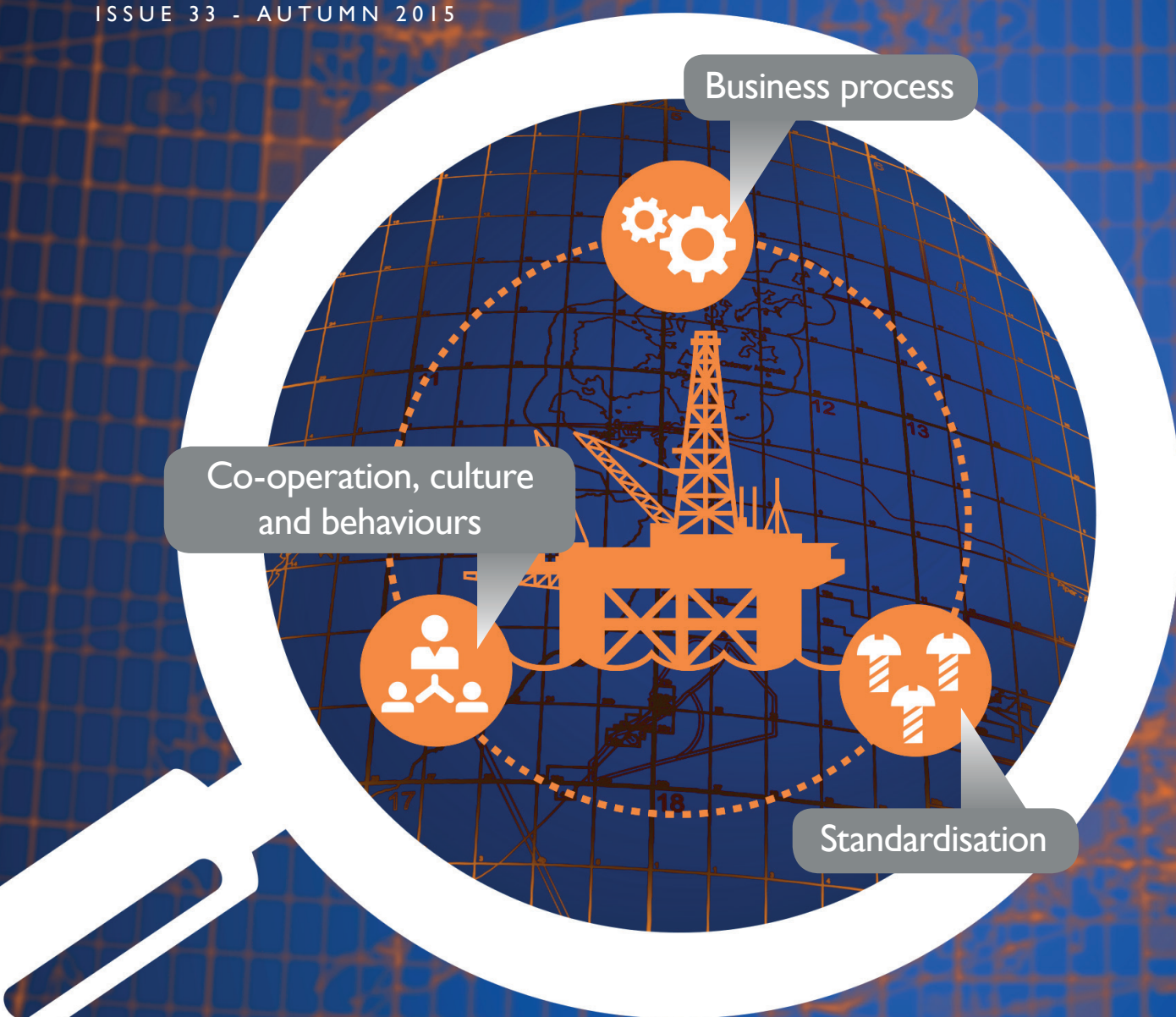


THE MAGAZINE FOR THE UK OFFSHORE OIL AND GAS INDUSTRY

WIRELINE

ISSUE 33 - AUTUMN 2015



Business process

Co-operation, culture
and behaviours

Standardisation

AN EYE
ON THE TARGET
Industry focuses on efficiency

published by Oil & Gas UK



Q&A

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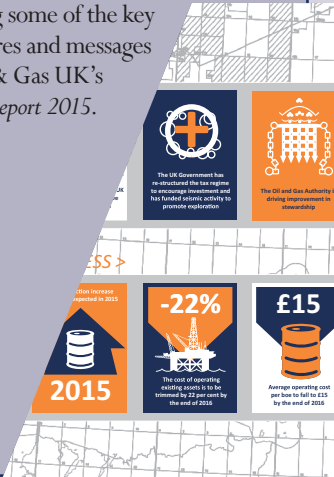
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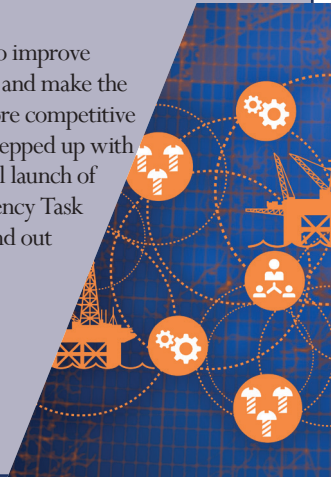
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Presenting some of the key facts, figures and messages from Oil & Gas UK's *Economic Report 2015*.



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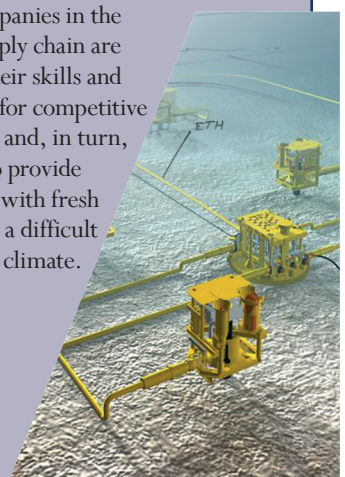
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Wireline finds out more about Scotland's Energy Jobs Taskforce from chair Lena Wilson.



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How companies in the wider supply chain are sharing their skills and expertise for competitive advantage and, in turn, seeking to provide operators with fresh options in a difficult economic climate.



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Since taking up the role of chief executive in May this year, it has been a great pleasure to meet so many of you. I have felt a genuine sense of solidarity around a shared purpose to work together to secure the future prosperity of our industry in what are extremely difficult times.

The UK Continental Shelf has seen four successive years of record investment, but the return on that investment is being severely undermined by acute cost inflation. Last year, we spent more on offshore oil and gas operations than was earned from production, a situation that has been exacerbated by the continued fall in oil price.

Our *Economic Report 2015* (p5 and p13) lays bare the challenges the sector faces and discusses the transformation that will be needed for a more resilient and competitive industry in

a world of sustained lower oil prices. While difficult decisions have to be made, I believe the path we are now on is the right one.

The industry has been working hard over the past year and a half to bring its costs down and improve efficiency. It will step up the pace of change through the work of Oil & Gas UK's recently launched Efficiency Task Force. I am pleased to report that the concerted action is now beginning to yield results with efficiency improving, costs reducing and the rate of production decline slowing.

The features in this issue of *Wireline* together showcase some of the pan-industry activity, as well as company-specific collaborations and improvements in efficiency. I hope you find them an interesting read. Everyone is playing their part. So please do share your stories with us.

Our industry is important. In terms of its economic contribution and value to the country, we stand head and shoulders above the rest. We have paid more to the Treasury than most other industrial sectors; we still generate hundreds of thousands of highly skilled and well-paid jobs; we have

EFFICIENCY
TASK FORCE
p17

a vibrant supply chain, at home and abroad; and we make a key contribution to the UK's security of energy supply.

But the sobering human cost of recent job losses makes it all the more important that we build on the positive actions taken so far, redoubling our efforts and taking bold and purposeful action so that our industry emerges from the downturn leaner and fitter and with the competitive and efficient cost base that will ensure a positive and sustainable future.

Deirdre Michie,
Chief Executive,
Oil & Gas UK

Wireline is published by Oil & Gas UK, the leading representative organisation for the UK offshore oil and gas industry.

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1. ECONOMIC REPORT REVEALS AN ANTICIPATED £2 BILLION COST IMPROVEMENT BY 2016

Oil & Gas UK's *Economic Report 2015* finds that the sector has been particularly challenged by the drop in commodity prices given previous production decline and the high cost base. However, the industry's actions to improve efficiency and restore international competitiveness are leading to an estimated 22 per cent (over £2 billion) reduction in the cost of operating existing assets by the end of 2016. Supported by the first annual production increase for 15 years, the unit cost of operating assets will also improve.

Deirdre Michie, Oil & Gas UK's chief executive, comments: "I am confident that we have turned a corner with improvements in cost and efficiency. However, a continued low oil price will inevitably cause companies to reflect on the long-term viability of their assets. Retaining infrastructure and delaying decommissioning will be essential to prolong production from existing fields and promote future new developments."

Over 460 delegates turned out to hear the report's findings at events in Aberdeen, Norwich, Newcastle and London. The publication provides a definitive guide to the current health and future prospects of the industry, highlighting its economic contribution and providing updated forecasts on exploration, production and investment in 2015 and beyond.

The full report is available to download at www.oilandgasuk.co.uk/economicreport. See p13-15 of this issue for a summary of the key facts, figures and messages from the report.

2. STEPPING UP ACTION ON EFFICIENCY

Oil & Gas UK has formally launched the Efficiency Task Force (ETF) – a group designed to drive improvement, make the sector more competitive and support the drive to maximise economic recovery from the UK Continental Shelf through pan-industry initiatives. It is led by Oil & Gas UK co-chair John Pearson, group president Northern Europe and CIS at Amec Foster Wheeler, and supported by a dedicated resource from Oil & Gas UK and its industry members.

