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CONFIDENCE IN INTERVENTION SERVICE CAPABILITY



We have been relentless in supporting our existing and new clients in difficult market conditions. It is in our DNA to always improve and to make that difference.

- GARRY MICHIE

ALTUS INTERVENTION
PRESIDENT, UK & WEST AFRICA

KEY CHALLENGES

Effective planning of work
Fit for purpose equipment packages
Capability for dynamic conditions
Full accountability

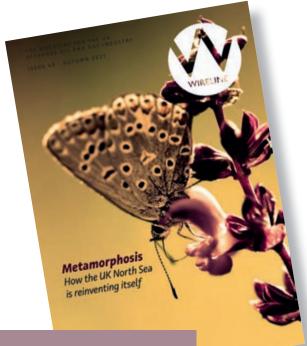
OUR TRACK RECORD

Full set of disciplines in an integrated offering 40 years of North Sea well experience 100,000 operating mandays p.a. Proven technology and techniques

EXTENSIVE OFFERING

Coiled Tubing & Pumping
Slickline & E-Line
Tractor Conveyance
Perforation & Ballistics
Cased-Hole Logging
Barriers & Isolation
Precision Manipulation
Precision Access & Recovery
Precision Cleanout





Regulars

5 News round-up

Includes news on the Chancellor's announcement of exploration funding; work to raise the industry's profile in Mexico and the US; updates on the infrastructure code of practice; launch of Oil & Gas UK's annual Economic and Health & Safety Reports; and the winners of the 2017 Safety Awards, plus much more.

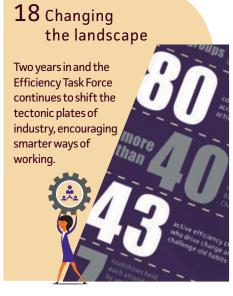
12 Membership matters

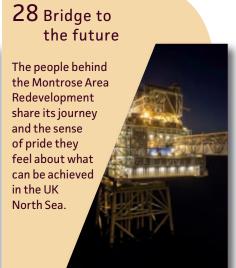
Announcing a new member to Oil & Gas UK's Board and 20 new companies to our professional network.

16 Dates for your diary

Save the dates and book online for Oil & Gas UK's industry-leading events.
Here's your chance to network with colleagues and gain valuable knowledge on the sector's hot topics.

Wireline learns how the ECITB's Project Collaboration Toolkit is changing behaviours so that projects on the UK Continental Shelf are executed more effectively and collaboratively.





35 Inspiring innovation



38 It's good to talk



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We have worked hard as a sector to turn things around and to show the world that this stalwart of UK industrial activity can still compete with the best across the globe.

here is an old saying that "necessity is the mother of invention" - or reinvention when we reflect on the UK offshore oil and gas sector today.

Confronted just three years ago by difficult times and an ever-increasing cost base, we have worked hard as a sector to turn things around and to show the world that this stalwart of UK industrial activity can still compete with the best across the globe.

Our pioneering work to improve efficiency has attracted international attention from Australia to Canada. And why not, when we can report that improvements in our cost base since 2014 are greater than in any other basin, coupled with a fiscal regime that now ranks in the top quartile for attractiveness?

We often talk about disruptive behaviours as being negative, but what I hope you take from this issue of Wireline is that disruption does not have to be a bad thing. There are so many examples featured here of individuals, activity, products and organisations flying the flag for change with very positive outcomes.

Tough decisions will continue to be made as companies seek to adjust to the downturn and we need to do a lot more work across industry and with government to ensure our sector can fulfil its potential. But as investor confidence starts to return to the basin and many supply chain companies are managing to persevere, I believe there is more to be proud of and to look forward to.

The 're-birth' of the Montrose Area covered in this issue – centred on one of the oldest platforms in the UK North Sea – for me epitomises an approach and mindset that is now being mirrored across the sector. To see some of the most experienced hands of our industry working with new graduates to prolong production from this hub into the 2030s shows what can be achieved - this is MER UK at its best.



Deirdre Michie, Chief Executive, Oil & Gas UK

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

Contact the editorial team on editorial@oilandgasuk.co.uk

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News



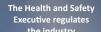
1. Offshore safety continues to improve

Oil & Gas UK's latest *Health & Safety Report* signals a continued improving trend in process and personal safety last year across a range of metrics (see infographics below), and captures the significant issues and themes relating to the sector's health and safety performance.

Trish Sentence, health and safety manager at Oil & Gas UK, comments: "It is important to recognise where progress has been made. The collaborative work across industry to improve safety performance is delivering. To drive further improvement, we must maintain this focus and collective determination and ensure that safety remains at the heart of all our operations."

Tragically, however, it was a year that saw a fatal accident occur offshore. Investigations continue and lessons learnt from the accident will be shared across industry.

The report is available to download at https://cld.bz/fygAJTe.





within a goal-setting legal framework

The effective containment of hydrocarbons and the associated hazards



is the priority for industry

Every offshore installation has a Safety Case



that demonstrates the ability to control major accident risks

All safety risks must be as low as reasonably practicable

Collaboration and co-operation with regulators



allows industry to strengthen its health and safety culture

The over-seven-day injury rate in 2016 was the



lowest on record

The specified injury rate is at its lowest recorded level



The three-year average non-fatal injury rate



is less than half that of construction and transport

Maintenance backlog is being tackled



Year-on-year reductions reported

Dangerous occurrences are at their lowest:



Since 2004, the number of process hydrocarbon releases maintains a downward trend



Over 715,000 passengers were flown offshore in 2016



totalling nearly 89,000 flight hours

There was one reportable non-fatal helicopter accident on the UK Continental Shelf in 2016





Download the infographics at http://bit.ly/HSReportFacts.

2. UK North Sea reinvents itself

Almost \$6 billion worth of mergers and acquisitions have taken place in the UK oil and gas sector in the first half of the year – a strong vote of confidence in a basin that has been grappling with the challenges of a major downturn, reveals Oil & Gas UK's *Economic Report 2017.*

As the definitive guide to the current health and future prospects of the UK offshore industry, the report discusses how assets are changing hands and the increasing diversity in their ownership suggests that the UK Continental Shelf may start to benefit from a badly needed investment boost. And although market conditions remain difficult, the UK sector is differentiating its offering from competing oil and gas provinces with its efficiency gains, fiscal competitiveness and world-class supply chain.

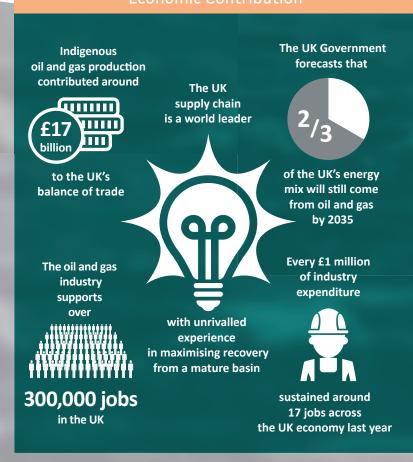
While investors still want more certainty over Brexit and clarity over the role of oil and gas through a more comprehensive energy policy, the transformation under way is restoring the UK's position as an attractive basin for investment – and one still supporting over 300,000 domestic jobs. The challenge now is to ensure this renewed interest translates into tangible activity.

Michael Tholen, upstream policy director at Oil & Gas UK, adds: "Our potential is captured in Vision 2035 – an aspiration for our sector that shows that we can continue to deliver hundreds of billions of pounds in revenue over the next generation and beyond if we maximise recovery of our resources and help our supply chain grow."





Economic Contribution



The Rusiness Environment



UK Continental Shelf Performance and Opportunity

UKCS production has increased by

16%

since 2014, following over a decade of continual decline By the end of 2018 over



of total production will come from start-ups post-2016

Unit operating cost improvements have been greater in the UK than any other basin since 2014



The UKCS
now ranks
in the top quartile
globally for
fiscal attractiveness



High profile



deals total nearly \$6 billion combined over the first half of the year



Capital investment in the basin is forecast to fall further over the next two years



The UK faces a significant production decline

post

2020
Fresh capital in the basin is urgently needed



Decommissioning is the only area of increasing expenditure at 7 per cent of total industry spend last year

Creating a Long-Term Future

VISION 2035

sets out aspirations for the industry

The industry could deliver hundreds of billions of pounds in additional revenue to the UK by 2035





Vision 2035 will require an integrated policy approach between industry and government



IGASUK IGASUK



3. Chancellor announces £5 million fund for exploration

Chancellor Philip Hammond visited Aberdeen on 25 September when he announced further government funding of £5 million to the Oil and Gas Authority (OGA) to survey under-explored areas of the UK Continental Shelf.

Visiting the new Oil & Gas Technology Centre (OGTC), Mr Hammond met with Deirdre Michie of Oil & Gas UK, Andy Samuel of the OGA, and Colette Cohen and Archie Kennedy of the OGTC. The Chancellor was briefed on industry's progress in reducing its costs and improving efficiency, and Deirdre also emphasised the sector's asks of Treasury as set out in its Budget Representation submitted to government on 22 September. These include: HM Treasury maintaining its commitment to its Driving Investment plan, as well as enabling tax history to transfer between sellers and buyers of assets to encourage more investment and delay decommissioning for as long as possible.

