share costs in areas such as research and development and oil spill training, to name just two examples. We have the same needs and goals in many areas and it should be ok to share in those. We're seeing that kind of thing happen already and I have a good feeling about how UK operators will work together in the future."

Hedda is clear "that the future for Statoil will involve broadening our competence and remaining active in the transition that the sector as a whole is undergoing right now, both in maximising economic recovery and creating efficiency gains wherever possible".

She is excited about the opportunity this presents for the company particularly as Mariner is brought on-stream. "It's a privilege to be working somewhere that is so high on Statoil's agenda. We will be on the UKCS for the long run and we want to be a source of positivity in a difficult environment, clear with our expression of faith in the UKCS." 🌐



<http://bit.ly/StatoilUK>

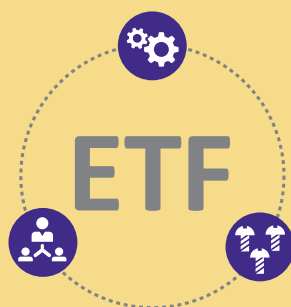
BE A CHAMPION!

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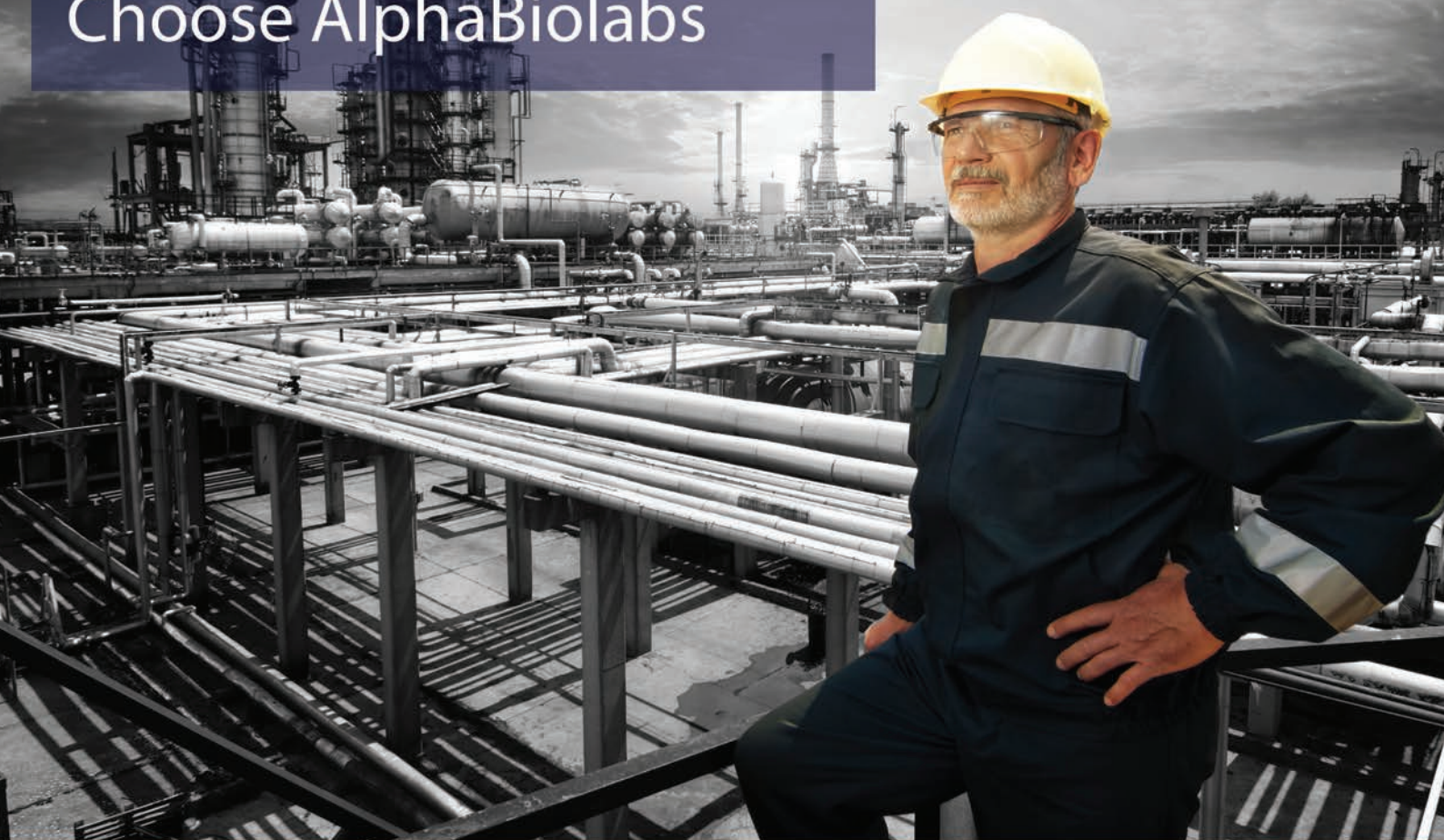


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