Global Offshore Market Forecast

Bringing subsea projects "in the money"
Jon Fredrik Müller and Audun Martinsen, of Rystad Energy, take a look at rising costs and the downturn, and share how these two will affect the subsea market going forward.

The floating production market: 2016 & beyond
While depressed commodity prices lend to pessimism, floating production systems are projected to remain an integral component of offshore field development. Quest Offshore analyst Andrew Jackson explains.

First cut is the deepest
OE reached out to Wood Mackenzie and IHS Energy to get the full view on exploration prospects over the next 12-18 months. Audrey Leon and Elaine Maslin report.

Top projects by expense in 2016
Infield Systems breaks down the year's highest capex projects currently under development.

Offshore's opportunity?
Innovate, collaborate, standardize; lead with lean, suggests Hess' Rob Fast.

38 African FPSOs
Nigeria is eying an opportunity to integrate floating production units on home turf, potentially even building them from scratch. Elaine Maslin found out more.

40 FPSOs: On the horizon
Infield Systems presents a list of conversion and newbuild construction projects.

Tackling the backlog
With many assets now more than 25 years old, asset integrity is a daily concern on the UK Continental Shelf. Is the industry keeping up? Elaine Maslin reports.

Model engineering for asset integrity
Aging assets and life extension are consuming ever more engineering hours in the offshore oil and gas industry. How can engineering tools help? Meg Chesshyre looks for answers.

Assessing caisson inspection techniques
 Battling corrosion and wear offshore is a challenge faced by many operators. Elia Barnett surveys the companies tasked with inspections to find out more about today's solutions.

50 Wear and tear
Audrey Leon spoke with DNV GL's Michiel van der Geest about its new joint industry project regarding wear acceptance criteria for jacking systems. Currently 13 companies have signed on to the project, which aims to provide criteria for better assessing self-elevating units.

52 Asset integrity from the start
Greg Hale takes a look at how Shell integrated an asset integrity program into its new Prelude FLNG project with the intent of saving millions over the next 20-25 years.

54 Middle Eastern resilience
Both maintaining and launching new offshore production is high on the agenda in the Middle East, not least in Saudi Arabia, the UAE and Iran. IHS' Mirzi Moralde outlines current activity in the region.

58 Digital gains
Middle Eastern ground
As easy oil depletes all over the world, Middle Eastern producers are turning to digital oilfield technology to not only enhance recovery but make finds economical to produce. Heather Sauzier investigates the region's technological gains.

ON THE COVER
In the cards. While times are uncertain, one thing is clear: the future is subsea. And, that's why OE chose this illustration from Aker Solutions, depicting their subsea power distribution systems, as part of our January cover art.
8: Undercurrents
Celebrating the new in the New Year.

10: Opinion: The Barrel
The mantra for oil service companies in 2016 must be to do everything possible to stay in business.

14: Global Briefs
News from the around the world, including discoveries, field starts, and contracts.

18: Field of View: Giving ABK a boost
Abdelghani Henni reports how French major Total was able to keep the ABK field offshore Abu Dhabi up and running past its initial life span.

21: In-Depth: Pain in the Annulus
Well plugging and abandonment activity as part of offshore decommissioning campaigns is starting to ramp up – but could it be done better? Elaine Maslin reports.

60: Solutions
An overview of offshore products and services.

61: Activity
Company updates from around the industry.

62: Spotlight: Laurent Decoret
Aging infrastructure, deep waters, high-pressures and rising levels of H₂S and CO₂ are all on the hit for Technip’s VP of technology development.

64: Editorial Index

65: Advertiser Index

66: Asset of the month
Voxels, submicrons and synchrotronic optics are coming to an oil and gas laboratory near you. Well, almost. Elaine Maslin reports on the University of Aberdeen’s new high-spec scanner.
Despite slower than anticipated demand for well intervention services, service firms are ploughing ahead with new designs and solutions to help operators get more out of their wells. Elaine Maslin highlights some of the activity in the market.

28 Staying ahead of the game

Despite slower than anticipated demand for well intervention services, service firms are ploughing ahead with new designs and solutions to help operators get more out of their wells. Elaine Maslin highlights some of the activity in the market.

2H Offshore's Mike Campbell and John Gaver discuss design challenges of riserless well intervention systems and best practices.

32 Battling fatigue

2H Offshore's Mike Campbell and John Gaver discuss design challenges of riserless well intervention systems and best practices.