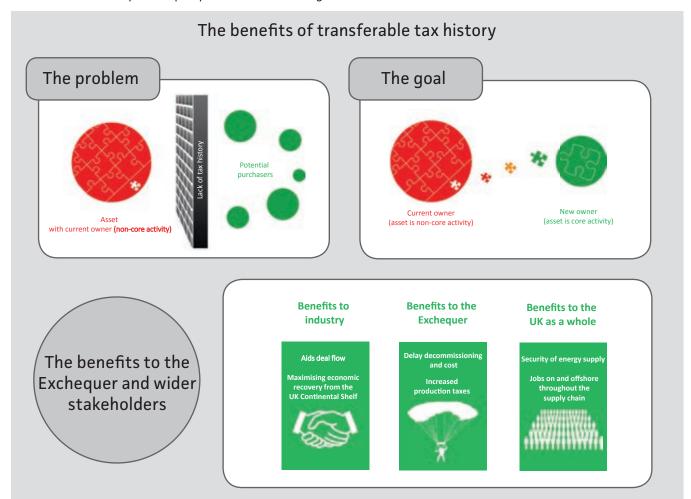
Oil & Gas UK is also seeking a strong partnership with government to support the UK's supply chain and help it capture a greater share of the export market.



4. Tackling the tax issues for late-life assets

There are a number of tax-related issues linked to asset trading and decommissioning that are holding back the business. After extensive consultation with members, Oil & Gas UK submitted a response to HM Treasury's consultation on tax issues for late-life oil and gas assets. This follows many years of collaborative work with HM Treasury to identify an appropriate mechanism for transfering tax history upon the sale of assets so that a new owner could potentially use it for decommissioning. Overall, the proposed mechanism is at no additional net cost to the Exchequer.

Romina Mele-Cornish, Oil & Gas UK's fiscal policy manager, comments: "Enabling transferable tax history will offer a unique opportunity to encourage further deal flow at the asset level, which in the past has been a catalyst to attract fresh capital into the basin and promote new innovative business models in the UK North Sea. It could also bring additional production tax revenue to the Exchequer and postpone decommissioning."



5. Your one-stop gateway to industry efficiency

A new online and interactive Efficiency Hub on Oil & Gas UK's website will keep all those involved in the UK offshore oil and gas sector up to date with the latest advances in improving industry efficiency and competitiveness. The hub is a one-stop gateway to initiatives, tools and best practice, and includes company case studies as well as the latest information about the pan-industry Efficiency Task Force (ETF) and its progress.

Mariesha Jaffray, Oil & Gas UK's continuous improvement manager, adds: "If we are to increase industry efficiency, we must adopt new ways of working and share lessons and good practice. By streamlining our procedures and working practices across industry, we can continue to minimise production downtime and maximise economic recovery."

Tour the hub to find out more and access the tools you need at www.oilandgasuk.co.uk/efficiency.

See page 18 for an interview with Walter Thain, outgoing chair of the ETF.

6. Challenge old habits and drive cultural change

The industry needs efficiency champions to challenge old habits, innovate and drive change. Here's how you can get involved:



Lead the way - join an Efficiency Task Force work group to inject new thinking, offer guidance and run pilot projects. Contact efficiency@oilandgasuk.co.uk.



Drive efficiency – do you drive efficiency initiatives within your organisation? Join the Efficiency Champions Network and meet like-minded professionals to identify industry best practice, challenge old ways of doing things and share the successes of your team. Contact efficiency@oilandgasuk.co.uk.



Share stories – submit your case studies to showcase what you're doing to make your operations smarter and leaner at oilandgasuk.co.uk/getinvolved.



Host a roadshow - want to inspire your workforce? Roadshows are a great opportunity to hear about cross-industry efficiency projects, explore and brainstorm areas of inefficiency in your own workplaces, and identify internal projects that can be promoted as shining examples of good practice. Get involved at oilandgasuk.co.uk/roadshows.

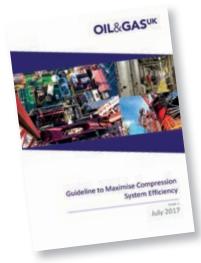


Download the tools you need - apply Efficiency Task Force tools and share your results with us at oilandgasuk.co.uk/efficiency-tools.

7. Efficiency network goes from strength to strength

Oil & Gas UK's Efficiency Task Force has renewed calls to industry professionals driving continuous improvement to join its Efficiency Champions Network. The network already has over 40 professionals signed up from across the sector who are taking a personal responsibility for driving cultural change by becoming early adopters of efficiency initiatives, providing quick access to decision makers and supporting industry codes of practice and guidelines. The network's efforts will be marked at an evening event in Aberdeen on 22 November.

To get involved, contact the team on efficiency@oilandgasuk.co.uk.



8. New guidelines aim to boost production performance

New guidelines have been developed to help companies tackle gas compression losses, which accounted for over 40 million barrels in unplanned production losses in 2015. The publication gives recommendations and outlines good practice in areas such as compression system maintenance; integrity assurance; equipment and process condition monitoring; and training and competency. It was developed by the Production Efficiency Task Force – a cross-industry work group facilitated by Oil & Gas UK.

Download your copy at www.oilandgasuk.co.uk/compression-system-tools. Guidelines are freely available to members of Oil & Gas UK.

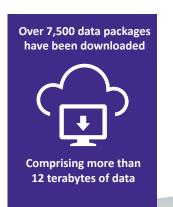




The Oil and Gas Authority has published a strategy to maximise economic recovery of tight gas from the southern North Sea (SNS). The strategy aims to stimulate greater use of technology and further collaboration to reduce the high cost and risk associated with tight gas reservoirs. An estimated 3.8 trillion cubic feet of accessible gas remains in the SNS.

Download a copy of the Southern North Sea Tight Gas Strategy at http://bit.ly/snsOGA.





10. Common Data Access Limited supports 30th Licensing Round

Common Data Access Limited (CDA) – a subsidiary of Oil & Gas UK – released 140 data packages to prospective licensees in support of the 30th Offshore Licensing Round on the UK Continental Shelf (UKCS). The packages are freely available on CDA's UKOilandGasData online platform and contain seismic, well and other data required to develop a bid for acreage. Over 800 blocks or part blocks in mature areas of the UKCS are on offer in this Licensing Round.

Access the data at www.ukoilandgasdata.com.



11. Area plans to maximise economic recovery

The Oil and Gas Authority has released *Guidance on the Development and use of Area Plans* to help improve industry collaboration and maximise economic recovery within geographical areas of the UK Continental Shelf. The area plans can vary in scale and complexity and, in some cases, may be integrated with other area plans to develop a regional strategy.

Download the guidance at http://bit.ly/2yRD1xU.

12. Updated Code of Practice smooths infrastructure access

The updated Code of Practice on Access to Upstream Oil and Gas Infrastructure on the UK Continental Shelf (known as ICOP) has been released. It will guide companies when negotiating third-party access to offshore infrastructure and process facilities.



The Code is an output from Oil & Gas UK's Commercial Managers Forum (which includes a broad cross-section of operators and infrastructure owners) working closely with the Oil and Gas Authority. It demonstrates the industry's commitment to work collaboratively for the benefit of the UK Continental Shelf (UKCS).

Michael Tholen, Oil & Gas UK's upstream policy director, notes that "the willingness by so many companies to participate in the updates to the ICOP is a testament to the cultural change that the industry has undergone over the last two years. Companies are aligned in their intent to make the UKCS the most attractive mature basin in the world in which to do business."

Get your copy of the Infrastructure Code of Practice at www.oilandgasuk.co.uk/icop.

For more information on the ongoing work to improve commercial behaviours across industry, visit www.oilandgasuk.co.uk/commercial-behaviours.

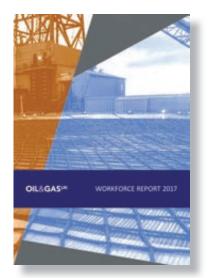
13. New suite of wells guidelines

Oil & Gas UK's Wells Forum has updated three guidelines to help industry maintain well integrity. Two of the publications focus on competencies for wells personnel and wells examiners. A third document - Guidelines for Well Operators on Well Examination reflects changes to safety regulations.

Download the suite of guidelines at www.oilandgasuk.co.uk/publications.

They are free to members of Oil & Gas UK.





14. Workforce demographics data available

Workforce demographics data have been released to complement the employment figures published in Oil & Gas UK's Economic Report. The Workforce Report provides additional information on the jobs supported by the UK upstream oil and gas industry, as well as the demographic breakdown of the offshore workforce.

Alix Thom, Oil & Gas UK's workforce engagement and skills manager, says: "Our report sheds more light on the employment of an industry that has seen a significant contraction because of the global downturn. While employment has fallen over the last two years, the rate of contraction appears to be slowing and we are seeing more positive signs, such as increased activity west of Shetland."

Get a copy of the report at www.oilandgasuk.co.uk/workforce-report.