John says: "Tackling efficiency has been at the forefront of industry minds for some time, but has become more acute and urgent as the value of our end product has more than halved in the last year. We now need to step up, increase the effort and resource we are putting in, and get the job done as a united industry. We are taking a three-pronged approach under the themes Business Process; Standardisation; and Co-operation, Culture and Behaviours and are focusing on two or three projects in each. We have put a lot of thought into where we can have the most impact and will be working with industry to see these projects through."

In addition to pan-industry action, companies are addressing costs individually by working smarter and more efficiently.

Find out more about the Efficiency Task Force in a feature article on p17. Also see p20 for company-specific case studies in our Efficiency Spotlights section.

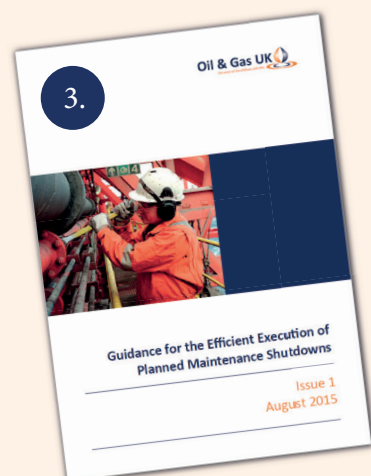


3. NEW GUIDANCE ON EXECUTING PLANNED MAINTENANCE SHUTDOWNS

As part of the industry-wide drive to improve efficiency, Oil & Gas UK has released *Guidance for the Efficient Execution of Planned Maintenance Shutdowns* to minimise the frequency and duration of these shutdowns and improve the reliability and safety of installations. The guidelines comprise good practice for corrective, breakdown maintenance, inspection, engineering and construction work.

Oil & Gas UK's operations director, Oonagh Werngren, says: "Better management of summer shutdowns is one of the principal ways of improving production efficiency. Companies have been addressing this and a recovery in production efficiency, along with an improvement in production performance, is emerging. This guidance will help cement and build on that progress."

Download the guidance at <http://bit.ly/plannedMS>. Also see p29 for a feature article on the drive to improve production efficiency.



4. OIL & GAS UK MEMBERS HELP FUND PIPER ALPHA MEMORIAL GARDEN MAINTENANCE

Funds raised by members of Oil & Gas UK will help pay for the ongoing maintenance of the North Sea Memorial Garden in Hazelhead Park in Aberdeen – a tribute to the 167 men who lost their lives in the 1988 Piper Alpha disaster.

Deirdre Michie, chief executive of Oil & Gas UK, says: “We were delighted that the initial funds contributed towards the garden’s first stage of restoration and its interpretation board designed by local artist Nicola Cruickshank. Now, we’ve given just over £185,000 – the remaining sum – which we hope helps ensure this tranquil spot continues to flourish for many years to come.”

More information about the Pound for Piper Memorial Trust is available at www.poundforpiper.co.uk.



Interpretation Board in the North Sea Memorial Garden



5. THE EU OFFSHORE SAFETY DIRECTIVE BECOMES UK LAW

The single biggest change to affect domestic offshore health, safety and environmental management in many years came into force on 19 July as the EU Offshore Safety Directive became UK law. The second version of the safety case submission guidance, in compliance with the Directive, is available online (see link below) for a short introductory period to identify any further amendments required. The final document is scheduled to be published towards the end of the year.

Meanwhile, the Offshore Safety Directive Regulator is developing a single tool for reporting UK offshore oil and gas incidents. The new tool aims to make it simpler to report incidents, reducing the regulatory complexity when combining the Directive and the resulting EU Implementation Regulation with pre-existing provisions.

For more information, visit www.hse.gov.uk/osdr.

6. ANNUAL HEALTH AND SAFETY REPORT CAPTURES KEY DEVELOPMENTS

Oil & Gas UK’s *Health & Safety Report 2015* captures key developments across the health and safety arena over the past year, such as the EU Offshore Safety Directive, improvements in aviation safety and the industry move to secure continued effective search and rescue helicopter cover for central North Sea workers. Based on incidents reported to the Health and Safety Executive, the publication reveals that the total number of hydrocarbon releases has fallen to its lowest level ever, that offshore oil and gas has a lower personal injury rate than many other sectors, and that the non-fatal injury rate for offshore workers continues to decline. The report also finds a growing backlog of safety-critical maintenance on offshore installations.

The full report is available to download at www.oilandgasuk.co.uk/healthandsafetyreport.



Oonagh Wergren, Oil & Gas UK’s operations director, collected the IOM3 Award of Excellence on behalf of the association

7. GUIDELINES CELEBRATED BY NATIONAL ENGINEERING INSTITUTE

Oil & Gas UK’s commitment with its members to continually review and improve the performance of all aspects of offshore operations through good practice guidelines has been recognised by the Institute of Materials, Minerals and Mining (IOM3). IOM3 has presented the Premier Award Medal for Excellence to Oil & Gas UK in recognition of its efforts to improve safety and efficiency by publishing more than 30 peer-reviewed guidelines.

Oil & Gas UK guidelines are available at www.oilandgasuk.co.uk/publications.



Katie McIntyre received the award for Young Oil and Gas Supply Chain Professional of the Year

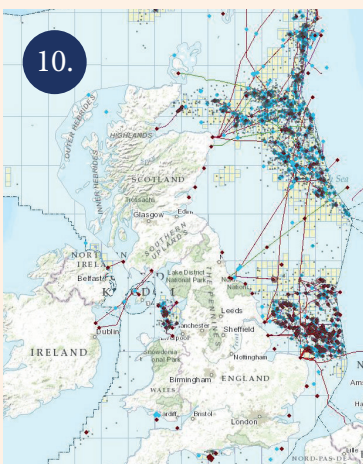
8. CENTRICA ENGINEER WINS INAUGURAL SUPPLY CHAIN YOUNG PROFESSIONAL AWARD

Katie McIntyre, contracts engineer at Centrica Energy Exploration & Production, has won Oil & Gas UK's first Young Oil and Gas Supply Chain Professional of the Year Award. Katie was chosen for her drive to develop her supply chain skills, such as negotiating general and commercial contract terms and conditions. She exceeded her targets ahead of schedule and continues to work with colleagues and suppliers to derive further value from existing contracts and new initiatives.

9. DEMOGRAPHICS REPORT PROFILES OFFSHORE WORKFORCE

Oil & Gas UK's *Demographics Report 2015* has been published to help the industry better understand the profile of its offshore workforce. It provides a baseline to measure how operating in a costly mature basin and the low oil price affect employment levels. This year's report also compares the numbers and roles of female workers on the UK Continental Shelf with those in the Netherlands, Denmark and Norway. While data on the core offshore workforce (those working 100 nights or more offshore) and non-core personnel shows that the average age of the total offshore workforce has remained consistent at 40.8 years, once again challenging the myth that the offshore population is ageing.

Download the full report at www.oilandgasuk.co.uk/offshore_workforce_demographics.



10. CDA AND RGU TO LAUNCH PIONEERING PETROLEUM DATA MANAGEMENT COURSE

Robert Gordon University (RGU) and Common Data Access (CDA) Limited have agreed to launch an online undergraduate level course in petroleum data management to promote understanding of subsurface exploration and production data. Supported by a broad cross-industry steering group, the course is being developed by experts from RGU's Department of Information Management. It is aimed at individuals looking to begin a career in petroleum data management, or to formalise knowledge gained on the job. The course will be fully available online from September 2016.

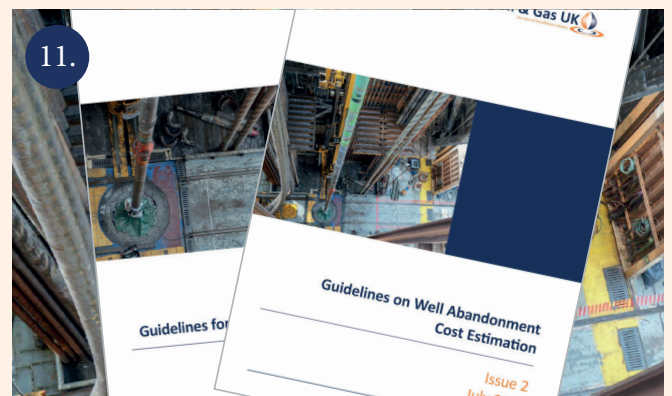
Christine McKay, a director of CDA, comments: "An in-depth understanding of both geoscience and data management principles enables data managers to support business processes and also develop new ways to deliver value."

For more information and details on how to apply, contact Terry Alexander on talexander@cda.com.

11. UPDATED GUIDELINES ON WELL ABANDONMENT AND COST ESTIMATION

Updated guidelines on well abandonment are available from Oil & Gas UK, with accompanying guidance that provides a common framework for more consistent and complete cost estimates to support this activity. Oil & Gas UK has now produced nine separate guidelines on aspects of well operations, including competency, relief well planning and blow-out prevention.

Oil & Gas UK guidelines are available at www.oilandgasuk.co.uk/publications.



MEMBERSHIP MATTERS

NEW APPOINTMENTS TO THE BOARD

Oil & Gas UK has announced three new appointments to its Board. Alan Corbett, managing director at Bristow Helicopters, represents the aviation sector, replacing Richard Mintern of Babcock International Group. Dominic Macklon, president UK for ConocoPhillips, represents the operator community, replacing David Chenier of ConocoPhillips. And Ray Riddoch, managing director and senior vice president Europe at Nexen, also represents the operator community, replacing Archie Kennedy following his retirement. Archie formerly held the role of treasurer – a position now assumed by existing Board member, Craig May, Chevron Upstream Europe Limited's managing director.

