EGYPS 2020 Review: Interviews and news from the biggest EGYPS so far

Pipeline
OIL & GAS NEWS

Issue 273 | March 2020 pipelineoilandgasnews.com

DIGITALISATION TAKING OFF IN THE ENERGY SECTOR

Exclusive

Craig Hayman Chief Executive Officer of AVEVA talks about why digital transformation is coming in a big way to the oil and gas sector

SHIPPING AND MARINE

P&O Maritime Logistics discusses how they are embracing digitalisation p32

DNV GL

Middle East focus from DNV GL's 10th global survey report p40

FEATURE TOPICS

Geo Focus Kazakhstan, Gas Detection and Compressors

CHALLENGE ACCEPTED

Finish wells earlier and produce longer.

As the leading wellbore and production solutions company, we integrate trusted technologies with innovative ideas to help you generate sustainable profitability.

Ready? We are.

weatherford.com

Inside this issue

Features

Cover Interview:

Digitalisation taking off in the energy sector
Craig Hayman Chief Executive Officer of AVEVA talks about why digital transformation is coming in a big way to the oil and gas sector
P6-8

Columns

Regulars:

EGYPS 2020 Review

A review of the biggest EGYPS with coverage from the conference and interviews with Bilfinger and Halliburton P24-31

Pipeline
OIL & GAS MAGAZINE

Publishing

Publisher
Scott Woodall

Sales Director
Raed Kaedbey

Editor-in-Chief
Julian Walker

Editor
Nadia Saleem

Contributors
Paul Carthy
Alexandre Andlauer
Joe Incontri
Ben Oudman

Art & Design
Alden Guevarra

Subscriptions
subscriptions@pipelineme.com

Advertising
PO Box 769256, Abu Dhabi, UAE
Tel: +971 4 438 0355
Fax: +971 4 438 0361
www.pipelineoilandgasnews.com

For information on submissions, please contact the editorial team at the below addresses

Advertising
sales@pipelineme.com

Marketing
marketing@pipelineme.com

Editorial
editorial@pipelineme.com

Design
design@pipelineme.com

Printed by
United Printing and Publishing

DMG World Media
Abu Dhabi Limited
(Media Zone Abu Dhabi Branch)
dmg events

Official Media Partner and Publisher of ADIPEC News
ADIPEC أديبك
Abu Dhabi International Petroleum Exhibition & Conference

Official Show Daily Partner
Gastech

twofour54 Abu Dhabi
media & entertainment hub

Editor-in-Chief's Welcome

Welcome to our March issue that has a special review of EGYPS which was the biggest show so far.

The whole world is gripped by the Coronavirus (COVID-19) epidemic that has now spread from its origins in China to around the world. This will have a direct impact on the energy sector and we have a special look at what the impact will be. What is clear is that oil and gas prices and demand will be sorely affected. We will be keeping an eye on the situation and providing analysis on our website.

We are back from Cairo and what a successful EGYPS this year was. We have in-depth coverage from the busy conference. What was clear from this year's show was that Egypt is really going after its goal of creating a regional gas hub. Egypt's Minister of Petroleum Eng. Tarek al Mulla signed a raft of new MoU's with oil majors that show Egypt really is attracting the biggest names in the industry. In addition to our coverage from the conference sessions, we have exhibitor news and interviews with Halliburton and Bilfinger.

One of the biggest gas finds in the UAE place at the start of the month in between the emirates of Dubai and Abu Dhabi. We cover the story fully in our news pages (p12). This find will be jointly developed by ADNOC and Dubai, which is significant and could start to a new era of cooperation in the UAE.

This month's cover interview is with the British software company AVEVA. Craig Hayman, the CEO, was very buoyant about his firm's outlook as digitalisation really takes hold in the energy sector. It was clear when I sat down with Craig that he is very passionate about how they can help companies achieve this digital transformation.

We are starting work on the first ADIPEC News edition in May. If you want to get involved, please do get in touch.

Julian Walker
Editor-in-Chief

Coronavirus takes its toll on oil, global economic growth

By: Nadia Saleem, Editor, Pipeline Oil and Gas News

Covid-19 (coronavirus) fears took oil on a roller coaster ride in February, as demand worries from within China have spread to a potential global economic toll.

A respite in the number of new cases was short-lived on the realisation that the Chinese government had changed the way it classified symptoms of the virus. Meanwhile, international cases are accelerating with South Korea, Italy and Iran taking a hit.

Cases in South Korea rose sharply and crossed 800 with the death toll rising to eight. Italy has seen 224 reported cases with five deaths, showing its vulnerability as the country with the sharpest rise in new cases in Europe.

Total coronavirus globally crossed 80,000 with the death toll at 2,619. China alone accounts for 77,345 cases and 2,592 deaths.

The International Monetary Fund (IMF) has warned of a moderate hit to global economic growth, which could worsen with the number of infections outside of China accelerating.

Crude has fallen on fears of a broader slowdown with Brent slipping from to US$56.84 per barrel on Feb. 24 from the month's start at $60.69. With the IMF predicting that only 0.1 per cent will be shaved off global growth as things stand, crude could fall further if the spread accelerates outside of China.

The International Energy Agency recently also lowered its view on world oil demand growth to the lowest level since 2011 due to the coronavirus outbreak. The IEA cut its growth forecast for 2020 by 365,000 barrels a day to 825,000 barrel a day.

Separately, China in early February said it would halve additional tariffs levied against some 1,717 U.S. goods last year, following the signing of a Phase 1 deal to halt the trade war.

The announcement reciprocates the U.S. commitment under the deal. China's finance ministry said that starting Feb. 14, additional tariffs levied on some goods will be cut to 5 per cent from 10 per cent and others lowered to 2.5 per cent from 5 per cent.

The value of the goods affected by the decision was not disclosed, but the products affected by the new rule are among $75 billion of goods hit by Chinese tariffs of 5 per cent to 10 per cent tariffs that came into effect last year.

Coronavirus Cases: 82,419	
Deaths: 2,808	Active Cases 46,505
Recovered: 33,106	Closed Cases 35,914

Date: As of Feb 27

In response to the spread of the virus in early February, the Organization of the Petroleum Exporting Countries (OPEC) and a non-OPEC technical panel recommended extending a current agreement to reduce oil supply until the end of 2020.

The committee also recommended a further adjustment in production until the end of the second quarter of 2020.

Russia, a key ally in the production cuts deal, is so far on the side-lines of this new recommendation, with the energy minister saying there is no need to rush a decision before a planned March meeting.

OPEC's crude oil production in January fell by 509,000 barrels per day to average 28.86 million bpd, according to secondary resources quoted in OPEC's Monthly Oil Market Report released in February.

On a positive note, the UAE announced a major new discovery of 80 trillion standard cubic feet (tscf) of shallow gas resources in Abu Dhabi and Dubai, which will be jointly developed by ADNOC and Dubai Supply Authority (DUSUP).

The joint-development deal with see the resources developed in the area between Abu Dhabi's Saih Al Sidirah and Dubai's Jebel Ali in a joint project named 'Jebel Ali'.

Meanwhile, global oil and gas major BP switched gears on its approach to exploration and production with the new CEO Bernard Looney announcing the company will reduce greenhouse gas emissions to net zero by 2050 or sooner from its worldwide operations. He also vowed to help the world get to net zero.

To deliver all this, BP will fundamentally transform its whole organisation, and maintain its commitment to performing while transforming, signifying a very different approach for the company under predecessor Bob Dudley.

DIGITALISATION TAKING OFF IN THE ENERGY SECTOR

Craig Hayman Chief Executive Officer of AVEVA, the engineering and industrial software company, spoke exclusively to Julian Walker about why digital transformation is coming in a big way to the energy sector and how it can benefit companies and customers alike

AVEVA is a software company focused on the industrial sector for over 50 years. It started out of Cambridge University in the UK and it is proud of its academic heritage.

"We employ over 70 people with PhDs and have over 4,000 employees," said Hayman.

The firm is listed on the London Stock Exchange. In the last two years, its business has tripled in size in terms of revenue and in the last 12 months, its market capitalisation has doubled. AVEVA's revenue is about a billion dollars a year.

"I think our focus on our customers and the digitalisation of the industrial sector is one of the reasons for our success. We have a major shareholder in Schneider Electric who has a 60 per cent stake and they are also a business partner. We have benefited from this coming together," he said.

Hayman touched on the merger in March 2018 with Schneider Electric's industrial software business.

"Together, Schneider Electric and AVEVA form a complete enterprise solution that goes beyond compatibility – there is a shared history and close relationship driving mutual innovation and product optimisation. Since combining with Schneider Electric nearly 24 months ago, AVEVA is positioned as the first company in the engineering and industrial software market to comprehensively address the end-to-end digital transformation imperatives with an integrated portfolio of solutions that deliver efficiency, unlock value and empower people across the lifecycle of capital assets and operational value chains."

He added: "By joining Schneider Electric's energy management and automation systems with AVEVA's software, customers are able to benefit from solutions, which boosts visibility and control across the entire industrial lifecycle. Our integrated portfolio capability harnesses the power of technologies such as artificial intelligence, extended reality (XR), digital twin and cloud computing, coupled with the rich functionality of its industry leading applications. This capability enables companies to realise capital project efficiency, edge to enterprise visualisation, optimised value chains, safe and reliable operations, and a workforce empowered with actionable decision support."

> The Middle East is an exciting region to be in with visionary projects that are leading the way.

Digital transformation

The energy industry is really starting to see digital transformation take place and Hayman believes this is long overdue.

"The energy industry is one of the last industries to use digital technology at scale. So if you think about the major technology trends like AI, cloud computing, machine learning and big data, these trends allow the energy sector to transform themselves to be substantially digital now but other industries have been using these tools. Now it is the turn of the energy sector to embrace digitalisation," he explained.

"Cloud computing helps reduce the cost of delivering technology to an all-time low. Digital trends such as AI and machine learning are impacting all of our lives. Now applying these technologies to the oil and gas sector is having a transformative effect on the industry. Two years ago many of our customers were just beginning to understand industry 4.0 and digital twin. Now most of our oil and gas customers have begun their own digital transformation journey."

The digital transformation journey that many energy firms are now undertaking is a major reason why AVEVA has had a successful last few years.

"Innovations within the energy sector is moving rapidly and our customers are looking for a partner to help them go through the transformational journey," said Hayman.

Focusing on digitalisation

AVEVA is looking to provide innovative industrial software to transform the oil and gas industry.

"Our software solutions and platform enable the design and management of complex industrial assets deploying Industrial IoT (IIoT), Big Data and Artificial Intelligence to digitally transform industries. Our portfolio provides a digital thread across the capital asset lifecycle and operational value chains, providing real-time access to relevant and useable information at every stage and enabling customers to automate actions and make more informed decisions that help to create new ways to deliver cost savings or production efficiencies, reduce risk and to maximise margins. Through a combination of digital transformation and human insights, we help organisations manage and design assets more efficiently, increase output, reduce maintenance costs, increase safety and reach their sustainability goals."

AVEVA is not just sitting on its laurels when it comes to talking about innovative technology. The UK firm spends a lot of time and resources on research and development.

"We spend US$130 million a year on research and development. Most of this goes into new capabilities, new products. We have 150 teams of ten people and every 90 days we re-prioritise what the teams work on based on feedback from the customer. This allows us to deliver a lot of innovation," explained Hayman.

Middle East Focus

AVEVA sees the Middle East as an important growth area and the UAE is one of the fastest growing parts of the business.

"The Middle East is an exciting region to be in with visionary projects that are leading the way. They include companies such as ADNOC, Saudi Aramco and NPCC, which have incredible teams that are driving digital rapidly. They are being noticed globally for the aggressive stance in their digital approach," said Hayman.

Digital investment priorities

AVEVA recently conducted a global survey to identify the key investment drivers for digital transformation. The survey was conducted with 1,240 decision makers in ten countries in EMEA, North America and APAC across nine industry verticals.

"The focus was on what are the priorities around digital transformation because we are trying to understand how companies are thinking about it," explained Hayman.

The research showed that there is a strong demand across both industries and markets to implement advanced technologies such as Artificial Intelligence (AI) and data visualisation to make sense of vast data streams in real time, with 75 per cent of respondents globally prioritising investment in AI and analytics.

