

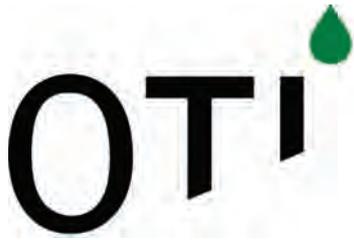
The Gulf Intelligence OEF Industry Workshop 2015

October 20th 2015

Grand Hyatt, Muscat, Sultanate of Oman



شركة تنمية نفط عُمان
Petroleum Development Oman



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Note from Workshop Chairman

While the Sultanate of Oman has been able to use petro-dollars to fuel strong development over recent years, its economic and demographic growth is now poised to outstrip resources, posing a complex nexus of questions about how best to diversify its energy mix, while ensuring energy security and is it possible to do both without liberalizing the economy. There is no doubt Oman faces major energy challenges in the coming decades as conventional fossil fuel resources dwindle and its young population continues to grow rapidly.

Inevitably that leaves officials grappling about the long-term viability of the economy and the best energy sources and strategies to meet its needs and drive economic growth. Should Oman pursue clean coal, nuclear power or renewable resources? How important is R&D and the advent of new technology, what about addressing state subsidies that risk the frittering of cheap state energy. We need to ensure that industry-academia-government is adequately aligned to deliver the knowledge and labor force for overcoming tomorrow's challenges.

While there are divergent views on which of these questions are most important, a consensus emerges on the first step to resolving this riddle --that is the need to draft a 25-Year Oman Energy Master Plan 2040.

Rising domestic energy demand is presenting the country with a string of challenges and pressure on the Sultanate's already tight natural gas resources. Oman will have to devise a long-term strategy that considers adding alternative power generation sources such as renewable energies, while also enhancing energy efficiency and improving demand-side management both on an individual and industrial level.

As the major contributor to the national GDP, the oil and gas industry and the energy sector in general are uniquely placed to drive innovation in all sectors of the economy. The private sector is of fundamental importance. For Oman to succeed in its long-term quest of becoming a diversified, knowledge economy that offers high-valued and sustainable employment for nationals and doesn't have to rely on the sale of hydrocarbons, the country may need to liberalize the economy and establish a much bigger private sector that serves as an economic growth and job creation engine – and provide incentives for Omanis to move into it.

The OEF Workshop 2015 will seek to deliver a 25-Year energy strategy in a draft "Oman Energy Master Plan 2040" which will be presented to HE Mohammed Al-Rumhy, Minister of Oil and Gas, along with his Peers in the Cabinet at a Leadership Roundtable on Nov. 4th, 2015.



Gulf Intelligence facilitates knowledge exchange between stakeholders. The Dubai-based strategic communications and public affairs consultancy produces Thought Leadership forums and roundtable discussions on vital global topics with an architecture that ensures all participants engage in a dynamic exchange of useful knowledge with an enhanced networking experience. The Dubai-based firm assists clients to tap their own dormant intelligence and create knowledge reservoirs that can be utilized to elevate their posture amongst their peers and enhance their engagement with stakeholders.



Sean Evers
Managing Partner, Gulf Intelligence

Mr. Evers is founder and Managing Partner of Gulf Intelligence. Sean has spent his career building groundbreaking media enterprises, starting with the award winning Punchbag Productions across Britain and Ireland, securing top award at the 1992 Edinburgh Festival. In the mid-1990s Sean Evers was appointed Cairo correspondent for The Financial Times. In 1997 he was recruited by Bloomberg to open up the Middle East commencing in the UAE and over the following decade he built-out the U.S. media company's regional network of bureaus from Cairo to Tehran, culminating in 2008 in Dubai being designated as the firm's fourth global hub. He attained a BA in Politics & Economics from the University of Notre Dame in Indiana in 1988, and went on to secure his LLB law degree at the National University of Ireland, Galway.