Deirdre Michie, Oil & Gas UK's chief executive, comments: "We are very fortunate to have the guidance of a talented Board. I would like to take this opportunity to thank those leaving for their commitment and service to the industry and I look forward to drawing on the experience and guidance of the new directors to strengthen the prospects for businesses in this sector."



L-R: Alan Corbett, managing director at Bristow Helicopters; Ray Riddoch, managing director and senior vice president Europe at Nexen; and Dominic Macklon, president UK for ConocoPhillips

**NEW FORMAT FOR JOINT COUNCIL WINS PLAUDITS**

Over 100 members attended Oil & Gas UK's joint Council meeting in Aberdeen on 2 September that saw the introduction of a new format and was chaired by vice co-chair Neil McCulloch, North Sea president, EnQuest plc. The meeting was structured to boost interactive debate. Presentations were kept short to maximise the opportunity for both operator and contractor members to express their views on the three key agenda items: engagement in a changing political and regulatory landscape; EU issues – the impact of Brussels policy-making on the UK Continental Shelf; and the official launch of the Efficiency Task Force, which was itself animated by a further three lively break-out sessions. The new format was well received and will be used in future meetings.

Please contact Mark Mullins for further information on mmullins@oilandgasuk.co.uk.

NEW MEMBERS JOIN OIL & GAS UK

We are pleased to welcome the following companies that have joined Oil & Gas UK since the last issue of *Wireline*:

Aperimus Communications Ltd, CATS Management Ltd, National Physical Laboratory, PlanSea Limited, Shepherd and Wedderburn and WSS Energy Consulting.

Membership relationship executive, Mark Mullins, is committed to ensuring that Oil & Gas UK membership is tailored to members' needs so please contact him on mmullins@oilandgasuk.co.uk with any queries.





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Dates for your diary

Raise your company's profile and be better informed about the important issues of the day by attending Oil & Gas UK's industry-leading events and training courses.

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Aberdeen

5 November
Oil & Gas UK Awards
Aberdeen

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17 to 19 November
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St. Andrews

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SEMINARS

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Environmental Seminar
Aberdeen

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MEMBERS-ONLY EVENTS

Members' Speed Networking

- 14 October – London
- 28 October – Aberdeen



TRAINING COURSES

7 to 8 October
Fundamentals in Oil and Gas
Aberdeen



BREAKFAST BRIEFINGS

Aberdeen Breakfast Briefings

- 6 October – Investing in a North Sea Business in a Low Oil Price World
- 8 December

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London Breakfast Briefings

- 1 December



www.oilandgasuk.co.uk/events



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Economic Report 2015

Wireline presents some of the key facts, figures and messages from Oil & Gas UK's *Economic Report 2015*.



TODAY >



The UK Continental Shelf **continues to satisfy** just over half of the UK's oil and gas demand

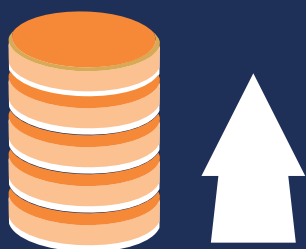
£39 billion



The UK-based supply chain generated over £39 billion in sales in 2013, including over £16 billion in export of goods and services



Oil and gas produced in the UK boosted the balance of payments by £25 billion in 2014



Capital investment again hit a record at £14.8 billion in 2014 - but is expected to fall by £2-4 billion in each of the next three years

375,000



JOBS

375,000 jobs are supported by the industry

£330+ billion

£330 billion + paid in production taxes to date

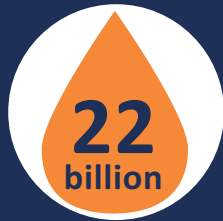
“ **Maximising the recovery of our oil and gas resource will strengthen the country’s energy security, boost tax revenues, exports and the balance of payments, as well as sustain high value activity and jobs in our world-class supply chain.** ”



Download the report at www.oilandgasuk.co.uk/economicreport

FUTURE OPPORTUNITY >

In 2030, 70 per cent of the UK’s total primary energy will still come from oil and gas



Up to 22 billion barrels of oil equivalent remain to be extracted from the UK Continental Shelf



The constructive tripartite approach to maximising economic recovery by the industry, Oil and Gas Authority and HM Treasury is crucial

CHALLENGES >



Operating costs have risen by one third since 2011 to £9.7 billion in 2014



Production efficiency fell from 80 to 60 per cent between 2004 and 2012



50%

The oil price has more than halved since Summer 2014



Over 460 people attended briefings across the UK in Aberdeen, Norwich, Newcastle and London for the launch of the Economic Report 2015

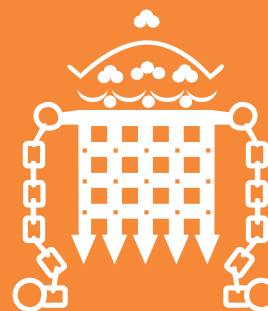
ACTION >



Companies are taking concerted action individually and participating in the Oil & Gas UK Efficiency Task Force to drive pan-industry initiatives



The UK Government has re-structured the tax regime to encourage investment and has funded seismic activity to promote exploration



The Oil and Gas Authority is driving improvement in stewardship

PROGRESS >

First production increase in 15 years expected in 2015



2015

-22%



The cost of operating existing assets is to be trimmed by 22 per cent by the end of 2016

£15



Average operating cost per boe to fall to £15 by the end of 2016

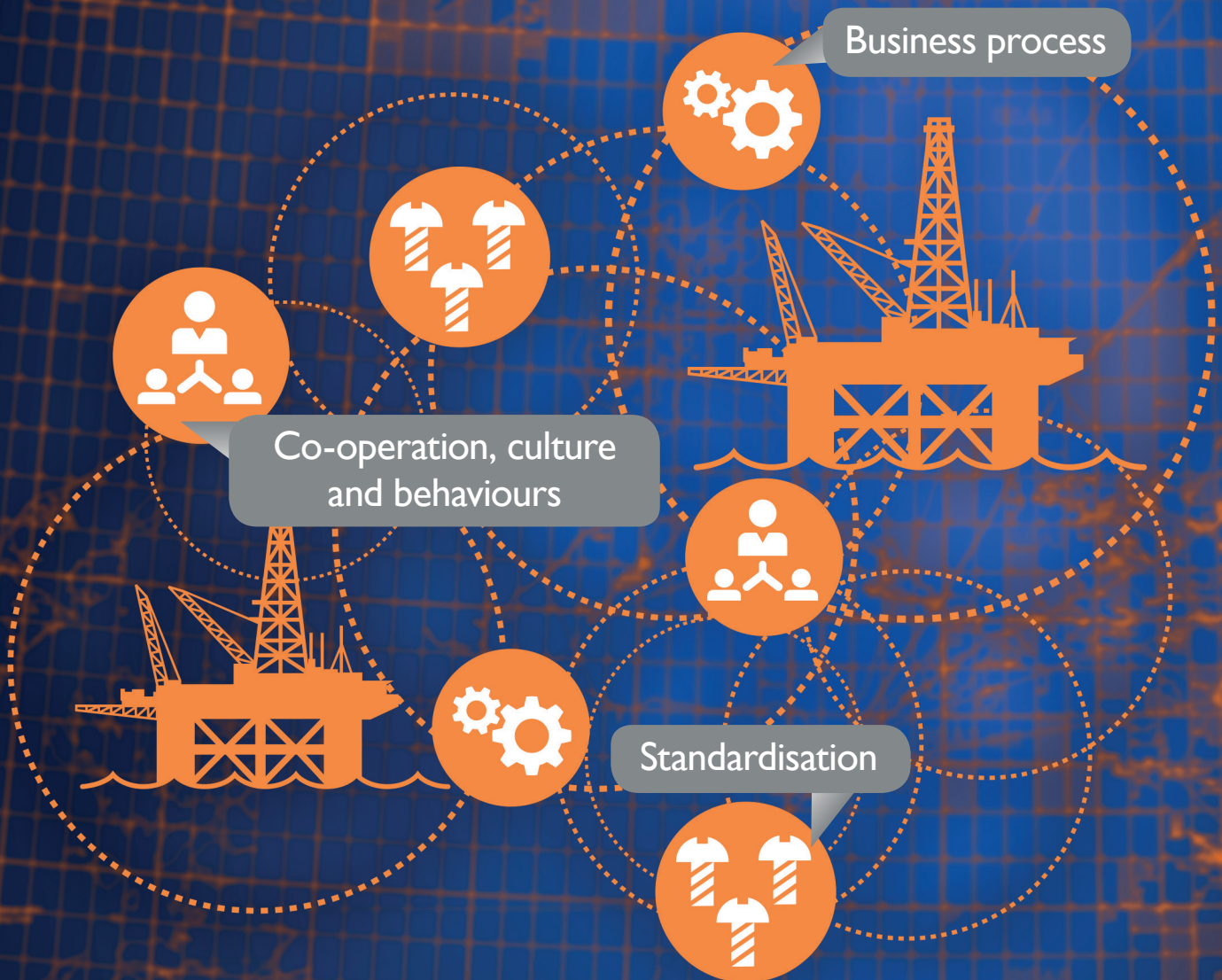


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Seizing the cost efficiency challenge

The significant fall in production and sharply rising costs in recent years have left the UK sector particularly exposed to the drop in oil price. However, even before prices slumped, the industry was developing a coherent response to the challenges it faced while upholding the imperative to maintain safe production. Now, *Wireline* reveals how Oil & Gas UK has stepped up this activity with the formal launch of the Efficiency Task Force.

As the UK Continental Shelf (UKCS) evolves, it is inevitable that the costs of operating the basin will become an increasingly significant factor in its competitiveness, particularly as production declines

from maturing fields and the size of new discoveries get smaller over time. Cost growth on the UKCS has been significantly higher than in other oil and gas provinces, including those around the North Sea. Since 2011, operating

expenditure on the UKCS has risen by one third to £9.7 billion in 2014.