Hayman talked about how the survey identified three key global investment priorities for companies when it comes to embarking upon the digital

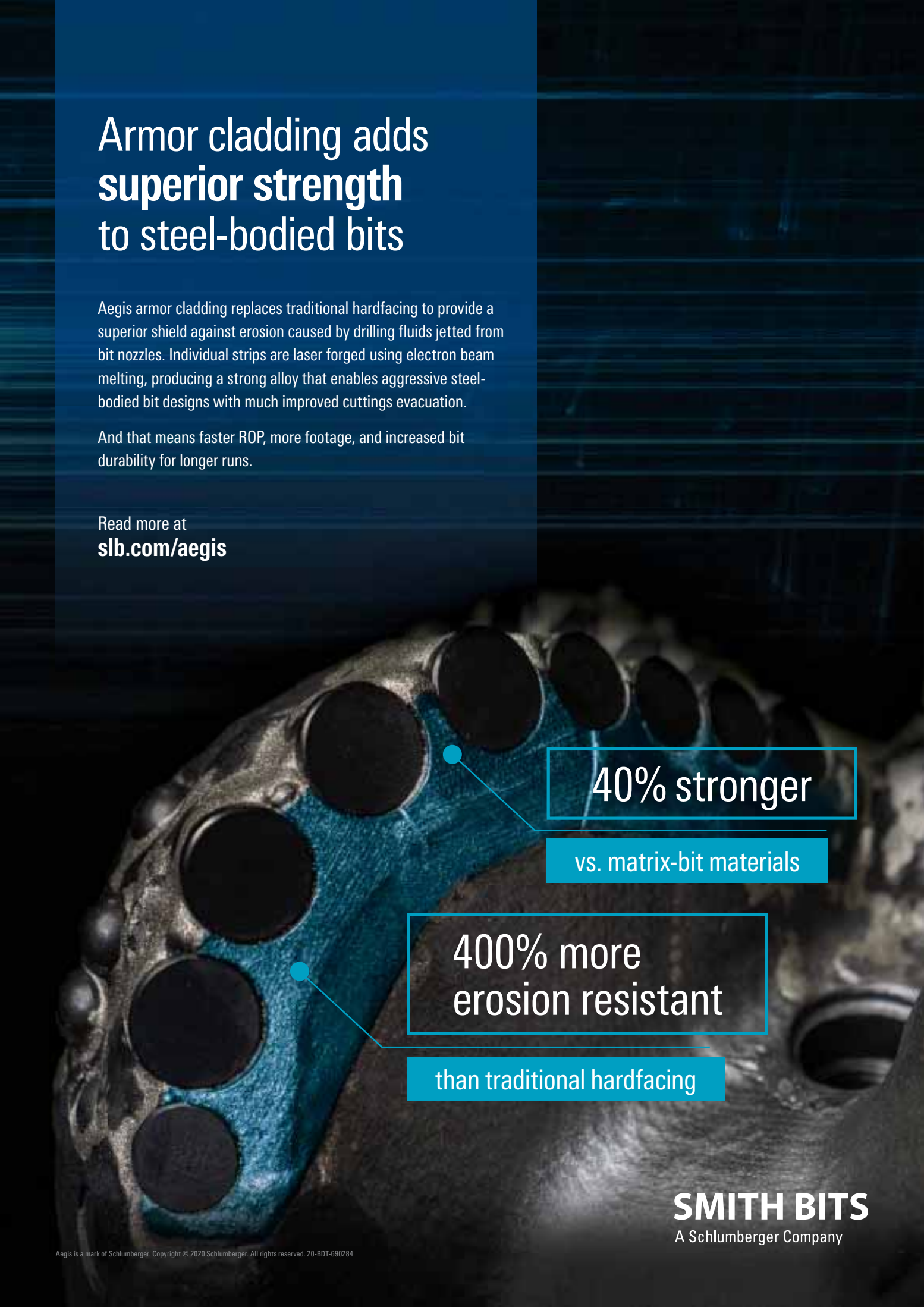
> The energy industry is one of the last industries to use digital technology at scale. So if you think about the major technology trends like AI, cloud computing, machine learning and big data, these trends allow the energy sector to transform themselves to be substantially digital now

Armor cladding adds **superior strength** to steel-bodied bits

Aegis armor cladding replaces traditional hardfacing to provide a superior shield against erosion caused by drilling fluids jetted from bit nozzles. Individual strips are laser forged using electron beam melting, producing a strong alloy that enables aggressive steel-bodied bit designs with much improved cuttings evacuation.

And that means faster ROP, more footage, and increased bit durability for longer runs.

Read more at
slb.com/aegis



SMITH BITS
A Schlumberger Company

transformation journey.

The first priority focused around making sense of data, AI and real time data visualisation.

"Our survey found that there is a lot more focus on data visualisation here in the UAE, while the rest of the world put AI as more important. In fact, Middle East organisations put 3D visualisation at double the importance compared to the rest of the world. They also put IoT/Edge at double the level of importance versus the rest of the world," noted Hayman.

The second focus was around fostering collaboration in advanced process and engineering design.

For example, advanced process and engineering design was the second most important technology (74 per cent) and was in the top three technology priorities across all industries globally, scoring highest among engineering, procurement and construction professionals.

"I think the digital data between the design of a facility and the handover/operations has been siloed in the past. What we are seeing now is that operators want not just the physical handover but the digital as well. We can see the digital transformation help break silos," he said.

The third focus was on setting up cyber security and safety capabilities.

Hayman mentioned that the survey showed improving safety and security through technology investment was a priority across all regions, with the Middle East (68 per cent), Australia (63 per cent) and India (60 per cent) particularly highlighting this issue.

> Since combining with Schneider Electric nearly 24 months ago, AVEVA is positioned as the first company in the engineering and industrial software market to comprehensively address the end-to-end digital transformation

Energy outlook

The oil and gas sector is the largest contributor to AVEVA's revenue, according to Hayman.

"Out of the 45 per cent revenue generated from this sector, 10 per cent is generated from Capex linked to manufacturing of plants and refineries, and 35 per cent is generated from Opex linked to operational improvements."

What Hayman is seeing in the energy sector though is that globally the turnover of the oil and gas industry has been steadily declining due to macroeconomic conditions.

"A few years ago, the total capital spending on projects by this market segment was $450 billion per annum. Since then it has fallen to $250 billion, but remains steady at $250 billion. There is huge growth potential for our services as currently the amount of digital penetration in this industry is small and oil and gas companies are definitely investing in accelerating their digital transformation initiatives," Hayman said.

Hayman did end by saying that AVEVA was getting better at operating as a business and the numbers reflect that.

"We have said that over the medium term (three years) we are going to grow our top line revenue above the market. We are growing our margins by 30 per cent. Subscriptions/reoccurring revenues make up about 16 per cent of our revenue. We said we would grow our reoccurring revenue in three years and we have achieved our 16 per cent goal two years early. I think this is a sign that companies want to have access to data."

المنصوري
ALMANSOORI

Team AlMansoori proudly introduces

"SMART Well Testing"

Fully Integrated Automated Trailer Mounted Well Testing Unit

This fully integrated automated trailer mounted well testing unit can be operated from any location around the globe. The system provides real time field process data, well test reports and process parameter trends.

HSE – Efficiency – Mobility

Contact
Ehab El Mantawi +971 56 6161963
Engineering Manager EElMantawi@almansoori.biz

New major gas find in UAE to be jointly developed by ADNOC and Dubai

The UAE has discovered 80 trillion standard cubic feet (tscf) of shallow gas resources in Abu Dhabi and Dubai, which will be jointly developed by ADNOC and Dubai Supply Authority (DUSUP).

Abu Dhabi National Oil Company (ADNOC) said that it signed an agreement with DUSUP to explore and develop the shallow gas resources in the area between Abu Dhabi's Saih Al Sidirah and Dubai's Jebel Ali in a joint project named 'Jebel Ali'.

This signing of the agreement was witnessed by His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the United Arab Emirates (UAE) and Ruler of Dubai, and His Highness Sheikh Mohamed bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Supreme Commander of the UAE Armed Forces.

The agreement was signed by H.H. Sheikh Ahmed bin Saeed Al Maktoum, Director General of DUSUP, and His Excellency Dr. Sultan Ahmed Al Jaber, UAE Minister of State and ADNOC Group CEO.

The discovery of the 80 TSCF of shallow gas resources was made within an area of 5,000 square kilometres between the two emirates with ADNOC drilling more than 10 exploration and appraisal wells, signifying the first time ADNOC has explored for hydrocarbon resources in Dubai.

H.H. Sheikh Ahmed bin Saeed said: "The agreement is an important step forward in further enhancing cooperation and tapping synergies to maximise the UAE's resources, as part of our leadership's vision for the next 50-year phase of development. This partnership enables our organisations to combine each other's capabilities to capture the greatest possible benefits from the UAE's hydrocarbon assets.

> The strategic cooperation agreement between ADNOC and DUSUP is a natural evolution of our shared commitment to harness energy resources in the service of the UAE.

"We look forward to working closely with ADNOC to further explore gas resources in the area between Abu Dhabi and Dubai as part of diversifying our energy resources. This collaboration will contribute to raising our long-term energy security, which is crucial to realising our aspirations in a new economic era of growth to be a leader in shaping the future of the region and the world, as well as enhancing the happiness and welfare of our people."

H.E. Dr. Al Jaber said: "The discovery of shallow gas resources between Abu Dhabi and Dubai is a result of ADNOC's drive to implement the leadership's wise directives to efficiently accelerate the exploration and development of the UAE's vast untapped hydrocarbon resources and maximise its value for the benefit of the nation. It reinforces ADNOC's commitment to ensuring a sustainable and economic gas supply and achieving gas self-sufficiency.

"The strategic cooperation agreement between ADNOC and DUSUP is a natural evolution of our shared commitment to harness energy resources in the service of the UAE. We look forward to swiftly progressing the ongoing work and further exploring, appraising and developing the area by leveraging ADNOC's best-in-class expertise and innovative technologies to ensure the success of the project. We see significant potential in this joint project to create long-term and enduring value for the nation."

Liam Yates, an analyst on Wood Mackenzie's Middle East upstream team, said: "The find ranks as the largest global gas discovery since Galkynysh (South Iolotan), in 2005. The shallow nature of the find will mean that development costs will be much lower than some of Abu Dhabi's sour gas resources."

He added: "A discovery of this scale will be a clear priority for development, but the timing will be dependent on where it fits into the UAE's gas market. Large volumes of gas are associated with oil production, which is on the rise.

As part of the agreement, in collaboration with DUSUP, ADNOC will deploy capital, technology, and expertise to develop and produce shallow gas resources and conduct further exploration to assess further volumes and firm up development costs.

Mechanical Engineering & Contracting Co. w.l.l.

A member of Ali Alghanim & Sons Group of Companies

YES WE CAN

Mechanical Engineering & Contracting Company WLL provides total EPC solutions for Onshore Oil & Gas Sector which includes Engineering, Procurement, Fabrication, and Installation & Commissioning.

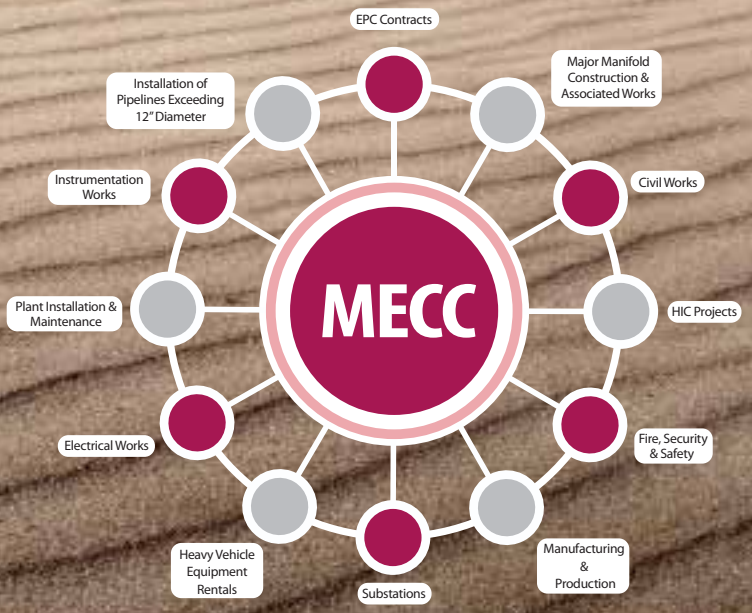
Today we are leading Contractors in major pipeline projects, civil works, major Equipment, plant installation & Operation and maintenance projects in the State of Kuwait

MECC is accredited to International Standards such as ISO-9001-2015 , ISO - 14001 & OSHAS -18001 in all company's operations to ensure delivering the client requirement in professional way.

Being a part of M/s ALI ALGHANIM & SONS GROUP , MECC is having advantage to utilize all available resources with the corporate setup

30 YEARS OF EXPERIENCE

What we do..



P.O.Box 9113 Ahmadi 61002 Kuwait • Tel +965 23970100, Fax +965 23984321
mecctenders@ali-alghanim.net, www.mecckw.com

ADNOC awards $1.65 bln construction contracts for Dalma gas project

Abu Dhabi National Oil Company (ADNOC) awarded two contracts worth US$1.65 billion for the construction of offshore facilities for the Dalma gas development project to Petrofac and its joint venture with Sapura Energy.

The two engineering, procurement and construction (EPC) contracts are expected to be completed in 2022 and will enable the Dalma Gas Development project to produce around 340 million standard cubic feet per day (mmscfd) of natural gas.

The Dalma project, located about 190 kilometers northwest of Abu Dhabi city, is a key part of the Ghasha ultra-sour gas concession which is central to ADNOC's strategic objective of enabling gas self-sufficiency for the United Arab Emirates (UAE).

Also, 70 per cent of the total award value will flow into the UAE's economy under ADNOC's In-Country Value (ICV) program, reinforcing ADNOC's commitment to maximising value for the UAE as it delivers its 2030 strategy.

Yaser Saeed Almazrouei, executive director of ADNOC's Upstream Directorate, said: "This award marks another important milestone in the development of the Ghasha concession which is an integral component of our strategy to achieve gas self-sufficiency for the UAE. It demonstrates how ADNOC is effectively collaborating with strategic partners that can deploy state-of-the-art technologies and world-class expertise to accelerate the development of Abu Dhabi's substantial gas resources.

Under the terms of one EPC contract valued at $591 million (AED 2.17 billion) and awarded to a joint venture (JV) between Petrofac and Sapura Energy, the JV will execute the engineering, procurement and construction of four offshore wellhead towers, pipelines and umbilicals in Hair Dalma, Satah, and Bu Haseer fields.