Workshop Thesis

Draft a 25-Year Oman Energy Master Plan

Power generation growth in the GCC countries has been nothing short of dramatic, given that most of the region was un-electrified as recently as 1960. In Oman, large-scale electrification did not even unfold until well into the 1970s. Many residents can remember the difficult days before refrigeration and air conditioning. Residents of the richer states of Kuwait, Qatar and the UAE now consume more electricity, on average, than do those in the United States.

Much has changed. Oman may have to more than double domestic power generation capacity by 2020 if electricity demand continues to grow at the existing rate of about 10-11 percent annually, adding significant pressure on the Sultanate's already tight natural gas resources used to fire local power stations, feed industries such as petrochemicals, and for export in liquefied form.

The picture isn't set to change much in the longer term, with Oman Power and Water Procurement Company (OPWP) predicting that peak power demand will about double to 9,133 megawatts (MW) in 2020 from 4,455 MW in 2013. This energy demand surge is presenting Oman with a string of challenges, including the stress on the country's food-water-energy nexus.

The Sultanate will have to devise a long-term strategy to diversify its energy mix and add alternative power generation sources such as renewable energies, while also enhancing energy efficiency and improving demand-side management both on an individual and industrial level.

As part of this strategy, Oman will also need to decide on whether or not to let its liquefied natural gas (LNG) export commitments expire in the years 2024/25 and forego on much needed revenues to save gas for domestic power generation and industrial usage, much needed to create the jobs for the 50,000 school leavers entering the labor market each year. In addition, it must continue exploring options to secure reliable gas import channels, whether in the form of pipeline imports from Iran or LNG regasification projects.

For Oman to meet its rising future energy requirements in the long to very long run, it will have to diversify its energy mix, boost efficiencies, and develop new resources such as tight and shale gas, all of which will require the support of a robust R&D ecosystem. It may also need to look at adding coal and nuclear to its energy portfolio, while Gulf States need to move closer on drawing up a regional energy strategy.

Oman's limitations on gas feedstock in particular mean the country will have to reassess future allocations, i.e. whether to provide more gas for downstream industries and power generation, or use it to generate revenues from LNG exports. Like other countries in the Gulf, Oman has developed few renewable energy projects despite the pressing need for additional power capacity, and the potential for solar and wind energy.

Energy infrastructure integration can go a long way increasing efficiencies and helping better manage supply and demand. In the GCC countries, which are connected through a common electricity grid, the potential for closer integration is immense but remains largely untapped.

Workshop Structure

WORKING BREAKFAST				
STREAM 1	STREAM 2	STREAM 3	STREAM 4	STREAM 5
SESSION A Shortlist Top 5 Recommendations <i>Energy Supply</i>	SESSION A Shortlist Top 5 Recommendations <i>Energy Demand</i>	SESSION A Shortlist Top 5 Recommendations <i>Research & Development</i>	SESSION A Shortlist Top 5 Recommendations <i>Aligning Academia & Industry</i>	SESSION A Shortlist Top 5 Recommendations <i>Water-Food-Energy Nexus</i>
Participants Move to Session B				
SESSION B Top 5 Recommendations Shortlisted to 3 <i>Energy Supply</i>	SESSION B Top 5 Recommendations Shortlisted to 3 <i>Energy Demand</i>	SESSION B Top 5 Recommendations Shortlisted to 3 <i>Research & Development</i>	SESSION B Top 5 Recommendations Shortlisted to 3 <i>Aligning Academia & Industry</i>	SESSION B Top 5 Recommendations Shortlisted to 3 <i>Water-Food-Energy Nexus</i>
WORKING LUNCH				

Stream Rules & Format:

The Chatham House Rule will be invoked at the meeting to encourage openness and the sharing of information: When a meeting, or part thereof, is held under the Chatham House Rule, participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed.

OPEN MIC: Following the Welcome Note and Problem Statement by the Host, Moderator & Facilitators, the Stream structure will follow an Open Floor format whereby all participants will be encouraged to Pro-Actively engage in the free flowing conversation and not wait to be called upon to speak.

COME PREPARED WITH RECOMMENDATIONS: All Participants in the Streams will be encouraged to come to the table with "Recommended Strategies" in answer to the Stream's Critical Question.