Even with oil prices above \$100, it had become apparent that the basin would become an increasingly uncompetitive >

destination for investment unless action was taken to significantly improve the cost and efficiency of operations. And at an oil price falling below \$50, this situation has become more acute. At the end of last year, almost 20 per cent of production was loss making at a \$50 oil price and, over the year, the net cash loss in total across the UKCS was over £4 billion. Simply put, the basin is spending more than it earns.

It is now widely recognised that a transformation in the way business is done is required if the UK sector is to become more resilient and competitive against a background of sustained lower oil prices. And there is a great deal at stake. Indigenous oil and gas production delivers significant value through contributions to HM Treasury, hundreds of thousands of skilled and well-paid jobs, a world-class supply chain and providing security of energy supply. Currently, just over half of the domestic demand for oil and gas is met by UKCS production and, according to the Department of Energy & Climate Change, 70 per cent of the UK's total primary energy will still come from oil and gas in 2030.

Industry response

While recognising that some behavioural change will be company-specific (see p20 for case studies from individual companies), Oil & Gas UK is taking the lead to help drive pan-industry initiatives that achieve efficiency improvements and transformational change. This focus is now being formalised under Oil & Gas UK's Efficiency Task Force (ETF), which was officially launched at the beginning of September to drive improvement, make the sector more competitive and maximise economic recovery.

The task force is led by Oil & Gas UK co-chair John Pearson, group president Northern Europe and CIS at Amec Foster Wheeler, and is supported by a dedicated resource from the association and its industry members.

The group will take a three-pronged approach under the themes Business Process; Standardisation; and Co-operation, Culture and Behaviours, focusing on two or three projects in each, determined by where the most impact can be made.

Industry will also turn to other sectors to learn how they have overcome similar challenges. PwC, commissioned by the Oil and Gas Industry Council, recently published a study highlighting

Improving Efficiency

Case for change

Opportunity is out there...

- There could be over 20 billion barrels of oil equivalent still to recover from the UK Continental Shelf
- Oil and gas currently account for nearly 70 per cent of the UK's primary energy need – a figure that will remain unchanged until at least 2030*

*According to Department of Energy & Climate Change figures

...but we must become more efficient

- The oil price has more than halved from over \$100 per barrel in September last year
- Operating costs have risen by one third since 2011 to 9.7 billion in 2014

the successful work that has been done in other industries (see p24 for more details).

Three-pronged approach

The longer-term transformation can only come about with true co-operation and cultural change in the shape of collaborative working between operators, major contractors and small to medium-sized enterprises to embed new


“**Becoming more efficient is the most critical challenge we face today...It is imperative we pull together to achieve even greater strides forward.**”

ways of working and create new business models. Under the Co-operation, Culture and Behaviours theme, the ETF will aim to deliver this behavioural change, putting in place an Efficiency Charter and hosting efficiency-sharing events before the end of the year.

The tendency for over-specification of products and services, in which both operators and contractors have played a role, has been a great driver of rising costs. The Standardisation theme will look to simplify business approaches and drive standard solutions to lower costs, accelerate delivery and reduce operational complexity. Early analysis suggests that simplification and standardisation in areas such as well plugging and abandonment could deliver significant savings.

Finally, the Business Process theme will involve reviewing day-to-day operations, exploring how companies can work together to share resources and good practice. As an example of such a project in action, the ETF is exploring the possibility of establishing an online portal of spare part inventories across the sector, which could allow companies to pool, share and source high-value equipment quickly and efficiently with the aim of reducing production downtime. The ETF currently holds ten operators' stock listings, containing in excess of 165,000 items. It is working with those companies to rationalise their inventory holdings, reducing the costs associated with storage and maintenance of materials.

Oil & Gas UK's chief executive Deirdre Michie comments: “Becoming more efficient is the most critical challenge we face today. Companies have already started on the difficult road towards competitiveness through greater efficiencies. Early signs show this concerted effort is paying off – the cost of operating on the UKCS is expected to fall by the end of 2016. There is, however, still much more to do. It is imperative we pull together to achieve even greater strides forward.”

One of the next steps for the ETF will be to launch the Rapid Efficiency Exchange to facilitate the cost efficiency programme and share insights across industry. This will provide data analysis and performance measures, as well as a platform to share case studies and anonymously benchmark efficiency gains. 



For more information,
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Efficiency spotlights

A new Efficiency Spotlights section on the Oil & Gas UK website showcases case studies from companies that are addressing costs by working smarter. *Wireline* presents just some of the good ideas being put into practice and delivering value.

AMEC FOSTER WHEELER AND BG GROUP DELIVER INDUSTRY FIRST

In response to a demand from customer BG Group to speed up the replacement of defective caissons (pillars that underpin many North Sea platforms), Amec Foster Wheeler introduced an industry first by developing a new removal technique. This new method not only allows the job to be completed in a third of the time but is also safer.

In April 2014, subsea defects on the Lomond platform's C6 caisson were identified along with badly corroded internal dip pipes. Given that the caisson was located directly above a gas export line, which it had the potential to damage if dropped, the risk of a part detaching during removal had to be mitigated.

Amec Foster Wheeler pumped expanding foam down the caisson, fully encapsulating corroded internal dip pipes. This removed the risk of them detaching during removal and falling onto the

gas export line below and allowed the top of the caisson to be cut away in larger sections than before, saving time and reducing cost.

This innovation enabled the caisson to be removed in eight weeks, whereas more traditional methods would have taken 22. The process demonstrates the power of collaboration and holds promise for wider application as BG Group plans to use this technology for the removal of similar caissons on other North Sea assets.

Finding new innovative ways of working can help secure the future of our industry. BG Group's vice president, UK operated assets, Steve Cox, comments: "As an industry, we need to work together to develop innovative methods and technologies. This solution has been an outstanding achievement and is testament to great teamwork and commitment from all companies involved and has the potential to be used for any other similar caissons in poor condition."



TOTAL TAKES BOLD ACTION TO IMPROVE PRODUCTIVITY

TOTAL is taking bold action to improve the productivity of offshore field operations as part of its group-wide initiative to drive sustainable growth.

To achieve the business transformation required, the company is encouraging staff to commit to making a cultural change in the way they work, think and behave to help bring about improvements under three themes: safety, production and managing costs better.

Improving the efficiency of offshore field operations, including maintenance activities, is one of the company's eight key priority areas. The others are well construction, geosciences, contracts and procurement, projects, logistics, information services and overall corporate services. The company is using process improvement techniques such as 'Lean' to examine how its current practices in operations and maintenance activities could be improved to help control costs and improve efficiency.

"Our commitment to changing our cultural approach is an important part of looking at how our field operations could become more efficient", explains a spokesman. "For example, we are using 'Lean' tools to re-assess how we schedule tasks and now encourage our offshore teams in different roles, including supervisors, technicians and operators, to develop a greater awareness of one another's roles and requirements in each assignment, which might include activities such as basic oil changes, electrical breaker maintenance, valve change-outs and even gas turbine maintenance.

"On the North Alwyn platform, the team has introduced a visual scheduling process that helps technicians by improving visibility of the overall maintenance plan. This consists of new scheduling boards designed to give discipline teams a clearer 48-hour view of the planned work schedule, showing priorities and the impact of any interruption in equipment operation.

"The new process helps the teams identify additional work that can be carried out during equipment downtime giving them the opportunity to maximise productivity in other related activities. A simple measurement and root causes chart tracks performance against planned work schedules and also highlights the reasons behind any delivery issues to improve performance still further. The plan is to apply these 'Lean' principles to other areas of the business.

"There are many processes to consider in each of the tasks associated with field operations and a fair amount of time is taken up with essential preparation activities, such as tool box talks, site checks and work permit requirements. However, even in this early stage of the initiative, we have seen the completion of planned tasks within the schedule improve by 14 per cent.

"We believe our new approach has succeeded in helping us grow an even stronger team ethos within field operations crews and that it is helping us to develop a shared responsibility for controlling costs, which can only contribute towards a sustainable future for our company on the UK Continental Shelf."



BP REDUCES COSTS BY IMPROVING INVENTORY MANAGEMENT

BP has worked hard over the last three years to improve its management of inventory to reduce lead times in getting critical spare parts offshore and reduce waste from the purchase and storage of excess materials.

Over the last five decades of operations in the North Sea, the company has built up a large amount of inventory, stored in many locations. This complexity and excess often resulted in long lead times to transport materials offshore and, besides being costly, could have a negative impact on production when these materials were critical to the operation of the platform.

BP launched a project to improve its inventory management, identifying a number of improvements, including better materials cataloguing, disposal of surplus spare parts and a reduction in the number of storage locations being used. As a result, the company has created a more effective materials management process

and reduced the costs of inventory management. The number of storage locations has more than halved from 120 to 48, greatly reducing storage costs. The number of inventory items has also halved from 158,000 to 75,000 and around \$32 million has been generated by disposing of scrap and materials identified as surplus to the company's needs.

BP is also participating in Oil & Gas UK's work group focusing on the use of inventory. Through collaboration with other operators, materials are being shared, inventories are being slimmed down and required materials are being made available more quickly.

Arnie Mouat, BP materials management delivery manager, comments: "The need to address high costs and production efficiency issues on the UK Continental Shelf is clear. Our work to eliminate waste and excess is a good example not only of our relentless focus on making our processes more efficient and reducing operating costs, but also of the benefits of collaboration across the industry."



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Is transformation in the pipeline...or just a pipe dream?