EPIC

38 Currents and cold fronts

Jerry Lee looks at a case study concerning a deepwater drilling riser operation in high currents, typhoons and cold fronts offshore Japan.

SUBSEA

40 For AUV eyes only

Heather Saucier investigates how wireless technologies used by AUVs can make sea-bottom surveillance more cost-effective and time-efficient.

42 Making nodes fly

How to place ocean bottom nodes for seismic acquisition could be set for a revolution if Autonomous Robotics Ltd gets its flying nodes the technology right. Elaine Maslin reports.

PRODUCTION

46 Every barrel matters

A relentless focus is required to maintain and optimize production on often aging North Sea assets. Elaine Maslin reports.

49 Opinions on efficiency

OE asks what can companies do to become more efficient in this lower-for-longer market?

DRILLING

50 Breaking ground on Butch

Open water coiled tubing drilling has been used offshore Norway in an industry first. Elaine Maslin found out more.

53 Tools of the trade

Weatherford's Alex Goodwin explains how a RFID circulation sub displaced seawater to facilitate a formation integrity test in the Gulf of Mexico.

AUTOMATION

54 Automation: Extending assets' lifecycle

Greg Hale and Dora Laine explain how digitizing information can help improve uptime, increase production and optimize resource utilization in this global and asset intense industry.

REGIONAL OVERVIEW: AUSTRALIA AND NEW ZEALAND

58 Underdeveloped Down Under

Both Australia and New Zealand hold vast petroleum potential and many of which remain undeveloped. Audrey Raj sets out the detail.

ON THE COVER

Hardworking. This month's cover depicts a completion workover riser system (CWOR) from GE Oil & Gas, a riser player in the well access and intervention market. GE is one of the firms OE spoke with in February's special report on well intervention. See pages 28-35 for more. Image from GE Oil & Gas.
8 Undercurrents
2015 was the slowest year in a decade for merger and acquisition activity. What's the deal?

10 The Barrel: Fighting for survival
Colin Welsh argues that only the fittest companies will survive this downturn.

12 Global Briefs
News from the around the world, including discoveries, field starts, and contracts.

23 In-Depth: Finding meaning in standardization, replication
To create meaningful cost reduction – or value creation – the industry will need to be more aligned in its understanding of what exactly terms like standardization and fit-for-purpose mean. Meg Chesshyre reports.

18 Field of View: Ichthys LNG one step closer
Audrey Raj speaks to Japanese gas giant INPEX about its US$34 billion Ichthys LNG development and the key components that make up the offshore production facilities of the project.

60 Solutions
An overview of offshore products and services.

62 Activity
Company updates from around the industry.

64 Spotlight: Gerald Stone
Audrey Leon chats with Gerald Stone, senior vice president, Fluor Offshore Solutions, about his unlikely career in engineering, his take on the current market situation, and his work in harsh environments.

65 Editorial Index

66 March Preview and Advertiser Index
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PRODUCTION

30 Studying hydrate management
Jerry Lee takes a look at recent work conducted by the Colorado School of Mines and the University of Tulsa (Oklahoma) to mitigate gas hydrate formation.

32 Fiscal focus
Today’s flow metering systems for petroleum products must not only precisely monitor production and transfers; they also need to provide robust data to underpin digital intelligence for improved decision-making, says Honeywell Process Solutions’ Tim Vogel.

SUBSEA

51 All in the water
For subsea separation and produced water re-injection or discharge to really take hold, technology gaps in subsea water quality measurement must be closed. Progress is being made, says NEL’s Ming Yang.

EPIC

54 Clever composites
Sometimes, new materials and new manufacturing processes fortuitously emerge, just at the time they are needed. At least Magma Global hopes that’s the case. Elaine Maslin reports.

56 Embracing nanotechnology’s potential
Elaine Maslin examines some of the potential uses for nano-scale manufacturing in the oil and gas industry.

58 Popularizing polymers
Elaine Maslin visited with Nylacast to find out more about engineering polymers and their benefits to the offshore industry.

DRILLING

64 In your (completion) dreams
Elaine Maslin reports on Saudi Aramco’s work to improve recovery through “smart” completions, thereby simultaneously reducing intervention.

AUTOMATION

83 Managing data as an asset
ABS is developing guidance for data analytics and data management, and setting standards for best practices, Henrique Paula sets the scene.