In Session A: Shortlist 5 Recommendations

SHORTLISTING 5 RECOMMENDATIONS: The Session will be broken into 3 parts-

- Commentary from Host & Facilitators
- Open Mic with Recommendations Put Forward
- Voting on Recorded Recommendations with final shortlist of 5

In Session B: Reduce Shortlist from 5 to 3 Recommendations

SHORTLISTING 5 RECOMMENDATIONS: The Session will be broken into 3 parts-

- Commentary from Host on shortlist of 5
- Author of each of the 5 shortlisted recommendations will get 5 minutes to promote & defend their recommendation
- Voting on Recommendations to reduce Shortlist to 3

Workshop Streams



STREAM 1: Hosted by Shell Development Oman

Energy Supply

As the rest of the world grows more energy efficient in economic terms, most of the GCC is going the other way, using ever more energy to produce a unit of economic growth and becoming less competitive in the process. The situation in Oman is no less stark. For Oman to meet its rising future energy requirements in the long run, it will have to diversify its energy mix, boost efficiencies, and develop new resources such as tight and shale gas. It may also need to look at adding coal and nuclear to its energy portfolio. **What are the Top 5 Recommended Strategies to Sustain Oman's Position as an Oil & Gas Exporter Through to 2040?**

Host: Chris Breeze, General Manager and Country Chairman, Shell Development Oman (SDO)

- Dr. Rabia Ferroukhi, Deputy Director - Knowledge, Policy and Finance Centre, International Renewable Energy Agency (IRENA)
 - Daniel Palmer, Vice President of Sales, GlassPoint Solar
- Moderator: Marcus George, Gulf Intelligence



STREAM 2: Hosted by Gulf Intelligence

Energy Demand

Research from a Saudi investment bank found that the kingdom uses 10 times the oil to produce a unit of GDP than the global average. The situation in neighboring Oman is no less stark. If these long-term consumption trends continue, the Gulf States are forecast to be just a few decades away from relinquishing their long-held roles as global energy suppliers. At the same time, the prodigious burning of fossil fuels in the Gulf and neighboring exporting states of the Middle East has also caught the world's attention as a major and fast-growing source of greenhouse gases.

What are the Top 5 Recommendations for Tackling Oman's Domestic Energy Demand & Consumption over the Next 25 Years?

Moderator: Albert Stromquist, Partner & MD, Lanström Advisors



STREAM 3: Hosted by Sultan Qaboos University

Research & Development

Pursuing innovation to foster long-term economic growth and generate job opportunities for the region's young and growing populations has become a top priority for governments in the Gulf region in recent years. In an increasingly globalised world, a country's competitive edge and ability to attract foreign investment will largely be determined by its ability to gain competitive advantages through innovations. This makes the investment into research and development (R&D) a necessity, not an option. In the energy sector, the creation of R&D into a value added knowledge economy, while at the same time delivering technological solutions for the post-easy oil era. National oil companies (NOCs) have the capacity and capability to be at the forefront of driving this type of R&D in collaboration with academia. **What are the top 5 recommendations needed for Aligning Academia and Industry to develop an enhanced R&D Ecosystem in Oman?**

Host & Moderator: Dr. Yahya Al-Wahaibi, Director of Oil & Gas Research Center, Sultan Qaboos University

- Dr. Nasser Saqer Al Mohannadi, Senior Advisor, Qatar Petroleum
- Dr. Issa Al Amri, Director of DARIS, University of Nizwa

Workshop Streams



STREAM 4: Hosted by Petroleum Development Oman

Aligning Academia & Industry

As the world continues to make advancements in areas like technology or science, new jobs are cropping up that employers need to hire for. However, these jobs are proving more difficult to fill since they require particular skills that potential employees haven't even thought of or developed yet. It can be difficult for academia to focus their programs on developing all the skills one could need in the future if they don't know what all of those skills will be. Are university graduates equipped with the skills and degrees that employers in Oman's energy sector already need, never mind future jobs that we don't even know about yet. **What are the Top 5 Recommended Strategies that Need to be Adopted to Align Academia & Industry to Meet Oman's Future Labor Market Requirement?**