Commissioned by the Oil and Gas Industry Council, PwC carried out a cross-sector study to identify the characteristics that drive efficiency in high performing sectors and to propose tangible practices that can be transferred to oil and gas operations. Gordon Colborn, lead consulting partner at PwC in Scotland, reports

As the UK offshore oil and gas industry wrestles with the ongoing challenge of managing costs and working capital, the long-term future of the UK Continental Shelf (UKCS) is under debate.

The urgency with which oil and gas firms have had to address these challenges has been exacerbated over the last 12 months by the oil price crash from \$110 to a low of \$45 a barrel (bbl), averaging at \$58/bbl in the first half of 2015 – a move that has brutally exposed the substantial escalation in the cost base across UK oil and gas operations.

The initial response by many firms has mainly been to deal with what they know best – tactical measures such as headcount reduction, deferred spend and reduced supplier rates. While this has delivered immediate impacts, industry recognises that this is not enough to sustain the long-term future of the basin and companies are now co-operating to make the UKCS more efficient.

There must be a zealous refocus on transforming operations to create long-term viability in a low oil price world. Only fundamental changes to the way businesses work and interact will generate the level of sustainable change needed to

withstand future shocks and enable firms to operate effectively and efficiently in the longer term, competing successfully for international investment in the North Sea and maximising economic recovery.

“ Only fundamental changes to the way businesses work and interact will generate the level of sustainable change needed. ”

And it is worth the effort. While the UKCS is mature, it certainly hasn't reached retirement age, with around 11.5 to 22 billion barrels of oil equivalent (boe) still ripe for the taking.

Despite the potential resource that still exists, new discoveries are few and far between. Exploration drilling activity in 2014 continued the recent downward trend with only 14 wells (including sidetracks)

being drilled and only 60 million boe of recoverable reserves discovered.

Learning from other sectors

So how can the sector make the step changes required to prolong its revenue stream and the life of the basin?

The reality is that making long-term, structural change takes time and is not easy. There is no silver bullet. But that's not to say it can't be done.

At the start of the year, the Oil and Gas Industry Council took the decision to look further afield for inspiration. The aim was to understand how other comparable industry sectors have transformed their business models after experiencing extended periods of severe cost pressure and economic downturns.

Having worked with a large number of leading firms in the aerospace, rail, automotive and chemical industries, PwC was asked by the Council to carry out an in-depth, structured review of these sectors and identify any pragmatic lessons that could be applied to companies working on the UKCS (see table below for the dimensions of comparison cross-sector).

We conducted interviews with senior figures across a range of businesses offering a direct comparison with firms operating in oil and gas; undertook extensive secondary research; and developed case studies based on learnings from firms operating in the UK, such as Bombardier, Michelin, GE and Jaguar Land Rover.

The seven fundamentals

What emerged was very clear and in reality should not have been a surprise. Seven factors appeared consistently in the high performing organisations that we have termed 'fundamentals'. These could help hasten the much-needed industrial transformation across the UKCS, enhancing collaboration, increasing trust with partners and across the supply chain,

Dimensions of comparison	O&G	Aero	Auto	Chem	Rail
Extent to which operations are project driven	●	●	◐	◐	●
Degree of contractor/ tier 1 supplier dependence	●	◐	◐	◐	◐
Operations/ maintenance complexity	●	●	◐	●	●
Supply chain complexity	●	●	●	◐	◐
Extent to which safety is crucial to operations	●	●	◐	◐	◐

● Completely ◐ Significantly ◐ Partially ◐ Limited



“ The seven fundamentals can be applied by industry leaders as a framework to test the scope of current improvement plans and to define additional areas for focus to maximise value to their business. ”

and delivering widespread efficiencies (see image above on the seven fundamentals).

The seven fundamentals – which have been used as the basis for making more than 20 recommendations on the way forward for the oil and gas sector (detailed in our report) – can be applied by industry leaders as a framework to test the scope of current improvement plans and to define additional areas for focus to maximise value to their business.

These seven factors not only helped leading organisations to cut their cost base but more effectively manage performance. They are summarised below:

- **Leadership** – building leadership teams with a strong compelling vision for cultural and operational change that engenders trust inside and out of the business.
- **Treating operations as a strategic asset** – to provide the basis of competitive advantage rather than simply a cost of doing business. High-performing organisations across the four industries articulated how operations help deliver competitive advantage and build the necessary capabilities to ensure this happens. Despite the need to achieve lower costs in response to low oil prices, there is no clear evidence that oil and gas firms view or treat operations as a consistent route to achieving competitive advantage.
- **Knowing and building your core** – addressing the core/non-core dilemma by defining and building world-class capability across core competencies and collaborating with organisations better placed to deliver those that are non-core.
- **Performance management** – boosting performance management by understanding and measuring what is important and using the data to drive change and improvement. High-performing organisations view operations as an integrated end-to-end process and have moved to minimise practices that characterise functional ‘silos’. This is not as evident within oil and gas firms, with operations and supply chain interaction and visibility via connected IT systems viewed as weak.
- **Innovation and change** – developing an innovation culture and managing change effectively by constantly looking for better ways of doing things and innovating across technology and processes. Leading organisations across the four industry sectors are inherently innovative, not just in the product offering. This is driven not only by necessity, but a keen awareness that failure to improve will lead to failure overall. Performance and practice is also benchmarked, not against competitors, but against the best they can find. For oil and gas firms, a drive for peak oil recovery has driven innovation, with cost and efficiency drivers previously not a major consideration.
- **Organisation and people** – building an organisational structure with skills to manage operations of the future, with clear accountability and responsibility throughout the company and a major focus on personal development.
- **Process and IT architecture** – information systems and appropriate IT infrastructure to support end-to-end processes and enable better decision making. >



Bombardier Transportation Case study

Relevance to oil and gas industry

Significant operational improvement in tough market conditions



Situation

Bombardier UK recognised they had problems with efficiency, productivity and quality.



What they did

Introduced a new leadership team that developed a clear, compelling vision of a successful future



Developed a new approach to managing the complete train build



Focused obsessively on a small number of key metrics



Encouraged the workforce to help shape the business strategy

Result

Trains delivered on time



Direct working hours per unit cut by over **40%**



Improved build quality by a factor of **4x**



Moved the worst-performing facility to one of the top-performing sites



Won Crossrail train contract – worth more than **£1bn**



Lessons learned



Good leadership is a foundation for success



Focus on the process and engage with the workforce directly



Even in 'mature' industrial situations, the potential for operational performance improvement can be significant



Customer collaboration pays dividends

Bombardier showed that by significantly improving operational performance, it is possible to compete on a global scale



Dealing with the 'headwinds'

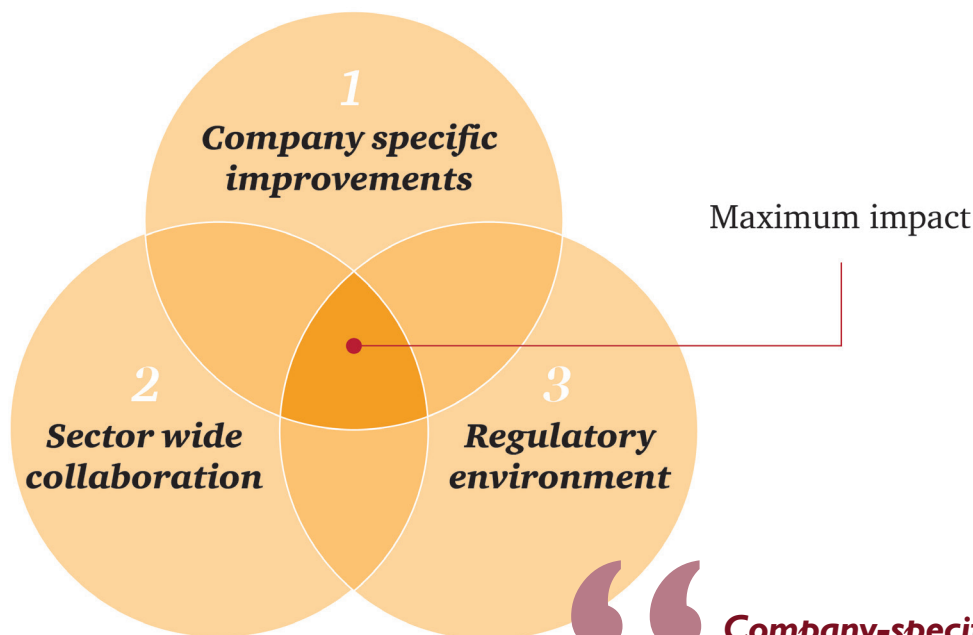
Against a backdrop of competing 'headwinds' – from fluctuating energy prices to high UK wage inflation and a predominantly non-UK customer base – the domestic aerospace industry, for example, delivered a sophisticated response in how it dealt with operational complexities as well as innovation to address market shifts.

Three areas carrying potential lessons for the oil and gas industry stand out:

- Standardised processes and interfaces established through strong collaboration between operators and tier 1 original equipment manufacturers (OEMs), which reduced inefficiencies arising from duplication.
- Improving the maturity and efficiency of the supply base through sophisticated and innovative performance-based contracts, or a model whereby the supplier is paid based on the 'availability' (use) of the product or service rather than for the product itself.
- Industry-wide programmes to improve supplier maturity and consolidate the supply base, for example, the aerospace and defence industries' SC21 initiative that saw companies working together to improve efficiency and productivity, remove duplication and lower overheads and costs. This change programme was designed to accelerate competitiveness by raising the performance of the supply chains.

Also see an infographic (left) depicting a company-specific approach by Bombardier to achieve significant operational improvement in the rail industry.

“ Visionary leadership... provides a platform to build a culture of trust within and outside the organisation. ”



Company-specific improvements reinforced by industry collaboration and an effective regulatory environment are all needed to achieve the maximum step change in sector performance.