15. UK expertise shared with Mexico

Oil & Gas UK's business excellence team addressed delegates at an Energy Day on 2 October in Mexico, to discuss the next steps for the country's energy sector. This follows reform that now allows local and foreign private investment after decades of the industry being nationalised.

At the event hosted by the British Chamber of Commerce, Oil & Gas UK gave an overview of the UK Continental Shelf and highlighted the export capabilities and expertise of the UK's supply chain.



16. US embassy delegation meets Oil & Gas UK members

Representatives from the US Embassy and Consulate General attended a roundtable meeting with Oil & Gas UK members in Aberdeen. Following an overview of the current state of industry, they discussed export trade finance, Brexit and post-Brexit trade deals, the Transatlantic Trade and Investment Partnership, mergers and acquisitions, as well as improvements in industry efficiency.



The delegation from the embassy included John Simmons, Minister Counselor for Commercial Affairs; David Kovatch, Energy Attaché and Director; and Dr Claudia Colombo, International Trade Advisor for Energy and Environment. They were joined by Robbie McGregor, Programs and Engagement Manager from U.S. Consulate General Edinburgh and senior representatives from GE Oil and Gas, Chrysaor and Chevron.



17. New emergency response software for communicators

Oil & Gas UK and industry partners have jointly funded and developed a bespoke online platform that allows media communications to be shared more easily and quickly between organisations involved in emergency response. The Emergency Preparedness Offshore Liaison's (EPOL) protocol requires companies involved in emergencies to share media statements before they are released.

Jennifer Phillips, communications manager at Oil & Gas UK, says: "We are now preparing to roll out the new system following testing at various emergency response exercises. Developed by PR software provider, Vuelio, the platform successfully overcomes the firewall problem that was slowing down communications with police and coastquards."

For more information contact Jennifer Phillips on jphillips@oilandgasuk.co.uk.

18. Roll-out of portal from Offshore Safety Directive Regulator

Oil pollution emergency plans and Safety Cases can now be submitted via a new portal launched by the Offshore Safety Directive Regulator (OSDR). It allows both the Health and Safety Executive and the Offshore Petroleum Regulator for Environment & Decommissioning to see documentation submitted by operators.

The OSDR has held a series of training sessions for industry over recent months to demonstrate the portal's functions. Phase two will look to include well notifications, combined operations notifications and design/re-location notifications.

Read the guidance on the Regulations at www.hse.gov.uk/osdr/guidance/guidance-regulations.htm.

Membership Matters



19. Board appointment

Oil & Gas UK is pleased to announce that Phil Simons of Subsea 7 has been appointed to its Board, representing the contractor community. Phil is VP North Sea and Canada and has over 20 years' industry experience. He began his career in 1992 as an engineer for pipeline installation contractors and operators, European Marine Contractors, and joined Subsea 7 in 2004.

View the full list of Board members at 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: ABIS Holdings Energy Services Ltd; Atexor Ltd; Balmoral Offshore Engineering; Baringa Partners LLP; Deep Sea Mooring UK; Decipher Energy Limited; Derrick Services (UK) Limited; DIGITEX Ltd; Esvagt UK Limited; GEODynamics UK Limited; Global Energy Consultants; Hartley Anderson Limited; Hunting Plc; Hydrawell UK Ltd; MO & CO UK Ltd; Offshore Water Management; P&A Well Services Ltd; Return To Scene; and RKH Speciality.

Find out more about membership at www.oilandgasuk.co.uk/membership.

21. Safety champions celebrated at industry awards

The people and companies doing their utmost for offshore safety were recognised at the annual Offshore Safety Awards on 23 August in Aberdeen, organised jointly by Oil & Gas UK and Step Change in Safety. Around 300 people, including representatives from across industry, MPs, MSPs and other stakeholders, attended the event to celebrate and learn from those who are practising safety offshore and onshore in innovative and inspiring ways. In an interactive format, finalists presented their nominations at their designated booths and attendees voted live for the winners.

"We heard details of some really great safety initiatives so it must have been a tough call for our judges and those voting at the event to come to their final decisions," says Deirdre Michie, Oil & Gas UK's chief executive. "We always say safety is a core value for our industry, but our event actually demonstrates that, and all finalists should be proud of the part they are playing in keeping our people safe."

Les Linklater, executive director of Step Change in Safety, adds: "Every year we see an increase in innovation and dedication to safety offshore. This year's winners and finalists have shown that if you think outside the box, there are practices, procedures and innovations that enhance the safety of those working in our industry. I'd like to thank the nominees, finalists and winners for helping us progress towards making the UK Continental Shelf the safest place to work in the global oil and gas industry."



Introducing the 2017 winners...

Outstanding Contribution, special award to mark the 20th anniversary of Step Change in Safety

Jake Molloy of the RMT union has championed safety throughout his career and, in his 10 years on the Step Change in Safety Leadership Team, has always been outspoken and fundamentally committed to safety and workforce engagement.



Safety Leadership, sponsored by Chevron

Kevin Mitchell, offshore intervention team leader at ConocoPhillips, scoops this award. He has been an integral part of the offshore well intervention team, which has now achieved 14 years without a recordable incident; ten of those with him in post. Kevin has built a strong team by mentoring colleagues, including contractors from diverse service providers, and actively encouraging them to suggest safety improvements. This can involve stopping the task at hand from proceeding if the team has any concerns and working with them to address these before continuing the job. He and the team are now often sought out by offshore leadership to provide additional HSE/supervisory support during shutdowns and other major projects.



Safety Representative of the Year, sponsored by Wood

Tommy Timms, offshore technician at Nexen Petroleum UK, is recognised for his enthusiasm and commitment as a safety representative. Tommy, who was hailed as Nexen's safety representative of the year in 2016, supports the crew on Golden Eagle by promoting the company's internal safety programme; ensuring there is regular two-way communication between management and staff; and developing a tracker to monitor the timely address of any safety issues raised. This gives staff assurance that their voices are heard, therefore encouraging them to contribute to Nexen's safety culture.



Innovation in Safety, sponsored by Bureau Veritas

Peterson scooped this award for its range of interconnected digital tools that allow safety and operational data for logistics management to be captured and analysed in tandem. Since developing and deploying the tools, the company has noted a 29 per cent reduction in forklift truck incidents in 2017 compared to 2016. Its eCargo app is used to digitise quayside operations and has built-in safety controls that prompt users to carry out specific checks before proceeding to the next task. It also has an incident data capture tool, providing its customers with real-time information and analytics.



Workforce Engagement, sponsored by Halliburton

The team on DSV Bibby Topaz has been instrumental in enhancing Bibby Offshore's Safety Leadership in Action programme. They were the only worksite to achieve a 100 per cent response rate to a company workforce survey that prompted a number of changes. A member of senior management now acts as a vessel sponsor who goes offshore to have face-to-face conversations with the workforce so that issues raised at the site are addressed in a timely manner. Vessel safety champions are also now in place to raise concerns on behalf of staff and forums are held to allow individuals to discuss matters openly.



Operational Integrity, sponsored by Aker Solutions

Centrica's Asset Integrity DROPS Campaign Team has helped to improve the working environment and level of personal safety on the company's normally unmanned installations, boosting morale and the team's sense of pride in their work. The team, which is made up of individuals from four different companies, acts as a fast-response unit to address damage or wear to jacket structures/topsides that are nearing the end of their design life. They are often able to carry out this work within a few days or even hours. This 'one team' approach embraced by employers from different organisations has now been replicated at two other offshore facilities in the South Morecambe area.



Sharing and Learning, sponsored by Centrica

BP's North Sea Aviation Team has developed, created and shared an animation to demonstrate the effects and dangers of helicopter downdraft (the unintentional movement of objects on offshore installations). The aim is to increase workforce understanding and illustrate how the effects can be managed. The animation, which was rolled out across all North Sea platforms in the fourth quarter of 2016, is now being shared globally. It was posted on YouTube in March 2017 and has since had over 16,000 views.









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slb.com/promill

Schlumberger

Dates for your diary

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Book Online oilandgasuk.co.uk/events

> Members receive 35% discount

2017

London Breakfast 15 November

Strategies for oil and gas as part of a low-carbon future Offshore Decommissioning Conference

27 to 29 November

St Andrews

Aberdeen Breakfast 5 December

Collaboration

Environmental Seminar 12 December

Aberdeen

London Breakfast 14 December

Cyber security – managing the risks in upstream oil and gas

2018

pencil these in your diary

Exploration Conference 1 February London

31 October Share Fair

Aberdeen

Oil & Gas UK Awards 1 November Aberdeen



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GHANGING the landscape

As the Efficiency Task Force completes two years, its outgoing chair Walter Thain talks about why and how the UK offshore oil and gas industry has turned things around and is proving its mettle on the international stage.

Q: Why does efficiency matter?

A: This is the billion-dollar question. We're competing in a global market that is always looking for the greatest return on investment. If investors can't find it in the UK, they will go elsewhere.

The UK Continental Shelf (UKCS) has had a longstanding reputation for safety, a world-class supply chain, comprehensive infrastructure and political stability, and I believe we can now add efficiency to our offer. I think that when potential investors look at how we've sharpened our operations, championed collaboration and are driving forward new technologies, it becomes clear that the basin still has much to offer.