Saudi Aramco signs 66 agreements worth $21 bln

Saudi Aramco signed 66 partnerships agreements valued at more than US$21 billion with companies for work across the Saudi Arabian energy sector, including a $110 million joint venture with Baker Hughes.

The Memoranda of Understanding (MoUs and commercial collaborations included the following companies and entities: Hyundai Heavy Industry, Seimens, Aasia Steel, Oilfields Supply Center (OSC), Al-Khorayef Petroleum, Mitsubishi Hitachi Power Systems, Schneider Electric, Honeywell, Advanced Electronic Company (IT), XDM 3D Printing, Shengong New Materials, XINFOO and Saudi Exports Development Authority. Saudi Aramco signed these agreements at a forum for in-country-value (IKTVA) but did not say what each of the MoUs with the companies would focus on.

"IKTVA continues to open new doors of opportunity by enhancing the business environment for young Saudis, for entrepreneurs and for businesses, big and small," said Amin H. Nasser, Saudi Aramco President & CEO. "Ultimately, what counts is the impact it has on people's lives - that's iktva in action."

Additionally, Saudi Aramco signed a joint venture agreement with Baker Hughes to establish a 50/50 Non-Metallic Joint Venture (NM JV).

The joint venture will be a multi-sectorial non-metallic investment platform designed to innovate, develop and manufacture composite materials for both oil and gas as well as non-oil and gas applications.

The JV will leverage polymer materials and state-of-the-art manufacturing processes to deliver transformational non-metallic products, starting with Reinforced Thermoplastic Pipes (RTP) and an investment of around $US110 MM. The JV facility will be located at the King Salman Energy Park (SPARK), and will serve the MENA region.

Saudi Aramco's participation in the NM JV aims to help promote the use of RTPs which consume less energy and are less carbon intensive compared to conventional steel pipes. The NM JV is in line with Saudi Aramco's strategy to support R&D, and deploy lower carbon intensity applications and products that are derived from oil.

The IKTVA program has attracted 468 investments from 25 countries with an estimated capital expenditure of $6.5B, resulting in 44 industrial facilities completed to-date, with another 64 facilities under construction, Saudi Aramco said.

Demand for LNG grew in 2019, says Shell

Global demand for LNG grew by 12.5 per cent to 359 million tonnes in 2019, according to Shell's latest annual LNG Outlook.

"The global LNG market continued to evolve in 2019 with demand increasing for LNG and natural gas in power and non-power sectors," said Maarten Wetselaar, Integrated Gas and New Energies director at Shell. "Record supply investments will meet people's growing need for the most flexible and cleanest-burning fossil fuel."

"While we see weak market conditions today due to record new supply coming in, two successive mild winters and the Coronavirus situation, we expect equilibrium to return, driven by a combination of continued demand growth and reduction in new supply coming on-stream until the mid-2020s." Europe absorbed the majority of 2019 supply growth as competitively-priced LNG furthered coal-to-gas switching in the power sector and replaced declining domestic gas production and pipeline gas imports.

New spot-trading mechanisms and a wider variety of indices used for long-term contracts point towards LNG becoming an increasingly flexible commodity.

There was a modest rise in imports to Asia in 2019, compared to the previous two years, a result of mild weather and rising electricity generation from nuclear power in Japan and South Korea, two of the three largest global importers.

In China, LNG imports increased by 14 per cent in 2019 as efforts continued to improve urban air quality. Also notable was LNG demand growth in South Asia. In total, Bangladesh, India and Pakistan imported 36 million tonnes, an increase of 19 per cent over last year, pointing to emerging growth countries in Asia.

BP vows to cut greenhouse gas emissions by 2050

UK's BP has made an ambitious pledge to cut greenhouse gas emissions to net zero by 2050 or sooner, and to help the world get to net zero.

BP's new CEO Bernard Looney made the announcement by setting out 10 aims to achieve this goal.

"The purpose is underpinned by an industry-leading ambition – for BP to become a net zero company by 2050 or sooner, and to help the world get to net zero," BP said.

To deliver all this, BP will fundamentally transform its whole organisation, and maintain its commitment to performing while transforming.

Bernard Looney said: "The world's carbon budget is finite and running out fast; we need a rapid transition to net zero. We all want energy that is reliable and affordable, but that is no longer enough. It must also be cleaner. To deliver that, trillions of dollars will need to be invested in replumbing and rewiring the world's energy system. It will require nothing short of reimagining energy as we know it.

Helge Lund, BP's chairman, commented: "Energy markets are changing, driven by climate change, technology and societal expectations, and the Board supports Bernard and his new leadership team´s ambition for BP. Aiming for net zero is not only the right thing for BP, it is the right thing for our shareholders and for society more broadly.

Cybersecurity impacts upstream oil and gas industry business in 2019

By: Paul Carthy, Managing Director, Energy Industry Group – Middle East, Accenture

With today's evolving business landscape, staying up to date with emerging global digital trends is imperative to improving operations, increasing profits, being environment-friendly and planning for the future.

The upstream oil and gas industry is no different. Whether it is the geopolitical shifts to alternative energy sources or the transition from legacy industry processes and mindsets - we realize it's now more important than ever to examine how we can employ digital technologies in upstream businesses. What are the possible barriers and the likely benefits?

According to the seventh edition of the Accenture Upstream Oil and Gas Digital Trends Survey 2019 - a global survey of 255 industry professionals, including C-suite executives, function leaders and engineers - cybersecurity had the greatest impact on business performance in 2019.

Cybersecurity leads digital investments. Cybersecurity is now a boardroom-level concern that is monitored closely by governments, stakeholders and consumers. In 2019, this domain was the number one investment focus, with 61 per cent of survey respondents (a 49 per cent increase) indicating that they were investing in cybersecurity technologies for prevention and detection of threats. However, while cybersecurity has the greatest impact at present, big data/analytics, and artificial intelligence, are poised to take the lead in the future.

Moreover, based on our research, other key takeaways include:

1. Digital investments continue to increase. Digital remains a significant annual investment for upstream companies, in a bid to stay relevant and retain their competitive advantage. Digital investments are indeed key to unlocking business value. However, they should be geared towards achieving transformational changes that help businesses move beyond proofs of concept (POCs). Moreover, we are seeing leading upstream companies investing in digital to advance the energy transition and create more sustainable future business models.
2. Digital helps optimise core businesses. The survey respondents believe that digital solutions can make their upstream companies more agile. Most oil companies are looking to digital to help them reduce costs and make their operations more efficient. Through optimising their core upstream business, they work to become as lean as possible to compete in a challenging environment.
3. Upstream oil companies are not realising the full value of their digital investments. And the reason is not lack of good ideas or lack of POCs. The primary challenge is that oil businesses are unable to scale their digital solutions due to the absence of a clear and articulated strategy and the necessary base capabilities. Research indicates that companies need to define the 'true north' of their digital transformation strategies and then set up a 'base camp' of key capabilities to make it happen. This involves creating an operating model supported by new digital capabilities and skills, innovation to scale processes, digital platforms and ecosystem partners.
4. External skills and partnerships are key to unlocking the value of digital. Oil and gas companies are now realising that they lack some of the skills needed to unlock the value that digital can offer their businesses. Therefore, they are starting to tap into a broad external ecosystem of partners, such as startups and boutique organisations. We believe that upstream companies need to rethink not only with whom they work, but also how they work to leverage their partners' capabilities for innovation, co-creation and co-development that are so critical for digital transformation.

> Cybersecurity is now a boardroom-level concern that is monitored closely by governments, stakeholders and consumers.

Interestingly, the number of executives who said their companies plan to invest more or significantly more in digital technologies over the next three to five years - 72 per cent - was relatively unchanged compared to the 2017 survey (71 per cent).

Oil companies should invest robustly in digital so that they can remain competitive as the energy transition progresses and leading players continue to move to sustainable business models. As the challenges facing the industry increase, digital can allow oil companies to preserve their licenses to operate with greater transparency, enhanced safety measures and environmental friendliness.

Finally, investments in digital can help upstream oil and gas companies reduce costs and make faster and more informed decisions. However, as is the case with all industries today, only continuous skill development can enable them to realise their full potential.

CHEMIE•TECH

21 YEARS OF EXCELLENCE

Delivering projects in challenging locations, internationally

Bulk Storage Terminals

From concept to commissioning

- Global Multicultural Multinational Organisation
- The Capability to mobilise & execute in any country
- Experienced Management & Construction team resources in 10 countries
- In-house, Multi-disciplined Design & Construction Capabilities
- End to End Supply Chain Services
- Complete Project Lifecycle Solutions under one roof

Services;

- Conceptualisation
- Project Development
- Engineering
- Procurement
- Construction
- Commissioning
- Operations & Maintenance

Tel: +971-6-5530776 | **Fax:** +971-6-5538466 | **Email:** info@chemietech.com | **URL:** www.chemietech.com

Middle East . Africa . Asia . Europe . Americas

Shale oil production growth at an inflexion point

By: Alexandre Andlauer, Global Energy Research, Kpler

After years of high production growth, the U.S. unconventional sector is entering into a new phase. Since 2013, U.S. production has nearly doubled, mainly driven by independent shale players supported by the financial markets and private equity that valued production growth at any cost: companies spent 125 per cent of their cash flow, while never generating positive cash flow.

But investors' minds have changed: they are now asking for returns. As productivity gains slow down, capital becomes less available and production depletion rises, the U.S. shale industry has to adjust its business model. The growth phase is now at an end.

Capital constraint as a catalyst for changes to survive

One of the catalysts, and the timing of all these changes, has been capital constraint. As investors lose confidence over the long-term prospects of the oil and gas sector (economics & environmental), the valuation of the oil industry is now at an historical low point in the market; and IPOs are basically impossible.

As a result, private equity no longer invests as exit strategies look limited, leaving many independent shale players negotiating with banks to manage their cash flows and offset negative cash flow. In conclusion, the U.S. shale player has no other choice than to improve its financials (cutting capex, increasing volumes) to get loans even at a high cost with the interest rate 400-500 basis points above the average. Bankruptcy risks have increased with nearly $100 billion debt coming due with a peak in speculative grade maturities by 2022.

To end the spiral of rapidly-rising production, continual investment, and persistent negative free cash flow, cutting capital expenditure and operational costs have been the mantra for independent shale producers. For 2020, capex should be 20 per cent lower than in 2019, based on $55/bbl WTI on average. From a staffing point of view, the average headcount reduction is almost 1,000 heads per employer, or a 16 per cent cut.

Lower investment, lower growth, short-term gain

This adjustment arrives at a time when depletion is above 3mbpd in the U.S. shale patch. As a reminder, production can decrease by as much as 50 per cent in the first year and then by 20-30 per cent in the years after that, basically, a constant growth is needed simply to maintain a stable production profile. As production growth has been impressive over the last few years, so has the depletion. In the Permian Basin alone, the legacy change is around 250,000 bpd per month.

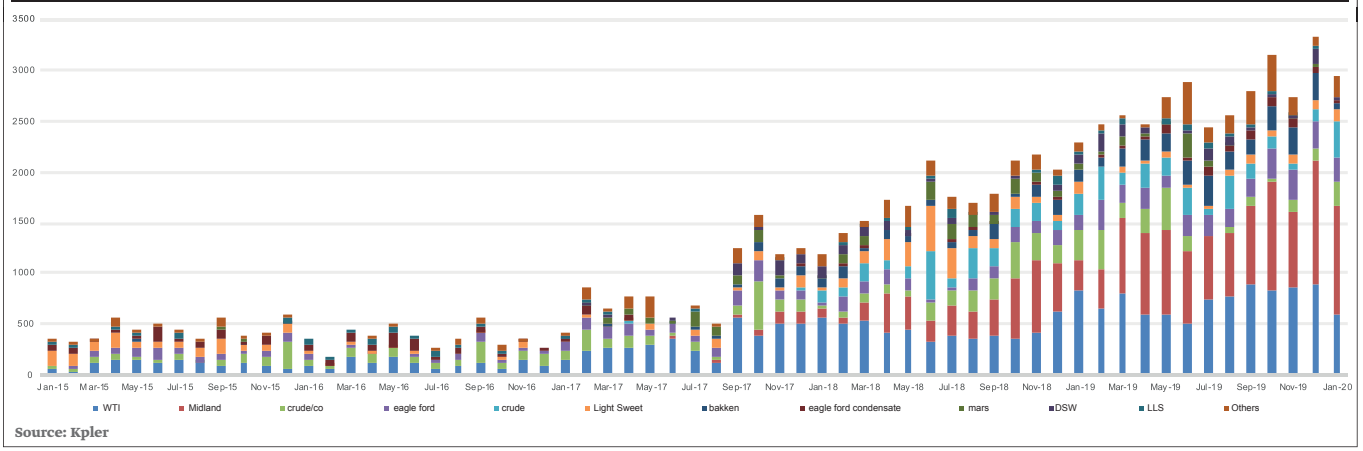
While short-term productivity might have been rising, we understand that many of the current practices to extract unconventional oil do not have the best economic value for the entire life of a well: laterals are too long, proppant volumes are too high, stage spacings are too close. Wells have been designed to maximise initial production and not optimal economic value.

The future of shale oil in majors hands

While Independent shale players look be the more efficient thanks to their operational flexibility, they miss the ability of large-scale value creation: manufacturing is key in well design, drilling and completion execution. On the other side, Big Oils do not perform as well on the operational side but are able to go for large-scale manufacturing while having less short-term pressure from investors.