Steering a steady course requires visionary leadership

If we were to highlight one factor above all else, it would be to emphasise the critical importance of visionary leadership. This provides a platform to build a culture of trust within and outside the organisation, and without it, collaboration and transformation of the scale required will be difficult to achieve.

Our research found that in oil and gas leaders were primarily chosen for functional or technical expertise rather than their ability to lead transformational change. This background makes it more difficult to build a culture where change is understood and accepted as a prerequisite for success. The Oil and Gas Authority Commission report earlier this year also identified the need for a change in leadership behaviours and culture to tackle the challenges that lie ahead.

Practical examples of operational excellence in adjacent industry sectors provide great insight into what can be achieved when industry leaders drive transformational change and create the environment for much greater trust and collaboration.

Those leaders who embrace this approach have the potential to secure a third wave of production operation (following initial and then post-peak activity) and deliver

economic and total value added benefits to investors and the UK economy.

But visionary leadership doesn't just extend to those firms operating on the UKCS – it must be a core ingredient in a progressive regulator, helping companies implement best practice and successfully address market shifts.

During our interviews with organisations across the four industries, the positive role that regulators – and industry bodies – play in supporting collaboration and operational efficiency became increasingly apparent. We firmly believe that a progressive and proactive regulator helps to improve levels of trust, standardisation, data-sharing, collaboration and efficiency across the industry value chain.

The critical importance of collaboration

The UK oil and gas industry is not renowned for high levels of collaboration across the value chain. In fact, we would go as far as to say that the lack of a collaboration culture has previously been a major limiting factor in the sector's ability to operate efficiently. We have seen many examples where the approach to customer and supplier relationships is confrontational, restricting innovation and promoting a short-term mindset.

Effective collaboration, as demonstrated in other industry sectors, plays a huge role in fostering innovation and commitment to achieving significant performance improvement.

Transforming our future

As many regions within the UKCS move into late life, a fundamental shift in the operating regime will be essential for success.

Our study has shown that company-specific improvements reinforced by industry collaboration and an effective regulatory environment are all needed to achieve the maximum step change in sector performance that is required to secure the future of the UKCS (see image above).

The alternative does not offer the hope we need, only the guarantee of a shorter lifespan for the UKCS and an acceleration towards decommissioning.

I don't think anyone is ready for that yet. ^W



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“ We can build on the considerable progress we have made to help extend the field life of assets. ”

All to play for

Efforts to improve the production performance of existing fields are crucial to help maximise economic recovery from the UK Continental Shelf and ensure sustainability of these projects in a low oil price world. *Wireline* explores how the drive to ramp up production efficiency is beginning to yield positive results, with much still to play for.

Tough economic conditions continue to prevail in the industry and so extracting maximum value from projects on the UK Continental Shelf (UKCS) could not be more critical. Crucially, over the past couple of years – and well before the collapse in oil price – there has been

an industry drive to improve production from existing assets to maximise recovery.

The latest figures from the Oil and Gas Authority (OGA) indicate that UK offshore oil and gas production over the first six months of 2015 is around three

per cent higher than the same period last year. Production could increase this year for the first time in 15 years.

Oonagh Werngren, Oil & Gas UK's operations director, says: "These improved figures are partly due to new field start-ups such as Golden Eagle and >

Kinnoull, but also because of industry efforts to produce oil and gas more efficiently by minimising operations downtime and maximising flow rates.

“This activity is being run alongside other measures to encourage smarter working to reduce the sector’s cost base and ensure the UKCS remains commercially attractive to investors (see p17 for more on pan-industry activity to tackle costs and improve efficiency).”

Adding value

Production efficiency is a percentage measure of an asset’s actual production compared with its maximum capability. Across the UKCS, production efficiency declined from over 80 per cent in 2004 to about 60 per cent in 2012. Good performance, when the asset is working to its full production potential, is considered to be in the range of 80 per cent for oil and over 90 per cent for gas fields.

Action to reverse the decline through a collaborative approach began in earnest back in 2013. Members of the PILOT government-industry forum created the Production Efficiency Task Force to examine and share insights into the root causes of production inefficiency and to define good practices. The task force identified a number of key areas for improvement and developed workstreams to tackle them.

Planned maintenance shutdowns generally occur in the summer months and involve halting production on platforms or terminals scheduled for safety-critical maintenance work. Better management of summer shutdowns is seen as one of the principal ways of improving production efficiency, being the second largest cause of production losses. They affected four per cent of the UKCS’ production potential in 2004, rising to six per cent by 2012.

The cross-industry work group set up to tackle this topic organised a ‘Turn Around on Time’ seminar in April 2014 to share best practice and improve



Nexen has improved productivity offshore by 30 per cent per 10-hour shift by encouraging its offshore workforce to look for ‘marginal gains’ in efficiency in routine work activities that accumulate into significant benefits and savings

co-ordination of shutdowns across the basin. This July, the group released guidance on how to execute different types of shutdowns more efficiently, including corrective, breakdown maintenance, inspection, engineering, and construction. The publication is designed to help industry arrest production downtime by improving planning and delivery and ensuring shutdowns are carried out more safely and effectively. It is hoped this approach

will lead to fewer and shorter planned maintenance shutdowns.

Ray Riddoch, co-chair of the Production Efficiency Task Force, explains: “The guidance addresses the diversity of procedures used to carry out planned shutdowns and outlines methods that have consistently shown superior results. It provides companies with a basis for self-assessment and gap analysis, allowing them to benchmark their existing processes.”

“ The guidance addresses the diversity of procedures used to carry out planned shutdowns and outlines methods that have consistently shown superior results. It provides companies with a basis for self-assessment and gap analysis. ”



Unplanned losses, meanwhile, are the main cause for lost production. In 2004, unplanned losses affected seven per cent of the UKCS' production potential. By 2012, that figure had increased to 18 per cent. A work group has interrogated the data to understand why such losses continued to rise and identified compression failure as the main underlying contributory factor. The next step will be to survey the production operators most affected to gain deeper insights into which aspects need most attention. An industry workshop is planned for later this year to discuss and identify the tools/measures that will best help tackle this problem.

A third work group is focused on offshore productivity, sometimes described as 'wrench time' – an industry

phrase generally used to describe the amount of productive time taken to perform a given task. It is most commonly associated with maintenance activities. Operator and contractor case studies shared with the group indicate that there are diverse factors causing inefficiency, including unproductive business processes as well as poor planning and scheduling. The task force is providing the opportunity to share lessons learnt and how companies are addressing the issues being raised.

Benchmarking performance

Alongside these three workstreams, over the past three years, Oil & Gas UK has provided UKCS oil and gas operators with anonymised annual production performance reports. These are drawn from data provided to the Department of Energy & Climate Change – now collated by the OGA – and Oil & Gas UK. They help operators to benchmark their performance against other production operators and the task force's 80 per cent production efficiency target.

Brenda Wylie, OGA's area manager for the northern North Sea and task force co-chair with Ray Riddoch, adds: "The OGA is fully supportive of the task force's work and ethos and has already shown leadership in this area. The 20 largest production operators (by volume) are required to present the OGA with stewardship improvement plans and demonstrate their commitment to sharing lessons learnt."

Steps in the right direction

Progress is being made. From 60 per cent in 2012, production efficiency across the UKCS rose to 65 per cent last year, contributing 70 million barrels of oil equivalent to the total amount recovered during that period.

Nexen, for example, has improved productivity, or 'wrench time' offshore by 30 per cent per 10-hour shift by encouraging its offshore workforce to look for 'marginal gains'. This involves breaking down routine work activities to find small efficiencies or enhancements that accumulate into significant benefits and savings. This is an approach taken


“ The 20 largest production operators (by volume) are required to present the Oil and Gas Authority with stewardship improvement plans and demonstrate their commitment to sharing lessons learnt. ”

by the Tour de France winning Sky cycling team.

One example of a 'marginal gain' in improving wrench time was by staggering shift pattern start-times. This has allowed more efficient planning of permits, reduced waiting times and increased productivity.

The Production Efficiency Task Force is ensuring that such case studies are shared across the industry so that any lessons learnt can be applied by other companies (see also our efficiency spotlights section on p21 for an example of how TOTAL has improved productivity).

Oil & Gas UK, along with the OGA and the Society of Petroleum Engineers, is also now working with a group of production operators to standardise production loss reporting in order to eliminate ambiguities and define industry terminology more clearly.

Oonagh is hopeful for the future. "In the past two years, the Production Efficiency Task Force has successfully pushed production efficiency up the industry agenda, pinpointing the areas where we need to improve. While there is still much work to be done, we can build on the considerable progress we have made to help extend the field life of assets across the UKCS and contribute towards a more sustainable future for the sector." 