Q: It's been two years since the Efficiency Task Force (ETF) was set up. What do you think are its biggest achievements?

A: I've seen a big change in behaviours and mindset across the sector. This has really been the most significant achievement in my mind. It's astounding when you think about where we were only a few years ago.

The ETF has been a catalyst for that change. It has succeeded in bringing industry together under a common goal of becoming more efficient and globally competitive. But we would not have achieved half of what we have today without the industry's full backing.

We didn't start out trying to push a rigid set of KPIs or outcomes, and I believe that was the correct approach. Instead we looked to build on what was already going on in our sector. By bringing companies together, identifying common challenges and outlining a plan, we harnessed existing efforts to achieve truly transformational change.

Forty-eight companies have become signatories to our pioneering *Industry Behaviours Charter*. We have 43 active efficiency champions who are promoting our work across the basin. Our work groups are driving forward clear action plans to find efficiencies in subsea developments, tendering, logistics and engineered products –

and are raising awareness of why it makes sense to work in this way. By complementing and promoting the efforts businesses are making, we are sending out a strong message to the world that the UKCS is a safe, efficient and effective place to do business.

Pulling all these levers together has contributed to the industry halving its average unit operating costs to just over \$15 a barrel in two years. I believe in the long term the cultural change, where efficiency is at the forefront of our minds, will better serve the sustainability and attractiveness of the basin.



Q: The ETF was established by industry in response to the challenges in 2015. Do you feel that companies have engaged with the Task Force since then?

A: Hugely so. Whether it's an operator or a contractor, everybody is getting to grips with how to work smarter, leaner and more efficiently. I've found that companies are not only keen to learn

how best to meet that challenge, but importantly they are willing to share what they've learnt and collaborate more.

In the past year, the ETF has taken roadshows directly to seven companies, often attracting more than 150 employees at a time. It engages the whole workforce, recognising that everyone has a responsibility to challenge old habits, innovate and drive change. Host companies will tell us about the issues they are facing and we will bring the most useful case studies and colleagues along to explore how they addressed similar problems.

We've all been affected by the downturn, and I think industry is showing it wants to address this collectively. The roadshows are a brilliant example of the positive, head-on attitude that you'll find across the basin.

Q: Some people might equate efficiency with cutting corners. Is this a fair assessment?

A: This isn't about cutting corners; it's about looking at the job in hand and seeing whether it could be done better, reducing waste and finding smarter ways of working.

This could be through new technologies or by applying a fresh philosophy to management such as the marginal gains theory or 'Lean Six Sigma'. It's human nature to want to work in the most effective and productive way, and that means cutting bureaucracy, removing duplication and becoming more globally competitive while improving safety. I think the ETF demonstrates the UKCS is pioneering on this front.

Our priority is safety and efficiency, always, and we have proven that you can have both. It's what I believe gives the UKCS the edge.

Q: Tell us about the main priorities of the ETF?

A: Its primary aim is to improve efficiency and collaboration across industry. We're closely aligned with the Oil and Gas Authority's Maximising Economic Recovery (MER) agenda, which champions collaboration and cost reduction as key behaviours



This isn't about cutting corners; it's about looking at the job in hand and seeing whether it could be done better. reducing waste and finding smarter ways of working.

necessary to maximise economic recovery from the basin. This is critical because it means Oil & Gas UK, governments, companies and the Oil and Gas Authority are all working towards the same strategic direction, promoting efficiency and being aware of the full picture of initiatives taking place.

The ETF aims to seek out, promote and provide access to efficient practice. Our three primary areas of focus for the first two years have been on business processes; standardisation and simplification; and co-operation, culture and behaviours. These areas of focus have been developed hand-in-hand with companies from across the sector.

In logistics planning, for example, we have a pan-industry group that is reviewing how companies can eliminate waste and duplication. Can we share resources across companies? Are there better ways to share information so that we can plan better? Beyond reviewing what works and what doesn't in offshore oil and gas, it's also about looking towards alternative industries, such as car manufacturing, which has achieved success by constantly re-evaluating the manufacturing processes.

Standardisation and simplification is of course closely related to this, and the ETF promotes and develops good practice guidelines in a range of areas. Earlier this year, we launched Guidelines to Maximise Compression System Efficiency, which aim to address gas compression losses. This accounted for over 40 million boe (barrels of oil equivalent) in unplanned production losses in 2015.

Q: You mentioned car manufacturing. Are there particular industries you think the oil and gas sector could learn from, and how?

A: I think it is fascinating to look across industries and see how they improve their efficiencies. We're extremely keen to look at areas such as aviation or automotive, and learn about what makes them stand out in their field.

For example, the planning and precision that Formula One teams put into their pit stop changes is just incredible. Every single detail and second of that process is planned, and every single element has a varying contingency. You see the true worth of that with Mark Weber's astonishing two-second pit stop recorded as the fastest ever at the US Grand Prix in 2013. It is always worth looking outside our back garden and being open about what we could do better.

Q: You've spoken about Lean Six Sigma and some of the theory behind the ETF. Have you had success in putting theory into practice?

A: I am proud of what the ETF has achieved in the past two years, but also of what companies have achieved on their own and by collaborating. Centrica, for example, ran a brilliant cultural change campaign called 100 in 100, where it empowered its workforce to find as many efficiency opportunities as they could within a 100-day period. These ideas >





It is always worth looking outside our back garden and being open about what we could do better.



identified £105.5 million of bankable savings, but importantly, it changed the culture of the workforce to one that recognises it takes the whole village to achieve success in a business. It puts power into everyone's hands to find better, smarter ways of working.

Over 80 companies are currently represented across ETF projects and activities, and we have had great success in promoting awareness of the Task Force and its approach. Part of this is driving up recognition of the value of continuous improvement professionals within every workforce. These are the people who are championing efficiency and providing a dedicated resource for companies to drive forward these changes.

Q: Looking forward, what do you think the ETF will achieve in the next two years?

A: We are shifting the tectonic plates of industry and are very conscious that the change will be gradual. However, we have already seen significant progress such as in the response to the roll-out of the Tender Efficiency Framework and the open publishing of case studies on the online Efficiency Hub.

Providing we keep up momentum and stay alert to the case for change, we can put more blocks in place to build more resilience across the basin. By that I mean more good practice guidelines, devised by industry for industry; more case studies on the Efficiency Hub to help us learn from each other; and more efficiency champions to drive ETF initiatives forward within their company. If efficiency is the starting point of every process or the premise of every

The Efficiency Task Force

catalyst for change



focus areas

business processes; standardisation and simplification; and co-operation, culture and behaviours

Work groups

drive efficiency gains in subsea logistics and engineered products

companies represented across the projects and activities

More

are signed up to the Charter

active efficiency champions who drive change and challenge old habits

each attended

employees

Online



promotes collaboration and sharing of information featuring best practice tools and over

case studies

The Efficiency Task Force has allowed us to cement the UK industry as an authoritative voice on efficiency. There's nothing else really like this anywhere in the world, so I'd urge everyone to make use of the opportunities we can provide.

discussion, then we will be taking sure steps towards a competitive industry for the future.

Q: What do you think has been the most interesting piece of work the ETF has produced?

A: The interactive Efficiency Hub is special because it works on the principles of collaboration and sharing information. There are over 100 case studies, each offering a unique perspective into how companies have improved their business processes, spurred cultural change or standardised ways of working. All this information is free to access and available to anyone with an interest. It is a fantastic resource and I believe everyone in industry will win when we share lessons and work together where it makes sense.

The Efficiency Hub is a statement of intent, and I think companies should be praised for throwing their weight

Q: How does the ETF Steering Group work together?

A: We are very fortunate to have secured a multi-discipline team of industry experts for our steering group. They meet regularly to track the progress of projects and explore new areas of interest. It has been instrumental in keeping the momentum going and promoting roll-out of our initiatives into the real world.

Q: You've said before that the ETF is a pioneering initiative, has there been any international interest in this project?

A: Oil & Gas UK has provided the springboard for change and when the ETF was first announced it enjoyed a great deal of national publicity. It has allowed us to cement the UK industry as an authoritative voice on efficiency.

One result was Oil & Gas UK's business excellence director being invited to share his experiences with the Australasian Oil and Gas Collaboration Forum in Perth, Australia. A group of operators in this region were looking at a range of initiatives they could deploy to improve operations. They were keen to learn from the European experience and it was testament to the wealth of

expertise we offer in the UK that the ETF was asked to present at this event.

We've also made presentations to the Newfoundland and Labrador Oil and Gas Industries Association. Canada's largest offshore petroleum association. It has shown a considerable interest in the ETF and the demonstrable impact it has had in a short period of time.

More broadly, the global nature of our industry means that there is always opportunity to export our lessons and expertise across the world. We work with multinational companies daily, many of which are already engaged with our work in one form or another. This can only be a good thing for all of us, and I believe that high tides raise all ships.

Q: Finally, what advice would you give to any company looking to improve its efficiencies?