Recent consolidations between players could be the solution to adapt to the new era of cash which requires a disciplined and relentless focus on capital efficiency and cash generation. As a reminder, for Chevron, the Permian Basin alone could account for 25 per cent of its own production and it expects to be fully free cash flow positive in the Permian in 2020 while continuing to drive development costs down, on both the capital and operating fronts. The future of shale now depends on what the Big Oil players will do.

US Oil Export



Source: Kpler

تحت رعاية صاحب السمو الشيخ خليفة بن زايد آل نهيان رئيس دولة الإمارات العربية المتحدة
UNDER THE PATRONAGE OF H.H. SHEIKH KHALIFA BIN ZAYED AL NAHYAN, PRESIDENT OF THE UNITED ARAB EMIRATES

أديبك ADIPEC

Host
أدنوك ADNOC

Abu Dhabi International Petroleum Exhibition & Conference
9 - 12 November 2020

ADIPEC 2020 TECHNICAL CALL FOR PAPERS

NOW OPEN www.adipec.com/cfp

WHY SUBMIT ABSTRACTS FOR THE TECHNICAL CONFERENCE?

Present your technical knowledge and experience to an international audience of industry colleagues.

Raise your company's technical profile at a global energy event.

Publish your paper on OnePetro.org, the online library serving the oil and gas industry.

Network with over 155,000 industry professionals across the event.

DON'T MISS THE OPPORTUNITY TO SPEAK AT THE WORLD'S LEADING OIL AND GAS TECHNICAL CONFERENCE

ADIPEC CONFERENCE IN NUMBERS

CONFERENCE DELEGATES
11,000+

CONFERENCE SPEAKERS
1,000+

CONFERENCE SESSIONS
160+

TECHNICAL CONFERENCE PROGRAMME CATEGORIES:

- OIL AND GAS 4.0: A JOURNEY TO ADAPT THE FUTURE OF THE OIL & GAS INDUSTRY, AIMING TO GRAND MASTER THE NEXT GENERATION OF IMPROVED OPERATIONS AND TECHNOLOGIES
- PEOPLE DEVELOPMENT AND DIVERSITY
- HEALTH AND SAFETY
- GEOSCIENCES
- OIL FIELD DEVELOPMENT & MANAGEMENT
- GAS FIELD DEVELOPMENT & MANAGEMENT
- UNCONVENTIONAL RESOURCES DEVELOPMENT
- ENHANCED OIL RECOVERY
- SUSTAINABLE SOLUTIONS FOR THE OIL & GAS INDUSTRY
- PROJECT MANAGEMENT
- SUPPLY CHAIN MANAGEMENT
- MARINE LOGISTICS AND OPERATIONS
- DRILLING OPERATIONS
- WELL COMPLETIONS
- OPERATIONAL EXCELLENCE
- PRODUCTION FACILITIES

www.adipec.com/cfp

ABSTRACT SUBMISSION DEADLINE 27 MARCH 2020

Supported by

Host City: Abu Dhabi
Venue Partner: ADNEC
Official Media Partner: Pipeline Oil & Gas News
Technical Conference organised by: SPE Society of Petroleum Engineers
ADIPEC organised by: dmg events

Chinese oil demand weighs on global econ growth, hits oil price

By: Nadia Saleem, Editor, Pipeline Oil and Gas News

Crude oil prices have taken a sharp hit in recent weeks, with Brent losing almost 10 per cent in February and 20 per cent so far this year as the covid-19 (coronavirus) hammered sentiment on fears of impact on global economy.

Chinese demand

Oil demand growth in China in 2020 is forecast to slow down, year-on-year, reflecting lower economic activities, according to the latest forecast by Organization of Petroleum Exporting Countries (OPEC).

OPEC said the recent outbreak of the coronavirus in China necessitated a further downward revision to the country's oil demand growth forecast compared to last month, as transportation fuels, notably aviation fuels, are expected to be impacted in the first half of 2020.

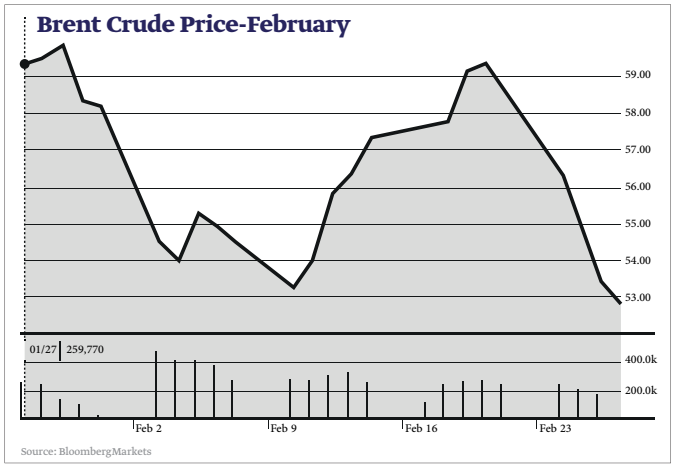
"The timing of the outbreak exacerbated the impact on transportation fuel demand in China, as it coincided with the Chinese Lunar New Year holidays, as millions of Chinese return home to celebrate with family members and friends, or travel abroad," an OPEC report said.

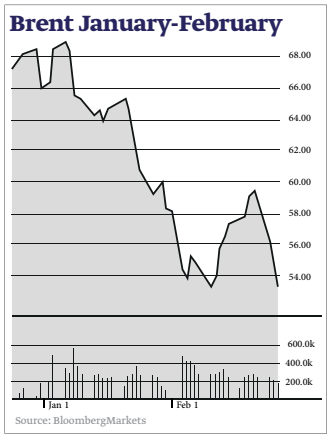
In recent years, transportation fuels, particularly jet fuel and gasoline, have been major sources of oil demand growth in China. In 2019, jet fuel was the largest growing petroleum product in the transportation sector in percentage terms, not just in China, but also globally.

Other than transportation, the Coronavirus outbreak has also affected the industrial sector, resulting in overall Chinese oil demand revised down by 200,000 barrels per day (bpd) in the first half of the year from the previous monthly forecast, resulting in an overall downward revision of 400,000 bpd in global oil demand growth in the first half of the year and a downward revision of 200,000 bpd for the whole year to grow at almost 1 million bpd.

This is in line with a downward revision to China's economic growth for 2020 by 0.5 pp to now stand at 5.4 per cent, according to OPEC.

The global oil demand revision follows





a downward revision in global economic growth, which was lowered to 3 per cent for 2020.

"The impact of the Coronavirus outbreak on China's economy has added to the uncertainties surrounding global economic growth in 2020, and by extension global oil demand growth in 2020. Clearly, the ongoing developments in China require continuous monitoring and assessment to gauge the implications on the oil market in 2020," OPEC said.

Brent and WTI spread

January saw the spread between the ICE Brent and NYMEX WTI benchmarks widened to $6.14 amid higher U.S. shale oil production, lower U.S. refinery runs, and a significant build in U.S. oil product stocks, according to EIA data.

U.S. gasoline and distillate fuel oil stocks rose by 46 million barrels between the week ending 6 December and the week ending 31 January, putting downward pressure on margins and crude oil prices. Lower demand of U.S. crude from the Asia Pacific also undermined U.S. crude values.

Meanwhile, February saw contraction with the spread reduced to $4.86 on Feb. 27 intraday trading.

Downward pressure on Brent came from contagion effect of the coronavirus in China and other Asian market, where Brent finds a lot of its market.

Although the impact of the virus has so far been contained in the U.S., there are fears that it could hit the country in the near-future as the epidemic escalates to a pandemic.

Additionally, in February, U.S. reported a much-smaller-than-expected rise in crude stocks, helping support the WTI.

U.S. Energy Information Administration (EIA) data showed crude inventories rose only 414,000 barrels in the second week of February, while U.S. gasoline stockpiles fell by about 2 million barrels. The data also showed that overall U.S. refinery utilisation rates rose 1.4 per cent.

Separately, the impact on the oil price is seen not to impact upstream projects but cash flow, according to Wood Mackenzie head of upstream analysis Fraser McKay. "We calculate a $10 per barrel change in price (the pull-back in Brent since January) has a $40 billion impact on global cash flow per quarter. For some companies, this could make the difference between increasing shareholder distributions or another year of negative cash flow," he said.

Kazakhstan megaprojects face challenges but gas looks bright

Julian Walker looks at the challenges Kazakhstan's oil industry faces in terms of costs and why the country's gas sector is booming

Kazakhstan is one of the major oil producing countries in the Commonwealth of Independent States (CIS) region and is home to some of the biggest projects in the region including the Kashagan field, Karachaganak field and the Tengiz field.

The Kashagan oilfield is set to increase output to 15.5 million tonnes from last year's 14.1 million tonnes and production at the Karachaganak oilfield is expected to rise to 11.7 million tonnes from 11.3 million tonnes

In July 2016, the Tengizchevroil consortium made a final investment decision on a project to increase liquids production at the Tengiz field by about 260,000 barrels per day (bpd) by 2025-26 from a current 580,000 bpd.

Tengizchevroil (TCO) is a joint venture between Chevron (50 per cent), ExxonMobil (25 per cent), KazMunayGas and LukArco.

In October last year, Chevron confirmed Tengizchevroil costs overrun. The U.S. oil major said that they expected a 25 per cent rise in costs - from US$37 billion to US$45billion-46 billion.

Ashley Sherman, principal analyst, Caspian upstream at Wood Mackenzie commented: "At Tengizchevroil, the largest global upstream project by capex, cost pressures have been under scrutiny since 2018. Chevron has confirmed that the primary causes of the overruns relate to engineering - with knock-on effects on fabrication and construction; higher unit construction costs and quantities; and schedule delays."

Sherman added: "Tengizchevroil already produces more than 600,000 bpd of oil. Once online, expansion will boost this to 850,000 bpd or even more. This remains fundamental to the oil and gas outlook for Kazakhstan and Chevron. The expansion project is now 70 per cent complete, but it's clear that there are still hard yards to come."

> Since 2010, gas production has increased by almost 50 per cent from 3.6 billion cfd to 5.3 billion cfd.

Last year also saw another blow to Kazakhstan's oil industry after several majors walked away from Kazakhstan's largest offshore greenfield project (the US$5 billion Kalamkas More-Khazar development).

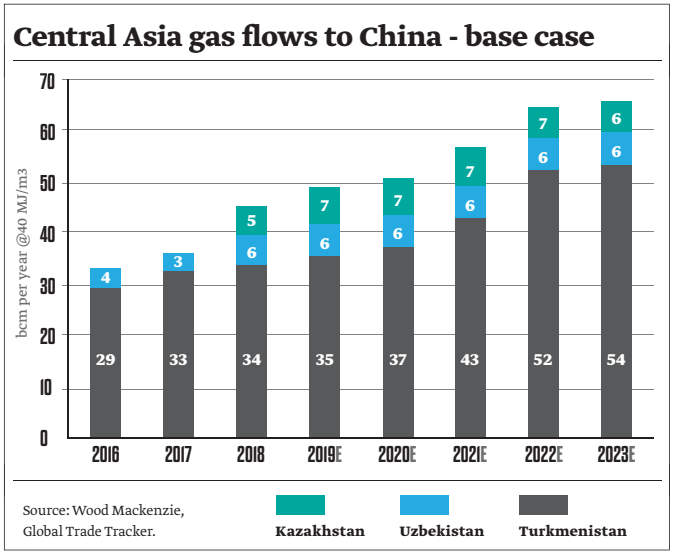
Shell made the decision to withdraw from the Khazar project, and the Kashagan consortium's decision to pull out of the Kalamkas More development further highlighted the problem Kazakhstan and the Caspian region has faced of spiralling costs and scheduling slippages.

Sherman explained the importance of these projects.

"The joint development of the Kalamkas More and Khazar offshore oil fields has been the key greenfield project to watch in Kazakhstan's oil sector. Its timeline may have been long - with production not targeted until the late 2020s - but it would have offered something vital: large-scale future oil production away from the country's three megaprojects (Kashagan, Tengiz and Karachaganak)."

The fact that other IOCs such as Shell have concluded that Kazakhstan is simply too expensive to work in is not good but Sherman did say that there was still hope for future investment.

"Kalamkas More (the largest Kashagan satellite) and Khazar (Pearls block) are fields that will undoubtedly



attract future interest from international investors. Just like nearby exploration blocks have since Kazakhstan's tax reforms in 2018. But this is another reality check for the Caspian region's oil and gas industry."

Gas opportunity

Although Kazakhstan's megaprojects are facing issues, the country's gas sector is booming. In 2018, state-owned KazTransGas (KTG) signed a five-year export deal to deliver up to 1 billion cubic feet of gas per day (cfd) – roughly 10 billion cubic metres per year - to China.

Kazakhstan began oil exports to China in 2006 and has exported gas to China via the Turkmenistan-China Gas Pipeline since 2017.

Sherman said: "The scale of the new export commitment cannot be overstated. The volumes committed represent nearly one-third of Kazakhstan's marketed gas output and are almost on par with current domestic demand of 1.5 billion cfd."

In late 2019, Central Asia meets about 15 per cent of China's growing gas demand. By signing the Kazakhstan contract, China is looking to hedge its bets against future under-performance from its anchor Central Asian gas suppliers, Turkmenistan and Uzbekistan. The five-year deal will also allow China to test out Kazakhstan's supply capacity before it commits to a longer-term agreement, according to Wood Mackenzie.

He said: "In our base case, we anticipate that Kazakhstan's core gas exports to China will not exceed 0.8 billion cfd. To reach the agreed 1 billion cfd would require stronger Chinese gas demand growth and much clearer commercial incentives for gas in Kazakhstan's own upstream sector."