84 Cyber shy
Efficiency gains could be made through better use of digital technologies, but the industry is still shy on the uptake. Nada Ahmed, senior consultant, DNV GL - Oil & Gas, looks at the opportunities and risks.

86 Dawn of the data engineer?
Oil and gas has all the resources for a Big Data revolution – so what’s holding us back? Robert Dickson, Director – field development project excellence at i2 sets out his view.

REGIONAL OVERVIEW: LATIN AMERICA

90 Great expectations
Brazil and Mexico are not the only games in town. The deepest well ever drilled is lined up for offshore Uruguay and Exxon is set to test Liza offshore Guyana. Elaine Maslin reports.

93 FPSOs at the forefront
Despite the ongoing bribery investigations, Petrobras is ploughing ahead with new FPSOs. Pietro Ferreira, of the Energy Industries Council, outlines current contracting activity in Brazil and in Mexico.

ON THE COVER

Big & Bright. While surveying the offshore rig market may make one depressed, one bright spot is the contract secured by Transocean’s new Deepwater Thalassa drillship, which graces the cover of this issue. Read more on page 22.

Photo courtesy of Transocean.
8: Undercurrents
What's next for Mexico after Pemex appoints a new CEO?

10: The Barrel: Mood swings
Colin Welsh discusses how speculators influence the oil price.

12: Global Briefs
News from the around the world, including discoveries, field starts, and contracts.

16: Field of View: Taming a Sea Lion
Since its discovery in 2010, the Sea Lion field offshore the Falkland Islands has been subject to a string of development options. Elaine Maslin looks at Premier Oil's optimized final plan.

19: In-Depth: Tug of war
BSEE has proposed a new well control rule that the agency says will make operating in the Gulf of Mexico safer. But, the industry disagrees, and now it has two studies to prove it. Audrey Leon sets out the detail.

66: Voices
Our sampling of leaders offers guidance.

94: Solutions
An overview of offshore products and services.

95: Activity
Company updates from around the industry.

96: Spotlight: Vidar Fondevik
Vidar Fondevik's career has spanned challenging the limits of diving to developing remote operated systems. He reflected on his career with Elaine Maslin.

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Aegion Coating Services, an Aegion company, specializes in the automated application of field joint coatings and robotic coating inspection services for onshore and offshore pipeline projects around the world.

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EPIC
32 Life goes on
Elaine Maslin takes a look at the Dan Bravo complex offshore Denmark, which, at 44 years old, has a new lease on life thanks to some serious steel reinforcement.

SUBSEA
34 Getting fishy
The race is on to create an autonomous, resident underwater vehicle capable of long-term inspection operations and eventually a level of intervention. Elaine Maslin takes a look at BG Group’s version.

36 Robots in disguise
Elaine Maslin talks to Oceaneering about its latest underwater technologies and its thoughts on the future of the ROV and AUV industry.

PRODUCTION
40 Keeping it simple
Sometimes it’s not all about throwing the latest bells and whistles at a production facility – its best to keep it simple. Elaine Maslin looks at how an eductor has kept a gas field going.

42 Keeping a stiff upper lip
There’s a lot of doom and gloom in the North Sea as operators battle to make operating costs profitable. Yet, it’s not all bad on the UKCS. Meg Chesshyre reports.

DRILLING
44 Team work
Weatherford and Chevron teamed up to develop a LWD service capable of running in high temperature environments, such as those in the Gulf of Thailand. Jerry Lee reports on how the project came together.

46 X-ray vision
When people think about X-rays, they most likely think about hospitals or maybe even pipeline inspection. Elaine Maslin examines how X-rays could be deployed in a wellbore near you.

AUTOMATION
48 PDA on the drillfloor
The lack of automation in the oil and gas industry is a puzzle to Brian Evans from Curtin University, Australia. Elaine Maslin learned how he hopes to redress the situation.

50 Automating drilling fluid analysis
Clint Galliano and André Rand of Halliburton and Steve Sparling and Pat Watson of Anadarko Petroleum discuss how automated, real-time measurement of fluid density and rheology can enhance drilling operations.

REGIONAL OVERVIEW: MEDITERRANEAN & N. AFRICA
52 Sea of opportunity
Heather Saucier examines the geology of the Mediterranean and North African region, and assesses where more discoveries could be made.