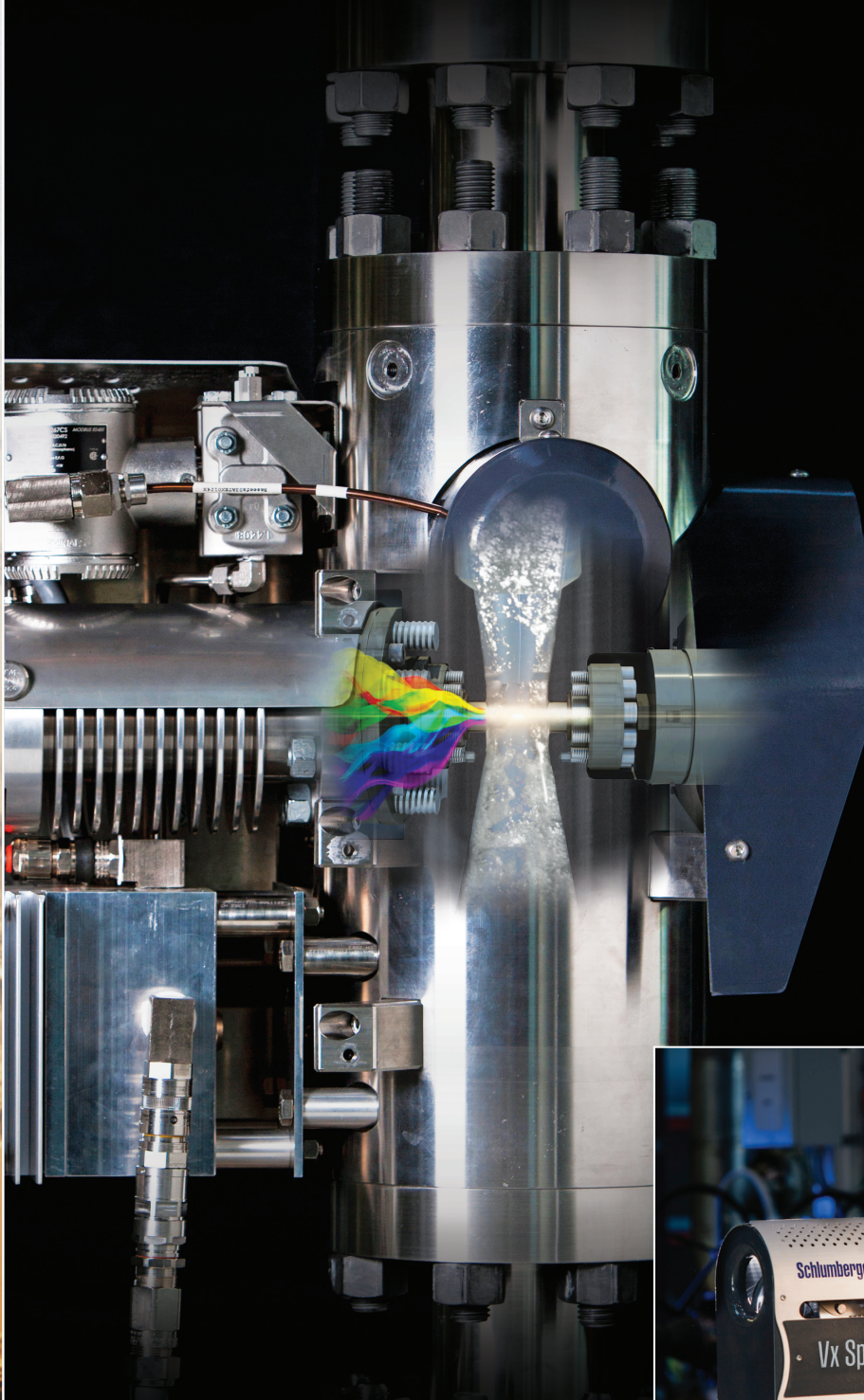
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Scotland's Energy Jobs Taskforce

Scotland's Energy Jobs Taskforce was launched earlier this year to support the workforce amidst a difficult time for the industry. *Wireline* catches up with its chair and chief executive of Scottish Enterprise, Lena Wilson, to find out more.



Q: Can you tell us why Scotland's Energy Jobs Taskforce was set up and who its members are?

A: Scotland's Energy Jobs Taskforce was established in January this year in response to the major global challenges facing the oil and gas sector. For the first time ever, a group comprising the operators, supply chain, public sector, industry and trade union bodies came together and committed to drive forward a collaborative and ambitious plan that would support those facing redundancy and at the same time become a catalyst for change.

Q: What have been the key priorities since its creation and how have you been addressing them?

A: The immediate top priority from the outset was to ensure the right support was reaching those at risk of redundancy. To date, we have engaged directly with more than 2,500

individuals and over 100 companies to better help those affected move forward into new employment, new ventures, training or education. Much of this support, including one-to-one redundancy support for 1,300 people, has been delivered through the very successful Partnership Action for Continued Employment (PACE) programme and work continues to ensure every single individual displaced or at risk of redundancy is fully supported.

“ **The immediate top priority from the outset was to ensure the right support was reaching those at risk of redundancy.** ”

We also wanted to put a spotlight on the longer-term structural challenges for the sector and accelerate progress. As a result, we've worked with industry to help push forward a number of ambitious initiatives to help lay solid foundations for improvements

across a wide range of action areas to support supply chain best practice, increase standardisation, enhance leadership, share principles and values, and drive cost efficiencies. >



L-R: Colin Parker, chief executive, Aberdeen Harbour Board; Nicola Sturgeon, First Minister of Scotland; and Lena Wilson, chief executive of Scottish Enterprise and chair of the Taskforce



Image ©iStock.com/mikeuk

“ There was an overwhelming response from senior leaders and key players across the full spectrum of the industry to get involved. ”

Q: How are you working in co-operation with various stakeholders – from industry, the regulator, trade unions, etc?

A: From the outset there was an overwhelming response from senior leaders and key players across the full spectrum of the industry to get involved. In addition to the Taskforce’s monthly meetings that have taken place in Aberdeen, there has been a significant level of collaboration and partnership working across the sector and in every Taskforce action area.

The Shared Principles and Values event held earlier this year is a great example of that in action. The event attracted more than 70 key representatives from all corners of the industry and really kick-started an exciting new approach to promote good practice and embed positive behaviours that will protect and sustain industry jobs and the future of the sector.

Q: How do you see the work of the Taskforce developing?

A: Taskforce members remain committed to being a catalyst for positive change. We know that the picture continues to evolve for the industry globally and so we must remain focused on delivering our action plan whilst closely monitoring developments in the industry to make sure we do everything possible to safeguard jobs and retain the talent that is the bedrock of a globally competitive industry that will thrive for decades to come.

Q: What’s your impression of the UK offshore oil and gas industry?

A: Since taking on the role as chair of the Energy Jobs Taskforce, I’ve spent as much time as possible talking to companies and stakeholders to make sure no stone is left unturned to capture a clear picture of the challenge and opportunity. I’ve been struck by the openness with which people are talking about the causes of the current situation – in terms of a cost base, the need to look at a new and long-lasting approach to the ‘cost of supply’, and the urgent need to increase efficiency.

The UK’s offshore oil and gas industry has a vibrant future and, despite uncertainty, it is clear the industry has come through previous downturns and there’s resilience and determination to see through this current difficult period.

Q: Tell us a bit about Scottish Enterprise – why should Scottish oil and gas companies get in touch?

A: Scotland’s oil and gas industry enjoys a global reputation for excellence, but we know these are challenging times both at home and abroad and we’re here to help the sector meet those challenges. We currently work with over 330 oil and gas companies in Scotland and offer an extensive range of support for the industry, covering everything from accessing finance and growing talent, to supporting innovation, increasing efficiency and helping our supply chain companies find new opportunities in markets around the world. ^W

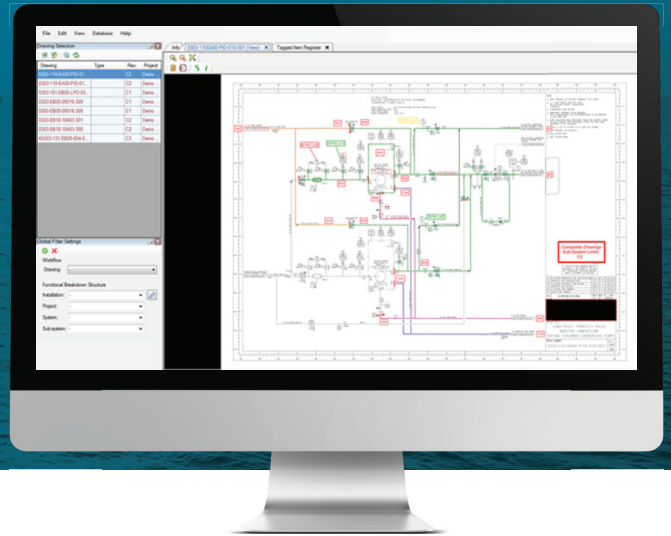


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Magma Products launches **new** **Decommissioning** **software** solution



Magma Products has launched a new software system to **minimise Decommissioning time** and costs while **maximising returns** from decommissioned materials and equipment.



The Decommissioning Management System (DCMS) provides companies with a start-to-finish route through the complexities and regulatory requirements involved in decommissioning.

The system has been successfully used in a major decommissioning project in the southern North Sea, and has received positive industry feedback.

DCMS gives an at-a-glance view of the installation to be decommissioned by using original design drawings. It marks up and shows the decommissioning sequences using a colour-coded system.

Each item is tagged so that it can be decontaminated (if required), and managed for resale, refurbishment or reuse. All waste transfer notes and demonstrable evidence is recorded as is the final location of the equipment for environmental and corporate requirements.

As well as our decommissioning track record, we have expertise in pre-commissioning, commissioning & start-up, completions & handover, engineering & management support and equipment hire.