"Unfortunately, commercial incentives are no clearer than they were five years ago. On the positive side, a meteoric rise in gas production has boosted Kazakhstan's volume growth. Since 2010, gas production has increased by almost 50 per cent from 3.6 billion cfd to 5.3 billion cfd. And gas sales to domestic and export markets grew by 75 per cent", added Sherman

Sherman argued that: "A range of commercial obstacles means that Kazakh domestic gas prices are generally on the low side, with some exceptions. And under the current commercial framework, neither upstream producers nor the national operator can be confident of near-term profits. For Kazakhstan to realise its potential, much clearer commercial incentives are needed. This will require collaboration. Operators and state entities must work together to try new approaches and maximise the utilisation of existing gas processing capacity."

EGYPS EGYPT PETROLEUM SHOW

EGYPS 2020 Review

Neftehim introduces gasoline tech

At the Egypt Petroleum Show (EGYPS), Russian company Neftehim introduced cost-effective technologies for production of gasoline to meet tight environmental standards.

Neftehim is a well-known scientific and engineering company, catalyst developer and manufacturer, licensor of oil processing technologies.

For over 60-year history, Neftehim technologies and catalysts firmly consolidated in the world market.

Unique reliability and easy operation combined with low-cost implementation and maintenance helped to endure over time. Currently, over 50 per cent of gasoline in Russia is produced with the use of Neftehim technologies, which are in demand in China, India, U.S., Europe, Middle East, and CIS countries.

Technologies presented at EGYPS2020 aroused the interest of refining companies' representatives. The presented unit 3D-model was an exact copy of existing Isomalk-2 pentane-hexane cut isomerisation unit, producing gasoline

component with a record-high octane. Visitors familiarised themselves with the unit configuration and performances, obtaining information directly from the technology developer.

The technology ensures production of gasoline without expensive reagents and aggressive environment.

Reliable solutions and the unique stability of SI-2 catalyst make it possible to operate the unit for more than 12 years continuously without the replacement of catalyst or equipment components.

Delivering the energy needs of tomorrow, introducing the best economically efficient solutions to upgrade existing facilities, increasing production of gasoline compliant with modern environmental standards are the main activities of Neftehim.

At EGYPS 2020, other Neftehim products - well-known in the world market and globally recognised by customers for their high efficiency, were also demonstrated.

Neftehim has its own scientific and laboratory base, modern equipment and expertise for constant enhancement of catalyst quality and elaboration of effective reliable solutions for gasoline production.

At the EGYPS 2020 Technical Conference, Neftehim's Chief Technology Officer Timofey Karpenko delivered his report "Modern isomerisation and reforming technologies for enhancement of quality and yield of Euro-5 compliant motor gasoline."

He presented solutions that showed optimising gasoline processing design through increasing the product yield and eliminating the involvement of expensive additives.

EGYPS
EGYPT PETROLEUM SHOW

Bilfinger exhibits at EGYPS 2020 and develops its business strategy

Bilfinger exhibited at EGYPS 2020 and where its booth attracted the attention of many of the industry leaders. Dr Ahmed Soltan, Managing Director of Bilfinger in Egypt, said about EGYPS: "It was an opportunity to exchange the latest knowledge and learn from industry peers."

Dr Ahmed was a key speaker in HSSE panel discussion highlighting Bilfinger successful safety culture and record.

The company, part of Germany global engineering and industrial services provider, started its Egypt business with Project Management Consultancy services of two projects in the oil and gas sector. The first project is a bulk liquid terminal for Sonker Company in Sokhna Port.

The project is a marine tank farm of total capacity 250,000 cubic meters for handling petroleum products.

The second project, for the Arab Petroleum Pipelines Company (SUMED),

includes oil products tank farm of total capacity 295,000 cubic meters. This is part of SUMED's major investment plan for Ain Sokhna Products Hub. Eng. Mohamed Abdelhafez, SUMED Chairman, said Bilfinger showed exceptional performance in the project execution in terms of schedule and HSEQ standards, adding that the company is an important partner for SUMED's future projects.

Bilfinger's Egypt entity signed two MOUs with PETROJET and Egyptian Maintenance Company (EMC), two of Egypt's main oil and gas players. During EGYPS 2020, Bilfinger finalised discussions of a Technical Services Agreement with PETROJET - an executive development of the mutually signed MOU. This will entail Bilfinger to act as a technical and engineering consultant to Petrojet in Egypt and MENA.

Walid Lotfy, Chairman of PETROJET said: "This is a perfect match that integrates the parties' competencies and brings in huge business opportunities and returns."

In parallel with EGYPS, Bilfinger discussed with ENPPI the potential cooperation. Ashraf Bahaa, Chairman of ENPPI commented: "We had constructive discussions on the potential role and technical support Bilfinger can provide in the context of digitization and modernization of Egypt refineries."

Egypt extends its energy development with downstream focus

By: Nadia Saleem, Editor, Pipeline Oil and Gas News

Egypt in the last few years has overhauled its energy industry by launching its largest ever auction of oil and gas exploration and production licenses, as well as reforming regulations to encourage foreign investments to rejuvenate the economy.

Now, the country is heading into the second phase of development of the industry by shifting the focus on development of the downstream industry that would create more domestic jobs, boost local talent and move the country towards being self-sufficient in petrochemicals.

At the Egypt Petroleum Show 2020 (EGYPS), which took place in Cairo during February 11-13, the country's Ministry of Petroleum and Mineral Resources signed several preliminary agreements (Memorandum of Understanding) to continue development not only in oil and gas upstream sector but also in petrochemicals.

Downstream

Egyptian Petrochemicals Holding Company (ECHEM) and Bechtel, one of America's largest construction company signed an agreement to set up the Suez Canal Corridor Petro-Refinery Complex, with an investment cost of US$6.7 billion, in the Suez Canal Economic Zone.

This project aims to fast-track the mega metro-refinery complex project to achieve 20 per cent growth in local production of value added petrochemical products.

The agreement was signed by head of the ECHEM, Saad Helal, and CEO of Bechtel Group, Brendan Bechtel. While ECHEM will prepare a detailed feasibility study in cooperation with an international consultant, Bechtel will provide the necessary funding from banks and international financial institutions as part of the project management consultancy.

Speaking during the EGYPS conference on Tuesday, His Excellency Tarek El Molla, Minister of Petroleum and Mineral Resources of Egypt said the country is heading towards the next stage of growth, having already embarked on a fast-tracked plan to explore and develop the country's oil and gas resources.

"We're looking at the second phase now, with a focus on small and medium-sized companies in the downstream sector to use our oil and gas resources to produce value-added products," he said.

Talent Development

To develop local talent, Egypt's Ministry of Petroleum and Mineral Resources and BP signed an agreement for middle management training. This agreement is aimed at ensuring the continuous development of Egypt's petroleum sector youth over the next three years to deliver future leaders to guarantee a successful future.

Also, the ministry signed an agreement with Shell, Egypt for a middle management development programme for the ministry.

Upstream

Last year, the country in its largest ever bidding round announced several awards to international IOCs to explore and develop local hydrocarbon resources.

To further improve this bidding process, an agreement was signed between Egyptian General Petroleum Corporation (EGPC) and Schlumberger to build, operate and transfer Egypt's Upstream Gateway (EUG).

This agreement will focus on digitally promoting Egypt's oil and gas bid rounds for seamless online access to sector project data to attract international investors.

BP and Schlumberger also signed an MOU to cooperate in the digitisation of the East Mediterranean gas upstream market.

Meanwhile, Egypt continues to work on developing its oil and gas resources. The country reached initial agreements with five major energy firms to explore for oil and gas in deep waters off its western coast on the Mediterranean, the petroleum minister said, the first of such deals in that offshore region. The five companies are Royal Dutch Shell, Chevron, BP, Total and Exxon Mobil.

Additionally, Wintershall Dea and Egyptian Ministry of Petroleum signed the concession agreement for the East Damanhour block, while Neptune Energy signed an agreement for an operated exploration licence with EGPC for Egypt's North West El Amal offshore concession.

The ministry also highlighted its aim to cooperate with other countries; it signed an agreement with Somalia's Ministry of Petroleum and Mineral Resources to encourage and enhance cooperation in oil, gas and mineral resource fields, especially between the public and private sector companies.

Also, Egypt's EGPC and Chile's state oil company Empresa Nacional Del Petróleo (ENAP) signed an MOU for technical collaboration between Egypt and ENAP.

EGYPS
EGYPT PETROLEUM SHOW

Egypt sees partnerships as basis for becoming a regional energy hub

High-level conversations about achieving Egypt's goals to become a regional energy hub centred on collaborations and partnerships at the Egypt Petroleum Show 2020 (EGYPS).

Despite tensions in the Mediterranean with Turkey's controversial drilling offshore Cyprus waters, Egypt continues to push ahead not just on the path of developing its own hydrocarbon resources, but also in working with neighbouring countries to ensure that energy supplies reach places like Europe, Africa and Jordan to fulfil their respective needs.

At EGYPS, His Excellency Tarek El Molla, Minister of Petroleum and Mineral Resources of Egypt said the country has become known in the region not just for having a futuristic energy vision but also for delivering on its projects.

"Energy has been as the centre of the political issues around our region. In the oil and gas industry, we've seen a lot of wars, but I believe that reforms can play a role," El Molla said, adding: "We think that energy could be a catalyst for the wellbeing and the welfare of the countries. Specifically, for the east Mediterranean countries, where we have a wealth of gas and this could be a reason for peace and cooperation between the countries."

"We aspire to cooperate with neighbouring countries - Egypt cannot be a hub without its neighbours. We aim to integrate to benefit the people of these countries," he added.

Additionally, Frank Fannon, Assistant Secretary, Bureau of Energy Resources, U.S. Department of State said that Turkey could benefit from the gas renaissance in the region by energy cooperation and participating in this region. As part of the U.S. foreign policy, Fannon said: "We ask all countries not to behave provocatively."

In the spirit of partnership and cooperation, Egypt continues its push to attract more international oil companies (IOCs) and technology companies to bring innovation to the country.

"We need to reduce the cost of production, otherwise we will have a challenge in competition and it impacts our budget as well - the answer is technology and efficiency," El Molla said.

One of the long-time partners in Egypt is Bechtel, which delivered an LNG project in Egypt with the fastest delivery of an LNG train, according to Brendan Bechtel, Chairman and CEO, Bechtel.

"We get very excited with countries like Egypt that have a combination of vision, population growth and demand to move up the whole economy... There is tremendous opportunity here but the biggest challenge to growth is the depressed price of LNG," Bechtel said. "The first wave is coming to a natural close, while the second wave is now ready for off take - but what's making that difficult is off take prices," he said, referring to the development of LNG to export the product.

Meanwhile, Egypt is cooperating with countries on the African continent for energy supplies, where hundreds of millions of people don't have access to energy.

Dr Amani Abou-Zeid, Commissioner of Infrastructure, Energy, ICT & Tourism, African Union Commission speaking at EGYPS, highlighted the growing population of Africa and also a growing need for energy at a time when a large number of new oil and gas discoveries are taking place on the continent.

Africa is undergoing an energy transition that is seeing a greater integration of gas and renewables in the mix as the continent aims to cater to millions without energy access.

"One side of the story is positive but the other side is that more than half the people - 600 million - don't have access to energy and 900 million don't have access to clean water," Dr Amani said.

"We are looking to bridge the energy gap quickly. Gas is only 5 per cent of the energy use, for many reasons but it is fast-growing now to meet the continent's demands," she said.

Africa recently implemented a breakthrough free trade agreement, which makes it the largest area in the world to do so.

Global downstream players look to technology for cleaner solutions

Growing pressures of energy demand coupled with carbon emissions censure are pushing downstream players to employ technology to make the energy industry cleaner.

Top industry speakers at the Egypt Petroleum Show (EGYPS) 2020 highlighted the latest issues facing the downstream sector amid increasing demand for petrochemicals.

Ibrahim Al-Buainain, CEO, Aramco Trading said the company is a system integrator for Saudi Aramco and its strategy is increasingly global and aimed at taking on demand and environmental challenges.

The company is pursuing its goal to have a closer relationship with chemicals and moving away from transportation fuel through converting crude directly to chemicals, derivatives and aromatics, bypassing fuel oil, Al-Buainain said.

"We see fuel oil to be phased out in the next 10-20 years. Now, any integrated refinery will not have any fuel oil production. All of our refineries are on that track as well," Al-Buainain said.

Saudi state energy giant acquired last year a majority stake in SABIC - one of the world's largest chemicals producers.

"If you cater your strategy to future demand of product and more diversification then you will de-risk your business model. That's why we acquired SABIC because we see a lot of integration and as one of the big chemical player in the world," Al-Buainain said.

Meanwhile, France's major Total has employed a multi-layered strategy as it sees the need to incorporate growing demand expectations with changing customer behaviour and expectations.

Stanislas Mittelman, senior vice president, Africa Division, Total Marketing & Services, at EGYPS said the company has articulated a response to the market in five levels. These include improving energy efficiency by optimising its facilities' energy consumption and encouraging its customers to use their products responsibly, adopting more natural gas on the portfolio given that it is the cleanest of hydrocarbons, delivering low-carbon emissions businesses by using gas and renewables to generate electricity, developing reliable bio-fuels and lastly investing in carbon capture businesses. "This is key in cutting emissions. We are looking to expand our CCUS technology at the same time, we are working out how to restore our ecosystems that can naturally absorb carbon emissions," Mittelman said.