A: I'd return to the marginal gains theory. If you can make just a 1 per cent improvement in a range of areas, the overall gains will be hugely significant. This is important because it is achievable, and it is a goal that everyone in every organisation can aspire and contribute to.

The ETF is here to support the industry with tools and information. It also provides a place to share lessons and work with others. There's nothing else really like this anywhere in the world, so I'd urge everyone to make use of the opportunities we can provide.



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Kitted out for collaboration



Collaboration is the buzzword as the UK industry seeks to improve efficiency and competitiveness in a global market. But executing a truly effective collaborative project requires more than just sheer enthusiasm and a desire for change. Wireline profiles a Project Collaboration Toolkit developed by industry for industry.

e want to collaborate more, but how can we do so effectively?" was the message from delegates at an industry Project Management Conference back in 2015, when the impact of the downturn was starting to be felt acutely.

Hosted by the Engineering Construction Industry Training Board (ECITB), the event explored how to promote collaboration to achieve cost reduction in the difficult economic climate. The overwhelming response from attendees was that they needed practical support to capitalise effectively on the benefits of integrated working.

The Toolkit is a go-to guide that gives a tangible framework within which to focus on the behavioural principles of collaboration at any stage in the project.



The Offshore Project Management Steering Group (OPMSG), set up the year before via the ECITB and comprising senior project practitioners from industry, responded by forming a work group charged with developing a Project Collaboration Toolkit.

"It took four months to put together then it went out to the wider industry for review and feedback," explains Lynsey Benson, ECITB's senior account manager for Scotland who co-ordinates the steering group's work. "The group focused on who would be using the toolkit – primarily project leaders and team members >

in an engineering environment.
The aim was to get feedback from these individuals within operator, major contractor and smaller supply chain companies to get as many perspectives as possible.

"The resulting concept is based on a flow diagram featuring four phases, as it was felt users would identify with that model. It's not an academic tool or a process document, but a go-to guide that gives people a tangible framework within which to focus on the behavioural principles of collaboration, at any stage in the project.

The four distinct phases (see images below) that make up the toolkit are typical of a project life cycle. Various steps and activities are detailed within each phase, comprising



We're not confining ourselves to solving problems within our scope, but looking to contribute to the overall project.

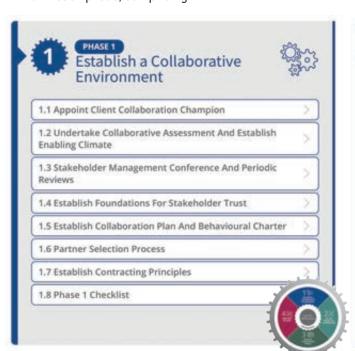


studies illustrating its benefit. Eight projects were put forward, covering areas such as rejuvenation of mature assets, subsea tie-backs, new offshore developments and decommissioning. Each selected project receives funded expert support from ECITB consultants.

Bravo

Among those at a more advanced stage of applying the toolkit is the team charged with preparing the topsides on the Brent Bravo platform for decommissioning.

The project team's priorities are: safety – including reducing workers' offshore exposure by increasing productivity; schedule – delivering a credible plan; cost – moving towards minimum manning of the platform by the end of this year.





advice, background information and source references.

Words in action

When it was launched in 2016, the toolkit was released with the aim of addressing "the challenges that the sector faces to enhance project management through collaboration in the present circumstances of lower oil prices, the maturity of the UK Continental Shelf (UKCS), and the need to compete with other global regions for continued investment".

But while it was well received after the launch and shared widely with colleagues across industry, more needed to be done to truly maximise its value. "We received pledges from many companies saying they would use it, but there was no way to measure that," adds Lynsey. "We feel the toolkit is too important to just sit on a shelf, so we have taken steps to demonstrate the tangible benefits. If industry can relate the toolkit to live projects, see how it works and see the benefits it can deliver, then it will encourage more people to replicate the approach."

To that end, the ECITB issued a call for projects that could pilot the toolkit and ultimately provide case The three key players – operator Shell alongside contractors Wood and Stork – had already formed a cohesive team earlier this year with common systems and goals, drawing lessons and experiences from similar work on the Brent Delta platform. The formal deployment of the toolkit added an extra dimension to their team-oriented philosophy.

Robert Hunt, project manager at Wood, explains: "From early on, we adopted the principles of integration through co-location and a single, simple way of managing the project that covers everything from how we manage sub-suppliers to cost control."

"It was clear that to maximise our chances of success in delivery and to do it as efficiently as possible, a collaborative environment was the best way forward," adds Shell's Brent Bravo decommissioning project manager, Ron Themsen. "We did not want to waste time as a result of poor interface management and so moved away from the conventional client-contractor relationship that involves a great deal of effort around contract management."

Instead, they jointly produced a Project Behavioural and Safety Charter that was formally signed off by all three parties and several key sub-contractors at a dedicated offsite event. It committed the leadership team to a set of principles and values, many of them based on teamwork and partnership.

Ron continues: "We'd started without knowledge of the toolkit, but when we went back and assessed our phase 1 (creating a collaborative environment), it was clear we were pretty much aligned with its principles and we moved promptly onto phase 2 – setting up a project for collaboration – and carried out a gap analysis against the toolkit.

"This shows that the toolkit is not asking you to do anything that goes against the grain, but gives you a valuable framework within which to work and a more structured quantitative way to see how to achieve further collaboration."

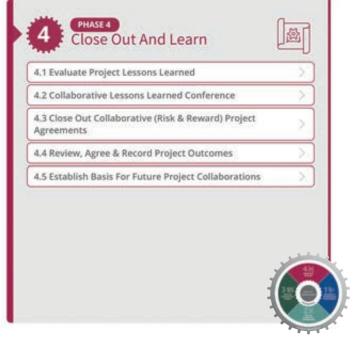
one fit-for-purpose approach that we've developed together."

He believes this has meant the project hit the ground running. "It might typically take three months from signing the contract to starting the work. We were kicking things off within six weeks at almost full strength offshore."

The same principles are being applied offshore. The back-to-back offshore project engineer role, for example, is shared between Wood and Shell. Also, the outcomes of weekly project meetings onshore are cascaded and onshore project leaders are frequently offshore. "The feedback from offshore is positive," notes Ron.

Senior contract delivery manager at Stork, Johan van Spronsen,







From early on, we adopted the principles of integration through co-location and a single, simple way of managing the project that covers everything from how we manage sub-suppliers to cost control.



Out of the box

The unified onshore project team of up to 30 people, featuring personnel from all three parties as well as sub-contractor representatives when required, is based at Wood's headquarters in Aberdeen.

"Our team is about one-third smaller than the one we had for Brent Delta," explains Ron. "That's because there's no need for man-marking or duplication of positions within client and contractor organisations. We have a shared plan – we own it together. We have one set of procedures and

adds that this new way of working encourages everyone involved to put forward ideas or possible solutions that might be outside of their strict area of expertise, but nevertheless contribute to solving an issue. As an example, he says, Stork came up with an alternative technical solution, applying a composite wrap to protect the live pipes that run through the concrete blocks being installed as part of the decommissioning process.

"We're not confining ourselves to solving problems within our scope, but looking to contribute to the >



overall project. If we think we have a solution with merit, we are expected, and owe it to ourselves, to step up and make that suggestion heard. In this case our solution was accepted."

Cultural shift

To date, the ECITB has distributed over 2,000 hard copies of the toolkit and there have been over 1,000 downloads from its website.

"There are no blockers as it's free to use," stresses Lynsey. "If it can support the delivery of projects in a smarter and more cost-effective way, and can encourage better and more predictable ways of working, then that absolutely supports the industry's agenda to maximise economic recovery."

Chris Claydon, chief executive of the ECITB, adds: "Engraining collaborative behaviours between clients and contractors is crucial if the industry is to overcome its historical challenges of project delays and overspend. In the face of the 'new normal' of so-called 'lower forever' oil prices, never has there been a more crucial time to get this right.

We did not want to waste time as a result of poor interface management and so moved away from the conventional client-contractor relationship. There's no need for man-marking or duplication of positions.

"

"We're therefore delighted with the level of interest in our toolkit. In addition to a number of oil and gas businesses actively deploying it in projects, it has also piqued interest from clients and contractors in the nuclear industry, which shows just how important this agenda is to effective infrastructure delivery."

True success is when collaboration becomes second nature. Something the Brent Bravo delivery team has been able to achieve. Johan says: "We don't need to have a collaboration focal point anymore; nothing about it is forced. It's now part of the culture and that allows us to focus on delivery."

He believes this approach will become an increasingly important and differentiating aspect of project execution on the UKCS. "We are competing against other geographical locations around the world. If an investor wants to invest in oil and gas, they will be inclined to go elsewhere if this basin is a more expensive proposition. We need to be as efficient as we can be in executing the work – and collaboration is an important factor in that."



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An ambitious and multi-faceted programme, centred upon one of the UK North Sea's oldest platforms, is reaping rewards for the team at Repsol Sinopec Resources UK and the wider supply chain. Wireline explores the principles of maximising economic recovery in action.

he Montrose Area Redevelopment (MAR) has been the most challenging project of my career but highly rewarding," says general manager Brian Winton. A strong endorsement from someone who was there at the start and has seen it all.