Host: Raoul Restucci, Managing Director, Petroleum Development Oman

- Faten Hani, Director, University of Oman Project
 - Dr. Kathryn Chang Barker, Higher Education Expert Consultant, Supreme Education Council in Qatar
- Moderator: Sean Evers, Managing Partner, Gulf Intelligence



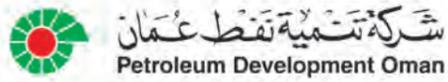
STREAM 5: Hosted by LR Senergy

Water-Food-Energy Nexus

The responsible governance of limited natural resources is imperative in a region which has an interdependent system for the production of energy, water and food. Despite this interconnectedness and growing stress levels, water energy and food are mismanaged and isolated from each other without the consideration of potential synergies for efficiency. In Oman, one of the world's most arid climates, runaway domestic energy demand coupled with soaring water requirements and rapid population growth are putting strains on the political and financial resources of the Sultanate. As a result Oman has come under pressure to create a robust infrastructure for water-energy-food and resource management – how can Oman foster good governance over the water energy food nexus? **Oman is reaching, and many would say has already exceeded, the sustainable limit of resource availability – What are the Top 5 Recommended innovative solutions to achieve sustainable growth?**

Host & Moderator: James McCallum, CEO & Chairman, LR Senergy

- Dr. Richard Soppe, Senior Water Management Scientist, ICBA



Stream Host

Petroleum Development Oman (PDO) is the major hydrocarbon exploration and production company in the Sultanate of Oman. It accounts for about 70 % of the country's crude oil production and nearly all of its natural gas supply. Gas fields and processing plants are operated by PDO exclusively on behalf of the Government.

PDO is a limited liability company which is owned by the Government of Oman (which has a 60 % interest), the Shell Group (34 %), Total (4 %) and Partex (2 %), and operates on a no-profit, no-loss basis and is officially revenue-neutral. Our mission is to find, develop and produce oil and gas responsibly, and profitably, in order to contribute to the sustainable development of Oman to the benefit of all stakeholders. Indeed, we are the custodians of the major source of national income and one of the largest private sector employers in Oman. We manage a large and diverse portfolio of oilfields in terms of field sizes, reservoir and oil types, development methods and maturity and aims to improve the recovery factor of hydrocarbons through the application of a combination of water floods, world-leading well and reservoir management, the latest innovative technology and pioneering enhanced oil recovery (EOR) techniques.

The Company has become a global pioneer in EOR due to its maturing asset base and the complexity and challenging nature of Oman's geology and the three main methods it currently uses are thermal, chemical and gas.



Raoul Restucci

Managing Director, Petroleum Development Oman

Raoul started his career in Shell International in 1980, following his graduation from Nottingham University in the UK with a degree in mining engineering. After working in The Hague in production technology, he held several positions in Brunei in the areas of well-site operations, production engineering and economics, before moving to Qatar Petroleum as head of Economics and Planning, followed by Production Technology and later as Petroleum Engineering Manager at Al Furat Petroleum Company in Syria. Following this, Raoul served Shell in several other senior positions; he later was appointed Executive Vice President for Middle East, Russia and CIS, of Shell E&P Middle East based in Dubai, and was a member of PDO's Board of Directors representing Shell. He assumed the role of Managing Director in October 2010 and in this position is responsible for the day-to-day management of the Company in accordance with the programme and within the budget approved by the Board of Directors. Raoul is married with three children. He enjoys sailing and playing golf "off the fairway".



Stream Host

Since its inception in 1986, Sultan Qaboos University was dedicated to realizing its vision of becoming internationally recognized for its high quality graduates, research and community service and attaining and maintaining the status of Oman's house of expertise.