Additionally, Andreas Shiamishis, chief executive officer, Executive Member of the Board of Directors, Hellenic Petroleum said petrochemical products will have to become cleaner so the industry needs to invest in it.

"We have to be relevant to the world. Europe Investment Bank said it will stop financing hydrocarbons - so the pressure is there. We have to move away from energy into petchems and we have to improve efficiency and drive our own consumption down," Shiamishis said.

Jean Sentenac, president and CEO, Axens said the company is investing in new technology for cracking - naphtha to chemicals, as well as digitalisation. "If you want to be competitive, you have to maximise throughput. Digital is playing a role in that because it allows you to be efficient," Sentenac said.

"We are all working to leave behind for our children a cleaner, affordable and sustainable world.

Energy is part of enhancing our life, so the industry should develop downstream, which also creates jobs. Pushing into downstream is creating integration of the industry - there is a lot of interest in that," Sentenac said.

تحت رعاية فخامة الرئيس عبد الفتاح السيسي رئيس جمهورية مصر العربية
HELD UNDER THE PATRONAGE OF HIS EXCELLENCY ABDEL FATTAH EL SISI, PRESIDENT OF THE ARAB REPUBLIC OF EGYPT

EGYPS
EGYPT PETROLEUM SHOW

SUPPORTED BY

وزارة البترول والثروة المعدنية
Ministry of Petroleum & Mineral Resources

9-11 FEBRUARY 2021 | EGYPT INTERNATIONAL EXHIBITION CENTER

NORTH AFRICA AND THE MEDITERRANEAN DELIVERING THE ENERGY NEEDS OF TOMORROW

EGYPS 2021 PROJECTED NUMBERS

35,000	33,000	500	94	30	16
Gross sq.m Exhibition Space	Global Attendees	Exhibiting Companies	Countries Represented	International & National Oil Companies	Country Pavilions Exhibiting

BOOK YOUR STAND AT EGYPS 2021

www.egyps.com/bookyourstand egyps.sales@dmgevents.com +971 4 248 3214

SUPPORTED BY OFFICIAL MEDIA PARTNER ORGANISED BY

EGPC EGAS Echem Pipeline OIL & GAS MAGAZINE dmg::events

Bilfinger takes new direction to maximise regional opportunities

President and CEO of Bilfinger Middle East, Jon Rokk, speaks to Pipeline Oil and Gas News' Nadia Saleem about the way forward for the engineering and maintenance company

Jon Rokk, who has over 6 years' experience in the region and over 20 years' experience in Bilfinger's core industries of oil & gas and chemicals & petrochemicals, took over as President and CEO of Bilfinger Middle East in the summer of 2019 and has since been working to streamline operations in the region to maximise potential opportunities.

Bilfinger has two distinct service lines, engineering and maintenance, along with technologies that support both lines of business. Around 1,400 engineers are based in the region to power its engineering services, with the bulk being based out of Oman and the UAE. Bilfinger in the Middle East also provides maintenance for assets in the utilities, power, water as well as the oil and gas sectors.

Speaking on the sidelines of the Egypt Petroleum Show 2020 in Cairo, Rokk detailed the new direction the company will be taking to grow its business in the region.

"We're seeing great demand for high-level expertise from an engineering perspective in petrochemicals, especially in Egypt. Our German origins are 150 years old, and we've been in the Middle East (Kuwait) since 1968 - we have that rich heritage level of expertise, which is also proven, so we can offer value added services that our customers need," Rokk said, pointing at one obvious growth opportunity.

In addition, the company is looking to build its strength in size as well as to leverage offshore expertise from European experience. "In the UAE for example, we are yet to develop the scale a company like Bilfinger can offer, so we have unexplored opportunities to tap into, such as the Ruwais complex which will allow us to broaden our footprint," Rokk explained.

Meanwhile, Bilfinger has been strong in the maintenance business in Kuwait

and Saudi Arabia, but is looking to branch out into the oil and gas sector, which presents several opportunities.

"Because the installed base and facilities are growing up and getting older, this opens up many problems that Bilfinger can solve. This is where we come in to offer efficient and cost-effective solutions with our value-add services and technology," Rokk said.

Additionally, Bilfinger is looking to bring to the region its expertise in turnarounds and shutdowns. In Europe, the company is among the top to deliver on time and on cost. "Many of our clients are asking us directly, when Bilfinger is going to get into doing Turnarounds? This is exciting opportunity and tells me that great untapped potential and customers are beginning to see the real value in long term relationships and partnerships," Rokk added.

Last year, Bilfinger won multiple engineering contracts from Abu Dhabi National Oil Company (ADNOC), which entail the provision of front-end engineering design (FEED) for onshore facilities. Serving as one example of the company's recent success, Bilfinger has plans to grow the stream of contract awards.

"In recent years, we've always grown - now there is an opportunity to grow faster but in a controlled way. We can scale up more quickly than before because we are pushing the 'One Bilfinger Way'. This is different from how the business worked in silos earlier. If you channel the energy to deliver a more-focused operation that will allow us to grow more successfully. Partly, it's about tapping into the core skill set that we have - we bring ideas, skill set and technology from Europe." Rokk said.

Bilfinger is operating in a market that is challenged by several factors, stretching from lower commodity prices, a greater push from clients for better performance yet at lower costs, as well as from rising competition in the area of digitalization.

To address these challenges, Rokk said: "You have to keep innovating, because you can't just deliver what your competitor is delivering. Our DNA encourages change and innovation and we welcome those ideas that make a difference." That goes hand in hand with Bilfinger's significant efforts in digitalisation solutions and that is one way to stay ahead of competition, according to Rokk.

"Digitalisation is a buzz word but it's about making use of data in a way that can add value to the asset owner. We're going to our clients and running pilots to show them what we can do because we have faith and proven successes with our technology and solutions. Clients will never stop wanting more for less, but we have to figure out how to deliver solutions faster and cheaper and in a better way," he added.

"Implementing Bilfinger's strategy for 2020+ in the Middle East, I'm going to make sure that I help all our people to drive growth and deliver success. It's a really exciting time for us," he added.

EGYPS
EGYPT PETROLEUM SHOW

Halliburton optimistic about Egypt's long-term reserves viability

Colby Fuser, vice president of Egypt and Libya at Halliburton speaks to Pipeline Oil and Gas News' Nadia Saleem about the Egypt market and the company's operations there

Which projects is Halliburton active in within Egypt?
Egypt is an important part of our portfolio, and we remain bullish about the prospects for oil and gas services and the fiscal improvements in the economy at large. Halliburton is involved in numerous projects across the country including in the deepwater Mediterranean, West Nile Delta, the Gulf of Suez and others. Halliburton has also been a key partner in several operators' onshore exploration and development campaigns in the Western Desert and Sinai. In the Western Desert, we recently collaborated to help a customer drill the longest horizontal well in Egypt.

How have the recent Egypt exploration and production awards benefited the company?
The new awards will allow Halliburton to work closer with operators to deploy technologies that help increase production and lower costs per BOE. Halliburton's value proposition is to collaborate and engineer solutions to maximise asset value for our customers. When the countries we work in expand their exploration plans, we collaborate and seek to achieve zero HSE incidents, no non-productive time and high service quality.

How has your business outlook in the country changed in the last year?
Halliburton is optimistic about the long-term viability of Egypt's reserves, and we remain committed to making a positive contribution to growing hydrocarbon resources. The addition of new IOC's and other operators reaffirm that despite challenges, the market is resilient. We also see the business changing as it relates to HSE and service quality. Halliburton is leading the efforts to collaborate with customers and execute on best practices to help minimise risk and prevent injuries. The changes in

HSE, along with the new blocks in the Mediterranean and Red Sea, provide a positive outlook for Egypt.

How is Halliburton planning to increase its oil and gas activities in Egypt?
Halliburton is involved in offshore and onshore projects to help operators increase production and lower costs per BOE. For example, our fracturing technology and subsurface insight help operators unlock reservoirs that were not commercially produced in the past. Additionally, another important factor is providing customers with the right solutions and technologies to help ensure the development and production of Egypt's reservoirs over the long-term. There are many examples where Halliburton technology delivered superior results including for an operator in the Mediterranean Sea where we performed one of the deepest intervention and acid stimulations that increased production.
In the Western Desert, we doubled the daily production by executing a nitrogen foam frac combined with technology to mitigate proppant flow-back. When we execute on our value proposition, our customers can accomplish more with their budgets, which creates new opportunities for Halliburton.

What is your view on the available workers resource in the country?
We are excited about the opportunity to accelerate and broaden the capabilities of Egypt's already strong skilled workers. We focus on developing the local workforce through on-site training and enabling employees to gain experience outside of Egypt where they can eventually utilise this experience locally as the market grows.

Halliburton is investing in young and middle-management development programs to support the government's plans. Can you share some details?
Human capital development is critical to the success of our business, and investing in our people will pay dividends by increasing the diversity and skill base of employees. The agreement we signed with the Egyptian Ministry of Petroleum & Mineral Resources offers new training opportunities to grow local talent. Halliburton introduced a customised development program for select participants to expand their capabilities and assist Egypt in its role as a leading regional oil and gas hub. The Modernization Project is an excellent step toward achieving sustainability.
We completed our phase one training, which consisted of 20 individuals who spent three months with Halliburton learning various skills.
Phase two of this training starts in March where we will select five of the 20 to travel to the U.S. for a three-month rotation. They will gain valuable experiences in leadership, operational execution, strong HSE culture and many other skills they can share with their teams upon returning to Egypt.

P&O Maritime Logistics embracing digitalisation

Martin Helweg, chief operating officer, P&O Maritime Logistics spoke to Pipeline Oil and Gas News' Julian Walker about the impact of digitalisation in the massive sector and launching a new open maritime data system

What is the new open maritime data system you are working on?

The open data system provides a single, open-source platform for vessel operators to share data and collaborate on solutions that actively improve the safety, sustainability, operational excellence and technical reliability of seafarers and vessels across the globe.

What is the reason for building the open data system?

In today's digital age, information storage and data sharing have become a part of our lives. We exchange e-mails and messages with friends and colleagues daily irrespective of where they are located. Of course, we expect this to be true for our professional environment as well. Following the example of other industries collaborating in specific areas for the greater good improve the maritime industry as a whole.

Are you working with any partners?

Yes, with regards to the new open maritime data system, we are planning to collaborate with other OSV operators.

What kind of data will you be covering?

As a starting point, we will be focusing on HSSE data and maintenance data such as defects, however our vision, is to expand the data capture to equipment data from IoT technology.

Why is it important to have a maritime data system?

Data is a crucial commodity to unlocking real value for our clients, however it should not be a chargeable commodity, historically OEM's have seen this as a revenue stream, but ultimately this is our data. Data is like pieces in a puzzle if you work in silos, it takes longer to finish the puzzle, but if you collaborate, you can complete the puzzle quicker.

What is your outlook for the oil and gas maritime sector?

Our industry is constantly changing and evolving. On the energy sector as a whole, the world needs to realise that the offshore energy sector will be around for many decades to come - also servicing the hydrocarbon industry, as oil and gas will remain part of the energy mix for many years. We believe that we need to inspire an informed debate about exactly that - the energy mix. We certainly want to move towards renewable sources of energy, but at the same time we need to cater for a growing demand for energy around the world. In this balance, we need to move away from the most carbon intensive fossil fuels - for example coal - and move to cleaner sources such as gas, while the whole energy infrastructure of the world transforms and scales up for renewables.

Furthermore, customers now want a handful of select, trusted, suppliers who can provide much more than one single service. The key challenge for industry players has been the ability to offer our customers a wide portfolio of value-added marine services as our clients' demands evolve and shift towards a need for a range of services and solutions. We realised, a long time ago, that the entire industry needed to change and started by changing our own perspectives. We needed to diversify investment into our

own businesses, in order to stay relevant, and create value. And with the creation of P&O Maritime Logistics, we can focus on three strategic segments – offshore, port services and logistics – creating further value for our customers.

How important is digitalisation going to be for the maritime sector?

Our customer demands are increasingly shifting towards advanced services, and having realised that a long time ago, we began to digitise aspects of our service offering in response and built advanced algorithms to optimise the supply chains of our customers.

For example, by having real-time visibility of vessel locations and applying advanced routing systems, we are able to provide our clients with better, more reliable updates on delivery of cargo. This has optimised their supply chain by improving project scheduling, reducing downtime and the need for manpower and support services.

Additionally, we have worked with several of our key customers to integrate data into their systems, also allowing us to learn more about our customers, thereby enhancing our service offering to cater to even more aspects of their businesses.

Digital is disrupting companies from their service offering through to their operations and maintenance. From customer dashboards providing customers real-time insight into the state of their operations, to the use of Internet of Things to learn more about the state of our vessels, we see IT as a driver of both the topline and of cost reductions.

Disruption is one of the five pillars of our strategy and it is important that we continue to disrupt the status quo and innovate. We are consistently working towards digitalising our ships, through onboard IoT that measures a ship's health certificate in real time, helping us manage our fleet maintenance in the most effective way. Digitalising our entire fleet is part of our disruption mindset and how we are embracing digitalisation-making us a true 21st-century company.

> Digitalising our entire fleet is part of our disruption mindset and how we are embracing digitalisation-making us a true 21st-century company.