DCMS - The Benefits

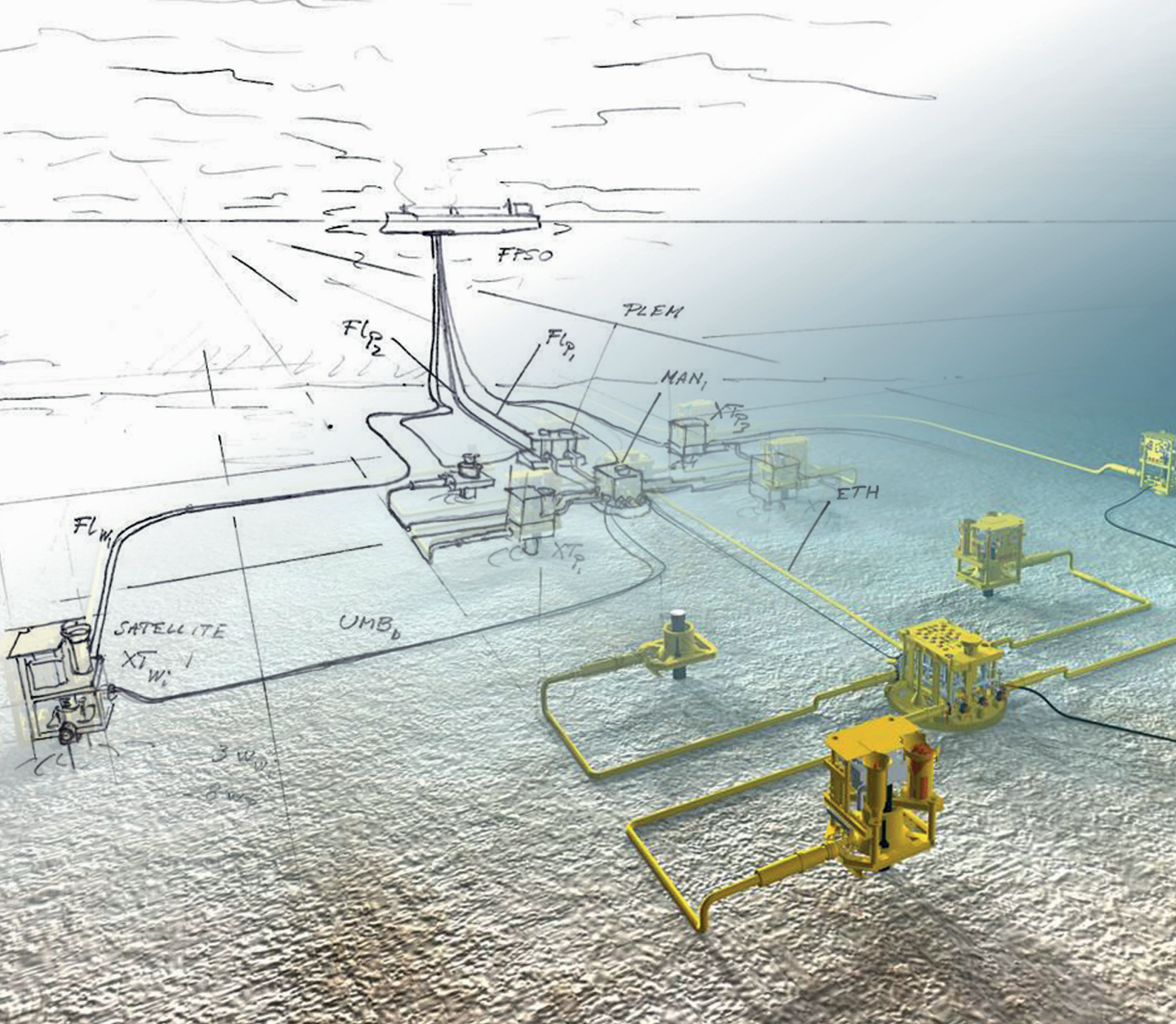
- Single touch point for decommissioning teams
- System is easy to use for all members of the team
- Assists in meeting compliance requirements
- Auditable trail of decommissioning project processes
- Sequencing systems and scheduling by system reduces time, and therefore costs
- DCMS gives pictorial view of installation and project
- Access to documents - MRBs, certification, test information
- Greater scope for financial return for clients
- DCMS proven following use for North Sea project

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Think Decommissioning, Think Magma



Well connected

Working smarter by working together will be crucial for tackling the challenges facing the industry today. *Wireline* profiles two examples of collaboration in action, where companies are sharing their skills and expertise for competitive advantage and, in turn, seeking to help their clients drive efficiency and reduce costs.

A conversation between two former work colleagues provided the impetus for a longer term partnership between LR Senegy and Peak Global Consultancy Ltd, both headquartered in Aberdeen.

“We needed some flow assurance work done for a specific project and I knew that an old colleague of mine,

now at LR Senegy, could do it,” says Peak managing director Dr John Hargreaves.

“I got in touch and we had a chat about how we could work together. From that conversation we realised there was scope for the two companies to do a great deal more in tandem, focused primarily on helping operators improve

the efficiency of their producing assets and reduce their unit operating costs.”

That discussion led to an arrangement between the two energy service businesses. It is not a formal agreement but based on a mutual understanding of their respective capabilities and strengths and a joint will to pursue opportunities when they arise. The collaboration blends

Through their joint venture Forsys Subsea, FMC Technologies and Technip are looking to simplify subsea architecture, reducing the interfaces and improving integration to reduce costs, accelerate time to first oil and maximise sustainable peak production



LR Senergy's expertise in geoscience, wells, production optimisation and facilities with Peak's topsides process and utilities focus.

The proposition to customers is a total service applying the companies' various cross-asset learnings and experience across all production phases rather than individual disciplines. In doing so, the two businesses aim to formulate a joint solution for clients that identifies improvements specific to an individual project to increase production potential, minimise downtime and limit extraneous operating expenditure, with optimisation options from reservoir, well stock and facilities, through to point of export.

"It's about looking at the totality of the production operation, how the oil finds

its way into the string, then through the tubing and how it is processed topside. There are usually opportunities there to improve efficiency," explains Murray Douglas, head of development solutions at LR Senergy.

One project they are currently working on will come on-stream overseas. It is an exercise that highlights one of the goals of the partnership – to promote UK-based services and expertise in international markets.

Collaboration on multiple fronts

The link-up between the two companies has coincided with the low oil price. "It wasn't the driver, but we now have a product that addresses the challenges that businesses are facing in terms of cash flow and margin issues," says John. "These are global challenges, so there is a global platform of opportunities where we can help, including on the UK Continental Shelf. The ability to work across disciplines holistically in a focus team is the most effective way of maximising production and addressing costs and will benefit 90 per cent of assets.

"It makes so much sense for our industry," he continues. "If you get value for money, the cost of business is less, which means there is more incentive for modifications

“ We went back and had a hard look at old projects...to understand where simplifications to the subsea architecture could be made. We looked at how things were executed, how things could be done differently and what it would mean to costs. ”

and upgrades to fields and more oil will come out of the ground. It will help us to maximise economic recovery and defer abandonment.”

Key to achieving this is building a strong relationship not just between these two companies but with the operators they seek to work with. Murray says: "This proposal only works if we can work with the operator. Without access to an operator's knowledge of what is happening on an asset, you cannot get to the nub of the problems and improve production."

Optimised solutions

FMC Technologies and Technip have also come together to offer an integrated

proposition – in this case, through a formal joint venture called Forsys Subsea. Both arrangements, although different in nature, have similar agendas – developing smarter and collaborative ways of working to deliver gains for the supply chain, in terms of generating new business, and for operators who are seeking fresh options in a difficult economic climate.

"Deepwater sources of oil are expensive to develop and operators will not pursue them unless they can significantly reduce costs," says John Grempe, FMC Technologies chairman, president and chief executive. "This requires not just incremental improvements, but step changes and new ways of thinking."

Officially launched in June this year, Forsys Subsea is headquartered in London but with operational capabilities from its two parents worldwide. It comprises approximately 350 personnel transferred from FMC Technologies and Technip to sit under the new banner.

"Both companies were approaching the cost issue within their own scopes of supply – essentially subsea hardware for FMC Technologies and subsea umbilicals, risers and flowlines (SURF) for Technip," explains Forsys Subsea chief executive Rasmus Sunde. "FMC's work typically represents around ten per cent of the cost of an

offshore subsea development, while Technip's represents about 20 per cent. We realised we could do a lot more to address costs if we worked together."

A 100-strong team from both companies, spanning all core disciplines and support teams, spent nine months putting the foundations in place for Forsys Subsea.

Rasmus adds: "To understand the merits of this new integrated value proposition and how it would work, we went back and had a hard look at old projects where FMC Technologies had delivered the subsea production system (SPS) and Technip had done the SURF work to >

“We realised there was scope for the two companies to do a great deal more in tandem, focused primarily on helping operators improve the efficiency of their producing assets and reduce their unit operating costs.”

understand where simplifications to the subsea architecture could be made. We looked at how things were executed, how things could be done differently and what it would mean to costs.”

The cost reductions, he says, will stem from simplifying the subsea infrastructure by reducing the interfaces and improving the integration between SURF and SPS to accelerate time to first oil and maximise sustainable peak production.

“We now feel when we go to the customer we have something attractive to put to them, bringing together technical capabilities, products and systems rather than going to them separately,” says Rasmus.

“The timing of our launch has been good because we understand the industry is looking for significant cost reductions and there are projects being shelved because they have not met client hurdles.”

Fresh thinking

The parent companies will deliver and install the subsea infrastructure, while Forsys Subsea will focus on early involvement in concept definition and selection; front-end engineering and design; integrated life-of-field surveillance; and research and development to boost efficiency and further reduce development costs.

“We’re looking at developing technologies that are outside the core areas of our parent companies – typically solutions that are needed



L-R: Dr John Hargreaves, managing director of Peak Global Consultancy Ltd, and Murray Douglas, head of development solutions at LR Senergy. The companies are working together to provide a holistic service to operators to help them improve the efficiency of their producing assets and reduce unit operating costs

to connect SPS and SURF apparatus and make them even more efficient,” explains Rasmus.

Thierry Pilenko, Technip chairman and chief executive, adds: “This imposes a new way of working. Beyond products, we need to design optimised development concepts. Beyond concepts, we need to be strongly focused on the practicalities of project execution.”

The importance of embracing new ways of working is echoed by Murray of LR Senergy, who believes it will also

help to hold talent within the industry at a time when it is in danger of being lost.

“More than ever the industry needs entrepreneurialism and constructive behaviours to address technical issues. For us it’s about putting a set of behaviours, a concept and a vision to customers who then say ‘that’s our answer’.” ^W



www.forsys-subsea.com
www.lr-senergy.com
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