Industry veteran Brian was working in maintenance offshore when production was just getting under way on the Montrose platform in 1976. He recalls the excitement of that time and the strong feeling of community.

"If there was a problem anywhere, it was all hands-on deck. It was about having quality conversations with individuals and I think that's still important.

"And lunchtimes and evenings were for fishing – you'd often have rows of people with their lines," reminisces
Brian. "Anything we caught was taken down to the galley and it was fresh fish for all for the evening meal."

Now, more than 40 years on, he is again playing a pivotal role in the field's journey as it goes through something of a re-birth, with a £1.9 billion life extension programme encompassing a much wider network of fields and prolonging production to beyond 2030.

"The wider industry can look at what we've done and see it's possible to execute major developments with



Ine wider industry can look at what we've done and see it's possible to execute major developments with older infrastructure and still operate it safely and economically.

operate it safely and economically," enthuses Brian.

Expan<mark>di</mark>ng the network

The MAR project kicked off in 2011. By then, alongside the two oldest fields in the portfolio – Montrose and Arbroath – there were additional discoveries in the form of Arkwright, Brechin and Wood tied back to the original infrastructure. The MAR programme planned to expand the growing production hub further by bringing

three new fields – Godwin, Cayley and Shaw – on-stream. The strategy was not only about accessing new reserves, but extending the life of a network of existing fields that would otherwise have been ceasing production around now.

The project has involved installing a new bridge-linked platform (BLP) tying back Cayley and Shaw to Montrose; an extensive subsea > construction programme; and large-scale upgrades to the Montrose asset to effectively match a 40-year-old platform with its new high-tech counterpart. The upgrades include a new central control room, pipework, and fire, gas and emergency shutdown systems, alongside changes to the power generators and additional living quarters to support the operation of two platforms.

In doing so, the project aims to unlock 100 million barrels of reserves, in addition to the 270 million already produced from the area, and has secured around 2,000 jobs during construction, fabrication, installation, subsea engineering and drilling.

The UK Government recognised the programme's economic value when it made it one of the first significant projects to benefit from the then Brown Field Allowance – a tax allowance introduced in 2012 (replaced with the Investment Allowance from 2015) to encourage renewal and life extension of existing fields.

The personal touch

Around mid-way through execution in 2014, after the BLP jacket had been installed, the project was paused for review for viability, partly in response to the oil price decline. It was re-sanctioned by operator Repsol Sinopec Resources UK and field partner Marubeni Oil & Gas (UK) Limited with revised budget and timescale targets. Plans for further infill drilling around the Montrose

platform were postponed so that capital could be directed to the rest of the development. New personnel were introduced to the business in 2015 to head up the journey to close-out.

Brian took on the general manager role, with oversight of all operations, while Hugh McClure joined as project manager.

"I'm in the later stages of my career and wanted to do something exciting and challenging, and this looked like a great opportunity," says Brian.

"When I arrived, the Montrose and Arbroath platforms had been shut-in for remedial work. My challenge was to get both platforms up-and-running efficiently and deliver the project on time and to budget."

The project team led a multi-faceted campaign that involved 700,000 man-hours of work offshore over just 14 months. "We'd made a commitment to stakeholders that we would have first oil from Cayley and Shaw in 2017, and the only way to achieve that was to do all three major workscopes in tandem – installing the new BLP, subsea construction and upgrades to Montrose," adds Brian. "We had to optimise our resources to be as efficient as possible and this was driven to a large extent by the culture built up around the project."

Delivery managers were put in place to lead each individual workscope – a simplified approach that proved



I think the fact we took time out to meet everyone that went offshore sent a powerful message.



effective and enabled efficient arrangements with suppliers. And Brian and Hugh also brought the personal touch to a large-scale recruitment campaign ahead of the main construction phases. They personally met everyone going offshore to work on the project as part of the induction process.

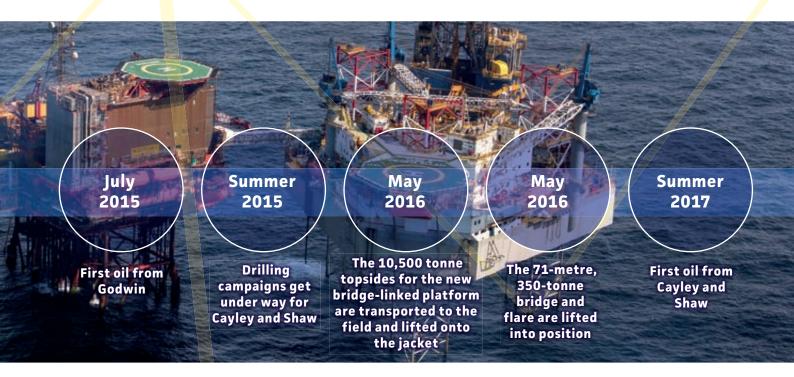
"Around 4,000 people in total have worked on the project over the past two years," explains Hugh. "That presented a big challenge, because we were recruiting people for shorter-term work and needed to align their attitudes and behaviours with ours, reinforcing our safety expectations and enabling everyone to see what we were trying to achieve. I think the fact we took time out to meet everyone that went offshore sent a powerful message.">







Mike Sinclair (left) and Brian Winton (above) played key roles in the Montrose Area Redevelopment



Montrose Area

Redevelopment in a nutshell



A £1.9 billion
life extension
programme
encompassing

5 existing fields and
3 new discoveries

Secured around
2,000 jobs
during construction,
fabrication, installation,
subsea engineering
and drilling

700,000 offshore man-hours over just 14 months Targeting
100 million barrels
of reserves,
in addition to
the 270 million
already produced
from the area

Plans to maximise economic recovery and optimise production to beyond 2030

Now producing more than 40,000 barrels

per day

At the height of activity last year, the accommodation vessel Safe Boreas and rig Noble Regina Allen were in the field to provide extra capacity as peak offshore numbers reached 700.

Making the right moves

The scale of the project did present challenges for the Montrose crew. Brian notes: "The crew did an exceptional job throughout in supporting the execution of 700,000 man-hours while keeping the platform safe and production going. We came into their backyard to do a massive job and they managed that scenario safely and efficiently."

Montrose offshore installation manager at the time – Mike Sinclair – was ultimately responsible for the safety of everyone involved in the offshore work, which involved multiple helicopter and ship movements daily.

A streamlined logistics set-up was key. Mike outlines how a "very good

structure was put in place to manage as many as five helicopter movements a day, while crane operations were organised around those to minimise disruption. Materials movements were also planned in a very structured way by onshore teams with support from offshore colleagues".

At the heart of the project's success were also the many suppliers across the country that showcase the best of the UK's expertise and capabilities. Most contracts went to domestic supply chain companies.

These included Amec Foster Wheeler, the main contractor for the Montrose structural upgrades and hook-up operations; Subsea 7 for all subsea works; drilling activity shared between Transocean Sedco 712 and Stena Spey; Offshore Group Newcastle, which built the BLP jacket; Wilton Engineering Services, which built the BLP connecting bridge and flare boom in Teesside; and CB&I,

which designed the BLP out of London.

"The project has been good news in terms of the number of UK companies involved and employment levels, particularly during the busiest periods of activity," says Hugh. "We also sought to have an impact in the local area in the north east of Scotland – we had a lot of fabrication work done



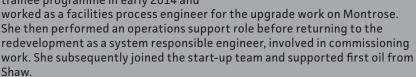
The discussions were about taking an integrated approach for the whole hub, not just producing single fields.



'Super' intendent

Alison Hynd has gone from a student placement on the Montrose Area Redevelopment (MAR) to becoming an onshore-based production superintendent for the project in just three years. She is responsible for liaising with offshore counterparts to continually monitor and improve production performance.

After completing her Chemical Engineering masters project on MAR, she joined the company's graduate trainee programme in early 2014 and



"I never dreamt I would end up in a situation where I'd go through the graduate scheme and end up as focal point for the platform I was first introduced to when I was still at university," says Alison.

"It has been a fantastic opportunity. Repsol Sinopec isn't afraid to give you responsibility and let you have a crack at things. People bring opportunities your way and I think the secret is simply to say 'yes'. You might love it or it might not be for you, but it's always a chance to try things and broaden your experience."



For a platform of her age, it's quite an achievement. There's a lot of pride around Montrose right <mark>n</mark>ow.



locally for equipment such as spools and subsea kit."

Local suppliers included Huntly-based R&M Engineering, which fabricated a 60-tonne water injection manifold, topsides and hook-up pipe spools. "On projects like this, things are often needed on a fast-track basis so it's important to understand the schedule and make sure to deliver on time and to order," says R&M's managing director Alan McLean.

Of the new fields, Godwin - developed via an extended reach well from the satellite Arbroath platform - began producing in 2015. First oil production from Shaw was achieved in May 2017 and from Cayley (a gas condensate field) the following month - in both cases, several weeks ahead of schedule. Both are subsea tie-backs to the BLP.

Production performance

The production stats illustrate how much the redevelopment has transformed the fortunes of the Montrose Area.