We have recently signed an agreement with American Bureau of Shipping (ABS), collaborating to deliver a condition-based class (CBS) regime for the platform supply vessel, DMS Courageous. This is an exciting and historic project for us, as the vessel will become the first to utilize ABS Nautical Systems as the computerised maintenance management system to transmit planned maintenance and condition- based maintenance activities to ABS. We aim to work together, cloud-to cloud, to facilitate a seamless flow of class data from the vessel into the ABS Decision Support Center (DSC).

Last year, we also teamed up with Baker Hughes to pioneer lube oil analysis in the marine space. This analysis can tell us a great deal about the condition of our ships – from detecting the presence of water and foreign particles, to changes in temperature, which can give insight into the likelihood of equipment failure in the motor, gearbox and propellers. While it previously could take up to six weeks to receive results from a lube oil analysis, with digitisation, this process can now take place in real time, enabling maintenance to become predictive, which in turn leads to a reduction in unscheduled downtime and repair work.

Middle East and Africa to hold significant revenue share in FSRU market

The global Floating Storage Regasification Unit (FSRU) market is estimated to reach US$2.38 billion by 2026 with a compound annual growth of 8.7 per cent, creating new opportunities, especially for the Middle East and Africa, a new report shows.

An incremental opportunity worth $1.16 billion during the forecast period will be created, according to a report on FSRUs by Persistence Market Research.

FSRUs are used for the conversion of LNG (Liquid Natural Gas) gas into a liquid state, as in its gaseous state, LNG occupies more space as compared to its liquid state. FSRUs are installed at onshore or offshore locations.

Increasing production of LNG, coupled with growing LNG trade volumes based on the high demand from importing countries, is expected to drive the global FSRU market during the forecast period. Moreover, FSRUs require relatively less capital expenditure as compared to land-based terminals. Approximately, FSRUs are 40 per cent cheaper compared to land-based terminals, which in turn drives the growth of the floating storage regasification market.

On the flip side, the storage capacity of FSRUs is a major restraint to market growth. For example, the most commonly constructed size for FSRU has a storage capacity of 173,000 m3. Only a few have larger capacities and they are built on custom orders.

Middle East & Africa to grow with a significant CAGR in the global market

By regasification capacity, the above 5.5 million tonnes per annum (MTPA) segment dominates the global FSRU market as of 2018 while the less than 2.5 MTPA segment is estimated to capture more than an 80 per cent value share of the global FSRU market by the end of 2026.

Further, the 2.5- 5.5 MTPA segment is expected to create an incremental dollar opportunity worth $175 million between 2019 and 2018.

By storage capacity, up to 140,000 m3 segment is expected to grow with a noteworthy CAGR in the FSRU market during the forecast period. In terms of value share, the 140,000 to 180,000 m3 segment is expected to dominate the FSRU market throughout the forecast period. Additionally, the value share of this segment in the FSRU market is expected to reach nearly 84.1 per cent by the end of 2026.

By platform, the offshore terminal segment is expected to grow with a considerable CAGR in the global FSRU market throughout the forecast period. But, in terms of value share, the inshore terminal segment is expected to account for a noteworthy value share in the global FSRU market during the forecast period.

Furthermore, the inshore terminal segment is projected to create an absolute dollar opportunity 1.7 times that of the offshore terminal segment in the FSRU market during the assessment period.

By design, the carrier vessel based segment is expected to dominate the global FSRU market throughout the forecast period. The carrier vessel based segment is expected to be valued at $941.2 million in 2018.

By region, the Middle East & Africa region is expected to grow with a significant CAGR in the global FSRU market during the forecast period. It is expected to grow with a sizable value share throughout the slated time period. Asia Pacific is expected to reach $560.8 million by the end of 2026.

The Americas region is expected to grow with a sluggish growth rate in the global FSRU market as compared to the other regions as the region is highly involved in the production of LNG.

Europe is also projected to grow with a moderate CAGR in the global FSRU market during the forecast period, owing to the limited deployment of FSRU across Europe.

Global FSRU market competitive landscape

Some of the prominent players involved in the chartering of FSRU and included in this study on the FSRU market are Citec Group Oy Ab, BW LPG Limited, Leif Höegh & Co, Exmar NV, Flex LNG Management AS, Excelerate Energy L.P., Keppel Offshore & Marine Ltd, PSA Marine (Pte) Ltd., Cosco Shipping International (Hong Kong) Co., Ltd., Gaztransport & Technigaz, Sener Group, Mitsui & Co., Ltd., Golar LNG Limited, Ochre Energy and NextDecade Corporation.

AG&P expands its solutions for bunkering and LNG-to-power vessels to meet cleaner fuel demand

Atlantic Gulf and Pacific (AG&P), the global downstream gas and LNG logistics company, is expanding its portfolio of proprietary technologies for small-scale bunker vessels and LNG-to-power barges in response to growing global demand for cleaner and cheaper fuel.

In the past year, AG&P and majority-owned GAS Entec have been awarded contracts for key LNG components of, among others, Japan's first LNG bunker vessel, Asia's largest bunker vessel that will operate in Singapore, and multiple LNG carrier (LNGC) conversions to floating storage and regasification units (FSRUs) to be deployed in Africa and to power electricity grids in different markets.

"AG&P's goal is to bring LNG to new markets. One of the missing links has been the capability to import and distribute LNG in an affordable and smaller volumes to non-traditional and off-grid customers. Our unique technologies bring clean, affordable gas to isolated customers, while giving suppliers access to new markets and revenue streams," said Chong-Ho Kwak, CEO of Gas Entec.

"Our integrated, low CAPEX solutions drive down LNG equipment and transport costs, which not only reduce overall project costs, but has the potential to lower the delivered cost of LNG per MMBTU for the customer," Kwak added.

AG&P vice president for Business Development Nishant Sharma said: "To meet the needs of project owners and investors, solutions must be scalable to minimise surplus capacity and enable investment to match market growth. To sustain demand creation, producers of LNG must also be able to access smaller and more dispersed categories of consumers, bypassing the major intermediaries."

Anticipating these markets changes, in November 2019 AG&P acquired a minority stake in Norway-based Kanfer Shipping, adding a state-of-the-art, proprietary LNG articulated tug barge (ATB) to its suite of cost-optimised solutions. Kanfer has developed a small-scale approach for breaking LNG bulk cargoes using the patented Detachable Stern Vessel (DSV) design to create an advanced version of the commonly used ATB.

The shallow-draft vessel can efficiently transport LNG to and from an FSU, FSRU, LNGC or land-based LNG terminals and deliver LNG to drop-points on islands, up rivers, along coasts and to remote areas with limited infrastructure.

This provides a cost-effective and flexible alternative to capital-intensive onshore LNG facilities, enabling small, large and inaccessible customers to have reliable and affordable access to natural gas.

In addition, AG&P is building a significant fleet of LNG tankers that deliver LNG from terminals to industrial, power, commercial and LNG/CNG stations, while also providing on-site equipment to its customers.

Evolution of pipeline leak detection with new technology

By: Joe Incontri, KROHNE Inc.

As the sheer number of pipelines crisscrossing the U.S continues to increase, there is an urgent need to ensure pipeline infrastructure safety.

The age of many of the pipelines and the number of different products flowing makes this a challenging prospect. Now, new technology has been developed that meets the need for reliable protection that complies with regulatory requirements while eliminating false alarms. Using pattern recognition, an advanced computational technology for getting more information from the ever-growing pool of sensor data collected, these new systems are reducing resources needed to manage pipeline leak detection while gaining more reliability. Among the new technologies, extended real time transient model (E-RTTM) technology has proven to be the most effective detection system for monitoring and protecting pipelines in all operating conditions.

Leak detection requirements around the world

Buried underground, the pipeline system tends to get less attention than other infrastructure systems like highways and bridges. In addition, regulatory oversight of pipeline safety, operations, and worthiness is somewhat fragmented based on what is being transported. Key examples include crude oil pipelines from oil fields to refineries; multiproduct pipelines from refineries to tank farms; subsea pipelines from floating production storage and offloading (FPSO) units and platforms; non-continuously operated transport pipelines (for example, for jet fuel); and natural gas pipelines.

Leak detection awareness has grown in recent years, spurred by hundreds of incidents – small and large. Explosions caused by pipeline leaks have killed or injured hundreds, while millions of gallons have leaked from heavy crude oil pipelines onto land or into the ocean.

Recognising the importance of leak detection, the U.S. Department of Transportation (DOT), Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS) has included leak detection provisions and considerations in numerous individual federal regulatory guidelines.

In addition, a federal leak detection study, prepared in response to the Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011, sets the tone for a broader national conversation. The landmark study looked at leak detection systems used by operators of hazardous liquid pipeline facilities and transportation-related flow lines. It analysed the technical limitations of current leak detection systems, suggested what might be done to encourage development of better technologies, and analysed practical leak detection standards.

Pipe Patrol 2019 20cm

Other important regulatory background includes the German Technical Rule for Pipelines (TRFL), which contains the most stringent pipeline leak detection requirements in the world. TRFL requires pipeline operators to install a leak detection system that uses two continuously operating technical processes based on different physical variables that can detect leaks in the steady state. They require a system or process for detecting leaks during transient operating conditions; a system or process that can detect leaks during standstill conditions; a system or process that detects gradual leaks; and a system or process for leak localisation. In summary, these rules require leak detection systems to cover all kind of daily pipeline operation, with no exclusions.

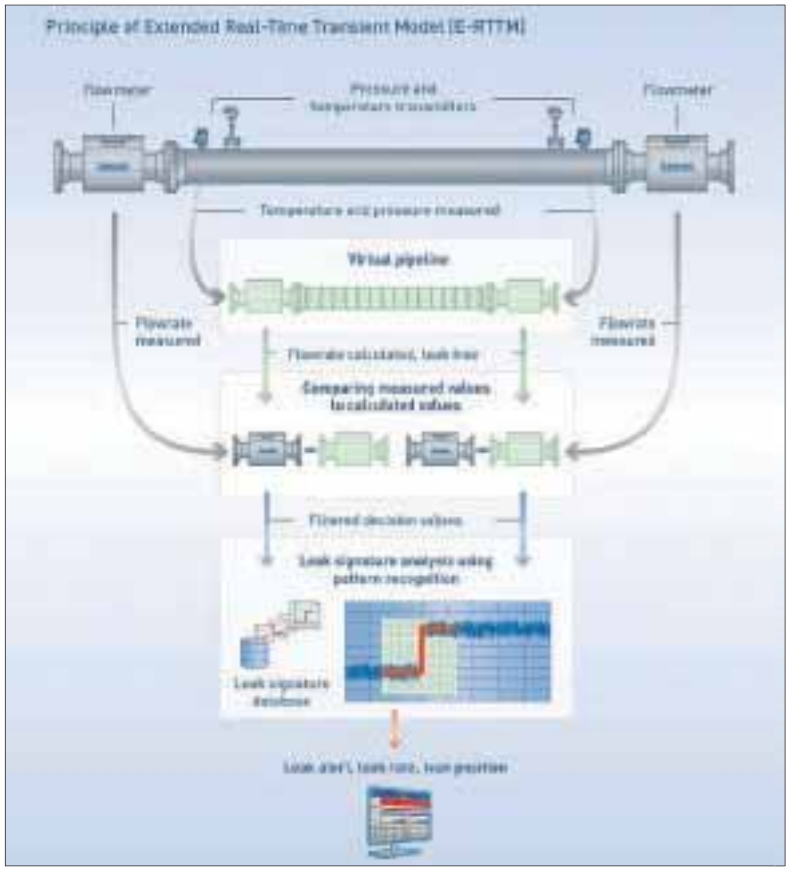
Pipeline leak detection systems

There are three basic leak detection systems: internal, external, and visual inspection.

Internal systems use measurement sensors providing flow or pressure readings, and perform calculations to estimate the state of the fluids within the pipe. These systems must follow recommended practices found in American Petroleum Institute (API) 1130 Computational Pipeline Monitoring for Liquid Pipelines. The three main categories of internal systems include:

- Regular or periodic monitoring of operational data by

Table 1 - Leak Detection Systems			
	Internal	External	Visual Inspection
Sensitivity	High	Medium	Low
Accuracy	Medium	High	High
Reliability	Medium	Medium	High
Robustness	High	Medium	Low
Diagnostics	High	Medium	Low
Cost	Low	Medium	High



controllers, using such methods as volume balance; pressure/flow monitoring; pressure point analysis; and the negative pressure wave method.

- Computational pipeline monitoring (CPM), using mass balance with line pack correction; real time transient modeling (RTTM); statistical pattern recognition; pressure/flow pattern recognition; and negative pressure wave modeling/signature recognition.
- Data analysis methods, including statistical methods and digital signal analysis.

External systems use dedicated instrumentation equipment and sensors, typically located externally to the pipe, to detect escaped fluids. Unlike internal systems, there are no accepted API engineering standards for engineers designing external systems, making careful deployment and installation critical. A misplaced sensor could easily miss an escaping hydrocarbon plume.

Visual inspection systems include examining the pipeline from the outside to determine if there is a leak. This can be done by flying over with a drone or helicopter, driving alongside the pipeline, or using fiber optics on the full pipeline length to detect temperature changes. Because it relies on human intervention, visual inspection is considered the most effective of all methods – but it is extremely expensive.

Table 1 provides a general comparison among the systems for a variety of parameters.

Using a unique leak pattern recognition algorithm, E-RTTM can calculate what is actually happeningin a pipeline – without generating false alarms.

New extended real time transient model based leak detection and localisation technology

In recent years, new extended real time transient model (E-RTTM) computational pipeline monitoring technology has been developed into PipePatrol, a detection system that can be used for monitoring and protection of pipelines in all operating conditions – from a long or short distance pipeline for oil, gas, or water, to refined products in the chemical industry or others.