SQU is currently providing high quality education through nine colleges accommodating more than 15,000 undergraduate students and around 1500 postgraduate students. The SQU hospital which is opened by His majesty Sultan Qaboos Bin Said in February 1990 is considered as one of the leading hospitals in the region in teaching, research and health care. It has 528 beds and plans for further expansion. In addition to that, the University has currently ten research centers and eight support centers. The University has paid special attention to research, which is considered by SQU as a key pillar of its scientific and academic reputation, serving the economic and social needs of the country. It has made constant efforts and provided the resources for creating a research environment which would help develop its activities, publish their results and disseminate them. As such, SQU is committed to contributing to the generation of knowledge and scientific solutions for the benefit of local as well as global communities.



Dr. Yahya Al-Wahaibi

Director of Oil & Gas Research Center,
Sultan Qaboos University

Yahya Al-Wahaibi is associate professor of petroleum engineering and the Director of Oil and Gas Research Center at Sultan Qaboos University. Prior to this he served as Head of the Petroleum and Chemical Engineering Department. His research interests encompass the enhanced oil recovery of heavy and conventional oils and multiphase flow in pipelines. He performs experimental, theoretical and numerical research into many aspects of flow and transport in porous systems. He has over 100 scientific publications in these fields. He served as main supervisor/co-supervisor for 25 M.S. students and 15 PhD students who received number of regional and international awards. Since he started at SQU, his research has attracted over US \$ 9 million in grants and contracts, which were used mainly to establish/develop number of research and service laboratories at SQU. He was awarded by SQU the "best researcher" award in 2010. Al-Wahaibi holds a BS degree from Sultan Qaboos University, an MS degree from Heriot-Watt University, and a PhD degree from Imperial College London, all in petroleum engineering.



Stream Host

Shell Development Oman LLC provides a central point for co-ordination of all Shell activities and interests in the Sultanate of Oman. A dedicated Shell Representative office was established in 2002, creating for the first time in Oman a Shell identity independent from the different joint venture companies in which Shell has been proud to participate over many years. Led by the Shell County Chairman for Oman, the Representative Office undertook the dual role of representing Shell and acted as a long-standing corporate citizen of the Sultanate by providing a conduit for a broad range of social investment schemes, including the successful Intilaaqah programme. The broad range of activities undertaken by the office from social investment through to learning and technology sharing continually grew and to enable Shell to further expand its efforts to support the development objectives of the Sultanate, the Representative Office was transitioned to a limited liability company on 1 March 2008. This change continues to show our long-term commitment to the sustainable development of Oman.

Shell Development Oman LLC continues the dual role of representing Shell and contributing to the sustainable development of Oman (as the previous Representative Office did). Shell Development Oman's purpose is to:

- Leverage Shell's global expertise to help ensure our Omani partner companies remain world class,
- Implement our social investment programmes, and
- Seek new opportunities to contribute to the development of the Omani energy sector, the country and its people.

About Shell in Oman

Shell is active in Oman across the oil and gas industry and is involved in joint venture and independent activities ranging from research and development, exploration and production to trading and retail. Shell also implements extensive social investment programmes that contribute to the sustainable development of the country.



Chris Breeze

Country Chairman, Shell Development Oman

Chris Breeze is Shell's Country Chairman in Oman. Before being appointed to this role, he was Senior Adviser for the Middle East and North Africa (MENA) at Shell's Government Relations department. Earlier, Chris served as a diplomat in the UK Foreign and Commonwealth Office, with postings in Egypt, Turkey, India, and Cyprus. He studied Modern History and Economics at Exeter College, Oxford University. He studied Modern History and Economics at Exeter College, Oxford University.

Stream Host



LR Senergy is a global integrated exploration, production and energy services consultancy, providing technical expertise to a broad client base of operators, investors and energy vendors. Its core areas of knowledge include wells, production optimisation, geoscience, facilities engineering and alternative energy solutions, with services spanning the complete asset life cycle, from reservoir to refinery and beyond. The company also develops and supports innovative software technologies as well as delivering a suite of technical training courses. Established in 2005, the company became LR Senergy after becoming part of the Lloyd's Register Group in 2013, and has a global talent pool of around 600 people across a network of locations in the UK, the Middle East, Australia, South East Asia and the Americas.