In March 2015, Repsol Sinopec's total UK portfolio was producing around 15,000 barrels a day. By the third quarter of this year, that figure was 100,000 barrels gross - with MAR contributing at least 40,000 of those.

Subsurface manager Jon Seedhouse says it's about investing to bring the operating cost per barrel down for the whole area to a level that makes existing fields viable for longer.

"The initial discussions around the project back in 2011 were about taking an integrated approach for the whole hub, not just producing single fields. Our new facilities give us better reliability for both our new discoveries and for the older fields. The term maximising economic recovery (MER) hadn't been coined at that point, but the thinking was already along those lines."

Taking pride

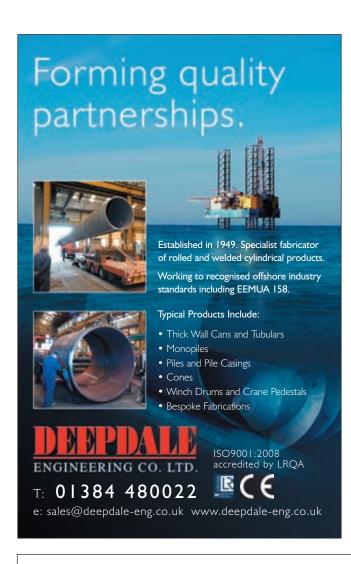
The next stage is to exploit the Montrose infill opportunities to sustain the 40,000-plus daily production

rates for a longer period, as well as to upgrade the Arbroath platform.

"Ultimately, we want to take it to a point where we are securing its future into the 2030s," Brian says. "We don't want this to be a short-fuse project in which production starts to drop off within a few years, bearing in mind the scale of our investment."

But while there's no room for the team to kick back, they can certainly bask in their achievements. Mike Sinclair, now onshore-based maintenance manager for the development, sums up the rewards for all those involved. "It was enormously satisfying to see production come on-stream this year and witness significant improvements from where we had been. For a platform of her age, it's quite an achievement. There's a lot of pride around Montrose right now."









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Inspiring Innovation

Since the Oil & Gas Technology Centre opened its doors earlier this year, it has been quick to accelerate technology that could advance development on the UK Continental Shelf.

Wireline catches up with chief executive Colette Cohen.

Q: Since the Oil & Gas Technology Centre (OGTC)'s inception, what practical steps have been taken to accelerate technology development and deployment and support industry?

A: In the eight months since the opening of the Oil & Gas Technology Centre, we have put in place the resources and facilities to accelerate technology development and deployment in our industry.

We have set up the first five Solution Centres focused on asset integrity, well construction, small pools, decommissioning and digital transformation – themes selected by the industry.

We have already invested more than £12 million in 21 technology projects in partnership with industry. These involve companies of all sizes, from major operators to SMEs, working together and sharing ideas. As a result, we now have more than 50 members.

Significantly, a total of eight field trials have also already been started. For example, we are working with Interwell and a number of North Sea operators to trial a ground-breaking concept for well plugging and abandonment, which could save the industry more than £100 million each year.

And we have also issued three calls for ideas so far, receiving over 100 responses in total from a range of technology providers. Each call has a fund of circa £1 million to invest in a portfolio of projects and we're currently assessing the most viable ideas to take forward.

Q: How do you intend to make best use of the funding from government and industry to ensure maximum benefit for the sector?

A: The Oil & Gas Technology Centre is industry-led – it is as simple as that. By listening to companies – at all levels across the industry – we try to get a detailed understanding of the challenges the sector faces today and the priorities for the future. We also work very closely with the Oil and Gas Authority and other regulators.

In October, the First Minister of Scotland officially opened the Innovation Hub within the Centre. The Hub is a state-of-the-art facility designed to bring our industry and technology providers together. This is about bringing the outside in and engaging with organisations from different sectors so we can learn from them and gain maximum value. In the coming months, we will be hosting a programme of innovation events and workshops at the Hub, driven by the needs and priorities of our industry.



We also seek to deliver maximum value by ensuring that every project we support has a tangible benefit, a clear application in our industry and strong buy-in and involvement from the end user. That way, when solutions are developed, we know there is a market for them, we know they will help maximise economic recovery, and help to anchor the supply chain here.

Q: What is the planned programme of activity and priorities for the next few months?

A: We have already screened more than 300 different technologies and projects, and have a strong pipeline of ideas. We will continue to work in partnership with the industry to co-fund projects aligned to our current themes. We will also be issuing further calls for ideas that will focus on specific challenges and opportunities in decommissioning and digital transformation.

We will host a programme of events in the Innovation Hub to inspire new ideas and consider how technologies from other industries could be adopted in the oil and gas sector – connecting >



This is about fundamentally rethinking and reimagining how we produce oil and gas offshore. And embracing an ever-expanding spectrum of new technologies to help us do so.





problems with solutions and solutions with problems. For example, in late October, we hosted Robotics Week, in partnership with the Edinburgh Centre for Robotics.

We will also launch TechX, our new technology accelerator designed to help SMEs in the supply chain bring their new technologies to market. And, we will continue to work with the University of Aberdeen and Robert Gordon University to develop a Centre of Excellence to drive innovation in decommissioning.

Alongside all this industry activity, we will also work with both the universities, as well as colleges and schools across the region, to develop an education programme to inspire the next generation of innovators and to help

disrupting almost every industry and every home, in every country across the world.

At the same time, a fundamental energy transition is under way, in the UK and globally. The UK Government has committed to decarbonise the economy and has a clear carbon roadmap aligned to COP21.

In response, we have set out a technology vision with three clear stages: fixing today, maximising recovery and transforming tomorrow. As an industry, we have the opportunity to drive a technology transformation in the North Sea that helps position oil and gas as a valued part of a mixed and integrated low-carbon energy future.

ever-expanding spectrum of new technologies to help us do so.

Q: How are you ensuring that supply chain companies across the UK, small and large, can benefit from the OGTC's activities?

A: Our goals are to unlock the North Sea, anchor the supply chain in this country and create a culture of innovation in north east Scotland. So, delivering benefit for companies across the supply chain is central to all our activities.

We work with companies of all sizes across the supply chain who have technologies and ideas that could benefit the oil and gas industry. Our Solution Centres create projects that bring together operating companies with service companies and technology providers – creating the right partnerships to accelerate deployment.

TechX will help the SMEs in the supply chain to evolve and grow. Many of the projects we are running already involve SMEs working with operators and larger service companies. Many of our 50-plus members are also SMEs, so they have a voice and help to shape our activities. And, finally, many of the events we're hosting in the Innovation Hub bring together companies of all sizes from the largest to the smallest – and across all disciplines in the oil and gas industry and beyond.

If we all work together to get it right in the North Sea, one of the more mature offshore production areas in the oil and gas world, then the learning and expertise we gather will open up other markets for us in the future. It will create global opportunities for SMEs based in the UK, but with the ambition to succeed in international markets and help deliver Vision 2035.



As an industry, we have the opportunity to drive a technology transformation in the North Sea that helps position oil and gas as a valued part of a mixed and integrated low-carbon energy future.

define and develop the skills we require to deliver a technology-enabled future in the oil and gas industry.

Q: What do you see as the game-changing technologies for the sector and what's your vision for the industry of the future?

A: We've emerged from the last two and a half years into a world that's fundamentally different. We're experiencing one of the most dramatic, technology-led revolutions that the world has seen – the fourth industrial revolution.

From robotics and artificial intelligence, to nanotechnology and machine learning and the internet of things, the fourth industrial revolution is

A future where remote operations and automation are the norm and new materials radically change how we build, maintain and reuse offshore structures. Where we gear our operations to deliver market-ready products such as hydrogen and electricity direct to the grid, and co-locate oil and gas and renewables – sharing supply chains and sharing development costs.

Globally, over the past 18 months we've created more data than we have during our whole history combined. In our industry, we must exploit five decades worth of data to deliver a step change in performance.

This is about fundamentally rethinking and reimagining how we produce oil and gas offshore. And embracing an

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It's good to talk

Proactive engagement with clients and responding to them with creative solutions are the priorities for supply chain companies looking to sustain growth, particularly through the downturn. Wireline talks to Bilfinger Salamis UK and Proserv who are determined communication won't let them down.



aintaining a positive and proactive approach is proving to be a winning formula for both Bilfinger Salamis UK and Proserv.

The former – a long-established provider of multi-disciplinary maintenance, modifications and operations (MMO) services in offshore oil and gas – has successfully extended several existing contracts and secured additional deals. This includes contracts on significant developments such as Culzean (creating 300 jobs) and with operators like Repsol Sinopec Resources UK for many of its assets (sustaining 200 jobs).

It's a not-dissimilar tale for Proserv, which provides a range of technology-led services and products for drilling, production and decommissioning and has announced over £12 million in contract awards in recent times.

"Rather than be negative, we've wanted to be a source of encouragement in the market," asserts Bilfinger's UK managing director Sandy Bonner. "We've taken every opportunity to keep the dialogue going with clients and set out clearly how we can help them. It's been tough for the sector but, equally, we believed that some supply chain companies would emerge stronger – and we've always planned to be one of them."