56 Bucking the trend
Chad Barnes, of Energy Industries Council, reports that contrary to industry norms, contracting activity in the Eastern Mediterranean and North Africa region is on the rise.

ON THE COVER
ROVs are just like us. Oceaneering International provides OE’s April cover, featuring the Magnum remotely operated vehicle (ROV) taking a “selfie”. See more of Oceaneering’s latest underwater technologies on page 36. Image from Oceaneering.
8 Undercurrents
The oil and gas industry is an industry of paradoxes.

10 The Barrel
Colin Welsh, of Simmons & Company International, says stop selling us short.

12 Global Briefs
News from the around the world, including discoveries, field starts, and contracts.

16 Field of view: Egypt’s breadbasket
Italian major Eni has found what could be the biggest gas deposit, Zohr, in the Mediterranean and it is eager to develop. Jerry Lee reports.

19 In-Depth: Proof of concept
Allseas' Pioneering Spirit mega-vessel is finally due to set out into the seas to perform its first heavy lift. Elaine Maslin provides an update.

58 OTC Preview
OE Staff highlights topics and events delegates can expect at this year’s Offshore Technology Conference in Houston.

60 Solutions
OE Staff profiles this year’s OTC Spotlight on New Technology winners.

62 Activity
Elaine Maslin shares details on Balmoral’s new subsea test center.

64 Spotlight: Brenda Wyllie
Elaine Maslin speaks with Brenda Wyllie, who aims to confront the UK’s challenges as part of the industry’s new regulator, as well as chairman of the DEVEX conference.

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EPIC

40 Small is beautiful
Tapping small fields and coming up with economic early production system solutions offers engineers an interesting challenge. Elaine Maslin reports.

44 More than mini eyeballs
Meg Chesshyre reports on how mini ROV systems have advanced significantly and, thanks to their size, they can get up close and personal.

SUBSEA

46 Joining the dots
While it offers a theoretically coherent concept, subsea processing can seem fragmented. Elaine Maslin spoke to Intecsea about how the company views the broader picture.

50 It's all about the boost
JDR Cables is boosting its capacity and its capability, in both the oil and gas and renewables space. Elaine Maslin explains.

56 The need for speed
There's a war on: who can produce the fastest inspection ROV with the highest quality data?

60 Power trip
Subsea boosting is coming under the spotlight, despite and also because of the current low oil price environment. Elaine Maslin reports from Subsea Expo and Subsea Valley.

64 Worlds collide
Mark Smith, Staci Stephenson and Brent Fergurson, of Oceaneering International, show how NASA's neutral buoyancy lab is helping cut costs and cut risks involved in subsea initiatives.

PRODUCTION

68 Strength in monitoring
Structural integrity monitoring should be a lifecycle tool and could make jackup moves safer. Meg Chesshyre reports from Oceanology International.

70 A new lease on life
Scrap or refurbish and reuse? It's a question being asked on the UK Continental Shelf. Elaine Maslin reports.

ON THE COVER

Hard at work. OE's cover features various deepwater projects from around the globe. Included: ExxonMobil's US$4 billion Julia project in the Gulf of Mexico (learn more on page 100), LLOG's recently onstream Delta House development, and Eni's Goliat FPSO in the Barents Sea. Photos courtesy of ExxonMobil, InterMoor (Delta House), and Eni (Goliat).
Installation work on the deepwater Julia field. Photo courtesy of ExxonMobil.

Features (continued)

DRILLING

74 Taking drillships to deeper levels
Ken Richardson and Ian Simpson, of ABS, review current deepwater drillship designs and technologies.

78 Drilling on a global scale
Weatherford's Snorre Lutnes examines managed pressure drilling applications across key regions. Two or three lines of text here

AUTOMATION

82 Are cyber security risks deterring digitalization?
With big data also comes big risks to security. DNV GL's Nada Ahmed discusses security standards can be raised within the oil and gas industry.

REGIONAL OVERVIEW: GULF OF MEXICO

86 Ready for prime time
Kory Kinney, of IHS, takes a look at some of the projects underway in the US Gulf of Mexico.

90 Gulf of Mexico deepwater overview
Quest Offshore assesses the drilling, subsea, and marine construction dynamics affecting one of the world's pre-eminent deepwater basins amid the downturn.

96 Deepwater Gulf of Mexico project primer
OE charts recent project start-ups (2014+). Data compiled by Quest Offshore.