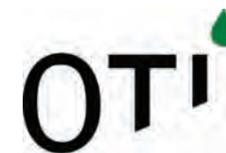


James McCallum

CEO and Chairman, LR Senergy Group

In 2005, James McCallum became CEO and co-founder of Senergy. He is responsible for providing direction and leadership to implement Senergy's strategy and achieve its vision – to be one of the most respected brands associated with the supply and delivery of energy. James has over 20 years' experience in well engineering, well construction management and business management, including 14 years with UK and international operators. He was founder and president of the North Sea's leading turnkey wells project management company, GMIS, an active member of the joint industry/UK government task force scheme Pilot from 1997–2002, and co-creator of Scotland's renewable energy task force FREDS. In September 2013, the UK's Lloyd's Register Group (LR) acquired a controlling share of Senergy, making James the CEO and Chairman of the LR Senergy Group. James is also a Fellow of the Institute of Civil Engineers and Professor of Energy at Strathclyde University.

Industry Partner



Oman Trading International Company Ltd. (OTI) is located in The Dubai International Financial Centre, Dubai, United Arab Emirates. OTI was jointly founded by the Oman Oil Company and the Vitol Group; two formidable forces that have carved a niche for themselves in the global energy market. OTI's key role is to trade oil, petroleum products, and petrochemicals in the global market place through its extensive trading & marketing network. With 5 offices, in the Middle East, Singapore, China and Europe, OTI is a fully fledged trading entity with access to all necessary trading tools, adding value to all stakeholders.



Talal Al Awfi

Chief Executive Officer, Oman Trading International

Talal Al Awfi is currently the CEO of Oman Trading International, the joint venture company between Oman Oil Company and Vitol. He holds more than 15 years of experience in oil and petrochemical marketing and trading. He held several key positions including Directorship of the Marketing Department at the Ministry of Oil and Gas, during his tenure he helped set up several key companies and activities including Oman Shipping Company and Oman's third LNG Train, thereafter he joined Oman Oil Company, the investment arm of the government in the energy sector where he was involved in Project Management positions, thereafter initiated and help set-up Oman Trading International in 2005, now a recognised energy trading company in the region. He has been an active Board member of several companies covering diverse fields in the oil industry such as Oil production, refining, trading, shipping and petroleum distribution. Mr. Al Awfi holds a BSc (Hons) in Business and Finance in addition to a Masters Degree in Marketing (MSc) from Manchester UK



GlassPoint is the leading provider of solar steam generators to the oil and gas industry for applications such as Enhanced Oil Recovery (EOR). Oil operators worldwide deploy EOR to boost well productivity by up to 300%. By replacing gas-fired steam generation with solar, GlassPoint can reduce EOR gas consumption by up to 80%. The gas saved can be redirected to higher value uses such as LNG export, industrial development and power generation. GlassPoint's projects operate in global markets ranging from the Middle East to California. In September 2014, the State General Reserve Fund (SGRF), Oman's largest sovereign wealth fund administered by the Ministry of Finance, co-led a US\$53 million investment in GlassPoint with Royal Dutch Shell and other investors to accelerate the deployment of solar EOR in Oman throughout the region.



Daniel Palmer
Vice President of Sales, GlassPoint

Daniel works with leading oil companies to expand business opportunities for GlassPoint in the Middle East. He previously spent more than 20 years at Schlumberger, where he served several roles in marketing, business development and operations across the globe. He most recently served as Vice President of Sales and Marketing in the Middle East. Daniel is a member of the Society of Petroleum Engineers (SPE), holds a master's degree in engineering from the University of Cambridge and attended Heriot-Watt University for post-graduate studies in petroleum engineering.