He believes the nature of the relationship between client and





contractor is changing for the better. "We're finding clients are more prepared to listen to us and are receptive to our ideas. It's refreshing and encouraging to hear them talk about us as service partners instead of contractors or suppliers."

Proserv's subsea services vicepresident, Sam Hanton, agrees and says the company has also met with clients early to help them make informed decisions. "We spend a lot of time talking to customers early in the project planning process to understand their challenges and consider what we can do for them. We are ready to respond ourselves or to collaborate with clients or other companies to come up with solutions.

"At the end of the day everyone is in this together. Of course, no-one would have voted for an industry downturn, but at the same time, you can see some positive changes from it – companies are working together towards improving efficiency."

Communicate not complicate

Having originated as a small independent business in the 1960s, the Proserv business of today emerged in 2011 following the amalgamation of five specialist companies and has since developed through organic growth and acquisitions. The merger represented the first in a series of major milestones for the 'new' Proserv and underlined the company's ambitious vision for global growth.

In the UK, it now employs around 600 people across a network of seven offices and facilities in Great Yarmouth and Glasgow.

It has four divisions – subsea production, surface production, drilling and decommissioning services. Sam explains: "We are different things to different people with more than 80 service and product lines across the market, but our philosophy has always been that there is only one Proserv. Other organisations take a different approach and have various brands under one umbrella, but we have always been about integrating and maintaining a one-company, one-team approach."

He says that philosophy helps to ensure all parts of the business are talking to one another and supports

We are keen not to over-complicate things. Although we want to be rigorous and do things the right way, we avoid proposing anything that is unnecessarily complex.

the common effort to present integrated and ultimately more cost-effective solutions through a single-sourced partner.

"That's not limited to what's inside our business," Sam continues. "Where we don't have the internal capability, we have built relationships with other companies – in the provision of remotely operated vehicles, for example – and we work with them to create a package.

"We are also keen not to overcomplicate things. Although we want to be rigorous and do things the right way, we avoid proposing anything that is unnecessarily complex. That's the principle behind our brand philosophy - ingenious simplicity."

Proserv's market confidence is supported by its investment strategy, which includes a focused R&D programme. One of the most recent products is the Artemis 2G (A2G), a next generation subsea controls and communications technology, which scooped the innovation and technology title at this year's Subsea UK Awards.

At the core of A2G's development is the growing market need for more cost-effective methods of extending field life and optimising production using existing infrastructure, a philosophy which is at the core of Prosery's business. >





Growing in Great Yarmouth

As well as investing in R&D, the company is set to open a new purposebuilt subsea technology centre in Great Yarmouth next year.

190 employees will relocate from two existing sites in the area to the 65,000 square feet facility, which will act as a global hub for Proserv's subsea communication and controls activities. The new site will feature manufacturing and yard space, offices, and provides the flexibility to add a further 20,000 square feet of workshop capacity.

"Consolidating operations into a modern purpose-built site will make us leaner, more efficient and better placed to deliver for our global customer base," notes CEO David Lamont. "And as an established employer in the east of England since the 1960s, we have developed an outstanding workforce that is well recognised globally for its expertise and engineering capabilities. Investing in this new facility firmly underlines our long-term commitment to Great Yarmouth and plans for growth in the area."

Bilfinger Salamis UK also invested in new Great Yarmouth facilities in 2015 to cater for its southern North Sea clients. It moved its operational staff from Lowestoft to the newly refurbished Havenbridge House, and its distribution and warehouse facility to Bressay House at the Outer



Digitalisation is a major strategic goal for us - it is estimated that this could bring efficiency gains equivalent of 20 per cent.

Harbour. The moves put the business closer to both its customers' offices and the East Anglian marine bases, significantly cutting down journeys for the company and their clients.

Heads together

Bilfinger Salamis UK has its origins in the Aberdeen-based Salamis, established 40 years ago to provide fabric maintenance to offshore platforms. It was acquired by global industrial services provider Bilfinger nearly a decade ago and is today positioned as a specialist in MMO services, with around 200 onshore staff in Aberdeen and Great Yarmouth and 1,800 offshore personnel.

To drive the business forward and meet client goals, Bilfinger Salamis has explored digitalisation. The

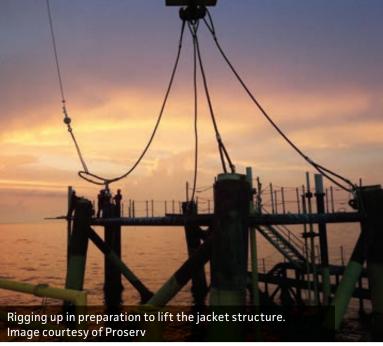
business is now introducing handheld tablets to record data at the operational frontline, as well as using unmanned drones for some offshore inspection work. The latter minimises manned activity and limits production downtime during inspections.

Digitalisation is one of several areas in which the company is applying the principles of collaboration. It has partnered with Apollo Engineering to offer electronic work packs to offshore workers for the digital harvesting of inspection data from the site alongside real-time reporting.

Mike Henderson, commercial and business development director, discusses the merits of this approach: "Collaboration for us means working with other progressive companies and taking the bold step to identify the synergies and then being determined enough to follow through and implement them jointly.

"Our partnership with Apollo and investment in its data management product is just one example of that. The industry currently manages its asset integrity by collecting data manually, double typing inspection reports, and then manually inputting the resulting data into varied disparate management systems. Digitalisation is a major strategic goal for us – it is estimated that this could bring efficiency gains equivalent of 20 per cent."





Meanwhile, together with Maersk Oil, Amec Foster Wheeler and Scopus, Bilfinger also won the collaboration award in the 2017 SPE Offshore Achievement Awards. This recognised an integrated contracting strategy for Maersk Oil UK's operating assets that combines construction support with brownfield modifications, fabric maintenance and personnel mobilisation. The bundled contract delivered a 51 per cent year-on-year reduction in related expenditure, illustrating the power of suppliers working together to come up with a cohesive response to a multi-faceted brief.

And likewise, Bilfinger and Semco have combined their respective strengths to create a cross-company, multi-skilled team to help operators upgrade their helidecks safely, quickly and cost effectively. This is in response to the Civil Aviation Authority's new electrical and structural requirements that need to be met by March 2018.

Sandy comments: "We know that operators need to use the helidecks for regular landings, and these upgrades can involve significant downtime so we wanted to maximise our productivity. By creating an integrated team, we can cover all aspects of the required upgrades as well as deliver additional scopes, such as upgrading perimeter netting and coatings, replacing tie-in points, and carrying out inspections and

fire suppression and deluge system certification."

Going Dutch

Taking integration to heart, Bilfinger has also developed a onestop shop option so that all inspection, repair and maintenance (IRM) work is performed as a single service in-house instead of through multiple vendors.

"We can inspect, conduct repairs on the spot, provide all data and perform maintenance through our core crew," explains Sandy. "As a result, we are also now doing lots of work for operators on a pan-North Sea basis, working with our divisions in Norway, Denmark and the Netherlands. We are also diversifying into renewables to grow the business further."

He points to a contract award earlier this year to the UK business and its Dutch counterpart by Nederlandse Aardolie Maatschappij B.V. and Shell UK. The contract, which will create 30 jobs in the UK, involves the two Bilfinger companies working together to provide topside inspection engineering and non-destructive testing on the clients' onshore and 53 offshore assets in the UK and Netherlands.

Next era

At Proserv, Sam says its business also exports a "significant" amount of expertise and capability to its

international bases. Most recently that has involved taking its multistring cutting tool and abrasive cutting products – designed and made in the UK - to Thailand and Indonesia to work on projects for Chevron and Premier Oil, UK-based personnel have been in the region to support deployment.

"Most of what we do here is focused on supporting UK North Sea projects, but because of our capabilities and resources we also support the company's global activities," he adds. "Our centres of excellence for subsea services, acoustics and controls are all wholly or partly based here. Our machining is based here and our new product development work is performed through a team that includes the UK R&D personnel."

He believes there are still long-term opportunities for Proserv in the UK, both in oil and gas and by using this experience in renewables. "We've had a 40-year run in the North Sea and. while there has been consolidation, I don't see it in decline. That's why we are starting our 'next era' strategy, focused on IRM work for managing late-life assets, building on our decommissioning work and growing our renewables activity."





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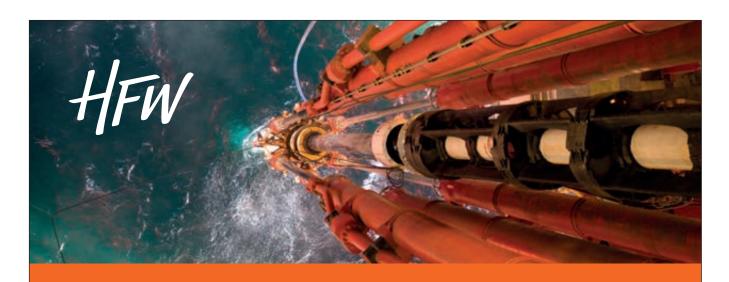


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