Petrofac is a leading international service provider to the oil & gas production and processing industry, with a diverse client portfolio including many of the world's leading integrated, independent and national oil & gas companies. Petrofac is quoted on the London Stock Exchange (symbol: PFC). Petrofac designs and builds oil & gas facilities; operates, maintains and manages facilities and trains personnel; enhances production; and, where it can leverage its service capability, develops and co-invests in upstream and infrastructure projects. Petrofac's range of services meets its clients' needs across the full life cycle of oil & gas assets. With around 20,000 employees, Petrofac operates out of seven strategically located operational centres, in Aberdeen, Sharjah, Abu Dhabi, Woking, Chennai, Mumbai and Kuala Lumpur and has a further 24 offices worldwide. For additional information, please refer to the Petrofac website at www.petrofac.com



Raymond Richardson
Senior Vice President Country Manager, Petrofac

A Chartered Engineer and Fellow of the prestigious Institute of Mechanical Engineers with over 30 years' international operations experience, Ray has been with Petrofac for 15 years. He has extensive experience in the set-up and management of all aspects of Oil & Gas business organisation, successful direct and indirect management of large projects in international locations and multinational team environments. His appointment to the role of Country Manager in Oman recognises the five years of prior major project experience he has had in the Sultanate, the multiple and substantial projects and activities the company currently has in the country and the strategic importance of the Sultanate to the Group.

Big Data Technology Now Offers Unprecedented Analytical Clarity

By Ghassan Barghouth, VP Oil & Gas and Industrial Segments ME, Schneider Electric

Statoil's Johan Sverdrup giant oil field was the largest discovery in the World in 2011 and the fifth biggest ever in Norway. It is a giant offshore oilfield located 140 km West of Stavanger that remained undiscovered for the first 50 years of the Norwegian oil and gas industry, and it wasn't until the tools of Big Data matured sufficiently that one of the largest jewels on the Norwegian Continental Shelf emerged from beneath the sea, the Norwegian national oil company recently acknowledged.

Today's oil fields are increasingly connected from end-to-end, enabling companies to harvest and analyze ever-larger amounts of data generated by people and assets along the oil value chain in real time. Digital Oil Fields as they're commonly referred to – essentially integrated operation systems – help in reservoir and production optimization, and drilling and well completion among other processes. They speed up and allow more accurate analysis and decision making, and improve safety levels.

Big Data is emerging as the catch-all phrase that summarizes a massive velocity, variety, and volume of potentially vital data which is so complex that it needs super computers and customized applications as it can't be analyzed using traditional database and software techniques. In an oil and gas industry, more important than the Big Data, are the analytics, and the insights you can get from this data.

The use of Big Data analytics in the Gulf oil and gas industry is still in its infancy when compared to other regions like Europe and North America, but stands ready to be a game-changing technology.

According to the results of IDC's Middle East CIO Survey 2014, only three percent of the respondents had already implemented Big Data within their organisations and 32 percent were considering it for 2015. The implementation of Big Data means that the latest technology is being introduced to analyze, integrate, simulate and optimize operations across different assets in the supply chain from reservoir modelling, well production, artificial lift, surface facilities, processing and distribution.

Data mining is the traditional way of looking ahead by looking backwards, looking at big chunks of historic data to tell you what happened yesterday or last week, last month or last year. But if you can use a little bit of historic data and combine that with models and simulations of the system you were trying to achieve and use that to make forward predictions, then that's much more useful.

The new IT tools that technology companies are creating can enable national oil and gas companies to capture detailed data in real time by identifying reserve trends and improving field and plant performance by 6% to 8%, according to research by Bain & Company.

The importance of Big Data analytics was highlighted in a survey of 400 big data and analytics professionals, conducted by the Oil & Gas Financial Journal across many industries, which found that companies which employ intelligent analytics were twice as capable of being ranked in the top 25 percent in their industry on financial performance, five times faster to make decisions and three times more likely to execute intelligent decisions.

Moreover, with a significant number of knowledge workers retiring in the next few years, software and analytics will play a crucial role in retaining knowledge and closing the gap with decision-makers for safer and more efficient operations.

Knowing what the business value opportunities of big data and analytics is just the start. In the new energy era, companies will need to define an organisational model that encourages collaboration across the industry to improve big data function and secure reserves.

Notes



Future

2017 2018 2019 2020 2021 2022 2023 2024 2025 2026

2019 2020 2021 2022 2023 2024 2025 2026