The system meets API 1130, API 1175, California AB 864, and German TRFL standards, as well as CSA Z662 Oil & Gas Pipeline Systems standards. The system also complies with numerous global company standards, including Shell DEP 31.40.60.11-Gen., Kuwait Oil Company Recommended Practice KOC-MP-039, DOW Global LDS Standard, and Saudi Aramco SAES SAES-Z003.

Using a unique leak pattern recognition algorithm, the E-RTTM technology allows extremely fast and sensitive leak detection in any kind of pipeline operation – without generating false alarms. Unlike other systems, it does not simply compare outlet flow with inlet flow. Instead, it uses the measured conditions to calculate the hydraulic profiles of the pipeline. One of these, the calculated flow profile, is compared to the measured flow for both inlet and outlet to determine what the pipeline flow should be if there is no leak.

In the first stage of E-RTTM, to generate the specific leak patterns, a fully dynamic, real-time process model calculates target values. This model is based on the method of characteristics considered the most accurate for 1-dimensional flows in pipelines. It has been continuously improved over the last few years, and now includes a full thermal/temperature model, so it can accurately model crude oil or dense phase gases like supercritical CO2 or ethylene.

Information about the real pipeline is transferred into a computer, including the elevation profile, product and material characteristics, and the thermodynamic equation.

In summary, unlike other CPM methods, E-RTTM does not simply compare outlet flow with inlet flow. Instead, it uses the measured conditions to calculate the hydraulic profiles of the pipeline. One of these, the calculated flow profile, is compared to the measured flow for both inlet and outlet.

The signature analysis method uses leak pattern recognition to continuously analyse this data and determine the pipeline's leak status. Because E-RTTM uses relative values, it continues to work effectively under transient pipeline conditions, without any significant effect on its sensitivity.

Smart monitoring and protection of pipelines

Pipeline monitoring has evolved from simple mass balance approaches to entire systems that can offer leak, theft and line break detection, as well as monitoring of tightness and lifetime stress. Covering operational, security, environmental, and legislative requirements, the new systems provide complete and sensitive protection of oil, gas, water and multiproduct pipelines.

Providing air operated pumps and compressed air solutions offshore

By: Standard Group

With a head office in Dubai, and branch offices in Abu Dhabi, Muscat and Pune (India), the UAE-based Standard group has been providing strong and reliable fluid solutions including pump systems and compressors for offshore, marine, oil and gas, petrochemical and industrial applications.

Wilden Pump and Engineering LLC, part of PSG, USA, is the leading global provider of air-operated double-diaphragm (AODD) pump technology. Since 1955, Wilden has been solving the toughest pumping applications in the world through excellence in research and development, deep market knowledge and unmatched customer service.

The Standard Group have been their authorised distributors since 1989 and maintain a strong relationship based on reliability and trust. They collaborate to provide customised and energy-efficient pneumatic pump solutions to clientele across the region.

Efficient and Reliable Wilden Air Distribution System

The Pro-Flo SHIFT is the new standard for AODD pumps. The innovative, yet simple, Pro-Flo SHIFT Air Distribution System (ADS) features an "air control spool" that automatically optimises air consumption and eliminates overcharging of the air chamber with no reduction in flow rate.

The Pro-Flo SHIFT's evolutionary ADS design meters the air flow, allowing for just enough air to keep the pumping process operational. This is accomplished through the incorporation of an air control spool that automatically meters the air to prevent overfilling. The results are a reduction in air consumption and operational costs while maintaining maximum operational efficiency and volumetric consistency. Pump performance and reliability is "game-changing" with the Pro-Flo SHIFT Technology.

The Standard Group holds significant inventory of Wilden Pumps in the UAE for spare parts, commissioning and pump service.

Quincy Air Compressors and Dryers

Over the past three decades Standard Group has maintained effective partnerships with globally renowned brands in pumps - Wilden, Viking, FTI, PompeTravaini and Griswold to name a few. To augment its offering, they now work with Quincy Air Compressors well known in the oil and gas sector, offshore rigs and marine industry for its reliability and performance.

A leading manufacturer of rotary screw and reciprocating air compressors and dryers, Quincy Compressors have established themselves as a measure of quality since beginning in 1920. Their QR-25 model is hailed as a robust pressure-lubricated reciprocating air compressor for its reliable performance in demanding applications. Quincy compressors and dryers are designed, engineered and built tough to meet years of reliable performance and extended service life. Their warranty programs, as well as round-the-clock service and support capabilities ensure customer satisfaction for rigorous applications.

The Standard Group range of Quincy products include:

- Rotary Screw Air Compressors
- Reciprocating Air Compressors
- Air Treatment products
- Oil-Free Air Compressors
- After market Parts, Accessories & Fluid

Quincy Rotary Screw Air Compressors-QSI-50 | 40-125 hp

Quincy's QSI 50-60-75-100-125 HP models offer premium performance on the fixed-speed rotary compressor package segment. These units are designed for medium to large industrial applications with steady air needs within a small footprint design. The QSI provides the pressure and flow you need with minimal operating pressures of 100-125-150 Psi.

QSI standard features include Nema premium TEFC drive motor, low sound enclosures, Wye-Delta starters, Q-Control microprocessor with cellular connectivity, web monitoring and networking, phase monitor, power outage restart and a robust Royal-Blue 10 years warranty.

Quincy Desiccant Heatless Air Dryers

Quincy desiccant air dryers purify compressed air by adsorbing water vapor. Pressure dewpoints of -40°F to -100°F are attained by directing the flow of wet compressed air through a bed of highly adsorbent Q-Sorb desiccant. "Q-Sorb" is an enhanced formula of activated alumina. It provides better uniformity, more efficient use of available surface area, less dusting, longer life and lower pressure drop. Optimum performance and energy efficiency are maintained by employing a selected integration of dedicated valves, unit specific electronic controls, monitoring devices, and dew-point demand controls.

PROFLO-SHIFT

Heatless Dryer

تحت رعاية صاحب السمو الشيخ خليفة بن زايد آل نهيان رئيس دولة الإمارات العربية المتحدة
UNDER THE PATRONAGE OF H.H. SHEIKH KHALIFA BIN ZAYED AL NAHYAN, PRESIDENT OF THE UNITED ARAB EMIRATES

Host

أديبك ADIPEC | أدنوك ADNOC

Abu Dhabi International Petroleum Exhibition & Conference

OFFSHORE & MARINE 9 - 12 November 2020

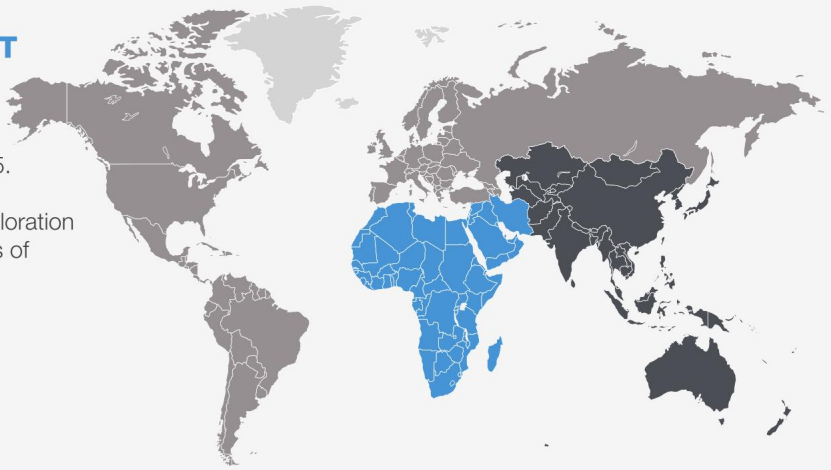
A GLOBAL OPPORTUNITY FOR OFFSHORE & MARINE IN OIL & GAS



OFFSHORE SUPPORT VESSELS MARKET GROWTH RATE BY REGION, 2020-2025

The market for offshore support vessels is expected to grow at a CAGR of approximately 6.50% from 2020 – 2025.

ADIPEC Offshore and Marine provides direct access to exploration and production companies for one of the largest gatherings of offshore vessel owners and operators.



Regional Growth Rates

High | Mid | Low

Source: Mordor Intelligence

WHY EXHIBIT?

#ADIPEC #ADIPEC2020

Capitalise on global offshore investments worth US$ 237 billion.

Network and do business with an international offshore and marine audience from 45+ countries.

Gain evolving industry knowledge and share best practices at the Offshore & Marine Conference in the venue's unique waterfront location in Hall 15.

Expand your business and build new relationships with key decision makers from around the world.

Join key Offshore & Marine exhibitors returning for the 2020 event, including: ADNOC Logistics & Services, NPCC, Zamil Offshore, Emirates Specialised Contracting & Oilfield Services, Khalid Faraj Shipping, Zakher Marine, Seacontractors, Horizon Geosciences, Bureau Veritas, Tasneef, IKM Subseas to name a few

Source: Rystad Energy ECube

BOOK YOUR STAND TODAY FOR ADIPEC 2020

www.adipec.com/offshorebookastand Contact us on: +971 2 4444 909 | adipec.sales@dmgevents.com

Supported by

Host City | Venue Partner | Official Media Partner | Technical Conference organised by | ADIPEC organised by

Energising millennials

By: Ben Oudman, director and regional manager, Region Continental Europe, Middle East, India and Africa, DNV GL – Oil & Gas

As the world pivots towards a lower carbon energy future, the oil and gas industry is looking to upskill and welcome a new generation of leaders, engineers and innovators to reshape and reinvigorate the sector.

In the short-term however, concerns over skills shortages and the ageing workforce impacting company prospects have risen in the Middle East and North Africa (MENA) according to new research published by DNV GL. A fifth of senior oil and gas professionals (20 per cent) cited this issue as one of the top five barriers to growth – up from 15 per cent last year. Conversely, such worries have lessened globally, down six percentage points to 15 per cent.

New Directions, Complex Choices: The outlook for the oil and gas industry in 2020 is based on a global survey of more than 1,000 people, the largest international sample in the report's history. Now in its 10th year, the report assesses industry sentiment, confidence, and priorities, and provides expert analysis of the key challenges and opportunities for the year ahead.

An evolving workforce

Predictions and perspectives on recruitment and the needs of those considering a career in the oil and gas industry are investigated for the first time in the annual outlook report.

Unlike those questioned globally, a third of MENA respondents (33 per cent) expect their business to increase headcount for the year ahead. This opinion is comparatively unchanged from 2019 (32 per cent). In contrast, fewer people globally believe that headcount will rise, down from 34 per cent last year to 28 per cent.

The report asserts that staffing challenges now, and in the future, may be further compounded by the depth and pace of change in some parts of the sector. The impact of decarbonisation initiatives and the demands of digitalising operations are key examples, much discussed and debated by industry leaders. The report asserts that younger professionals and new entrants into the industry will likely spend much of their careers steering their organisations through this transformation.

Galvanising decarbonisation

Notably, DNV GL's Industry Outlook survey revealed that more than half of respondents in the MENA region (55 per cent) expect their organisation to actively adapt to a less carbon-intensive energy mix in the year ahead. For instance, the study found there is a greater focus on maintaining or increasing investment in photovoltaic (PV) solar (71 per cent) and solar thermal (57 per cent) in 2020. The need for accelerated change is the most pertinent in MENA at 71 per cent compared to 25 per cent in North America.

It is anticipated that a developing renewable industry in MENA can also provide much needed diversification of local employment opportunities, viewed favourably by local governments. DNV GL is currently supporting several renewable energy projects in wind, solar and energy storage throughout the region.

While skills and experience from oil and gas are easily transferrable to alternative energy sources, operational, commercial and new practical know-how is required. Though the abilities of risk management professionals are most in demand by a quarter of global respondents (25 per cent), 10 per cent need environmental specialists.

Beyond the dawn of digitalisation

To support sustainability and improve productivity, the development and deployment of digital tools is rapidly establishing a foothold. Within 12 months, there has been an unprecedented jump in the number of those who view digitalisation as a priority, up from a third (34 per cent) in 2019 to more than half (54 per cent). Almost all respondents globally (92 per cent) expect to increase or maintain spending in this area in the year ahead.

A huge majority of MENA respondents (96 per cent versus 92 per cent globally) expect their organisation to increase or maintain spending on digitalisation in 2020. In particular, 63 per cent expect investment in cyber security to increase, up from 38 per cent a year ago.

Cyber security concerns have risen significantly in MENA with a much larger slice of spending forecast for the year ahead – more so than globally. Safely controlling and averting cyber incidents is a high priority for 35 per cent of those questioned, nearly quadrupling last year's figure of 9 per cent. Embedding procedures and processes to counter the potential impact of an attack requires specific skills. No wonder that nearly a fifth (19 per cent) of those questioned need artificial intelligence and data specialists to join their organisation. This necessity for digital expertise is significantly higher globally at 28 per cent.

Enticing the next generation of decision-makers, engineers and innovators to lead and transform the sector is critical and complex. Just under half of MENA respondents (47 per cent) believe the industry as a whole is struggling to attract younger employees.

In summary, the survey revealed that those who believe their organisation is an industry leader in digitalisation are more confident in their company's prospects, more resilient to volatility in the oil price, and are pursuing greater investment in the energy transition.

Gastech
Exhibition & Conference

www.gastechevent.com

@gastechevent

8 - 10 September, 2020
Singapore EXPO, Singapore

Exhibit at Gastech 2020 - The World's Largest Gas, LNG & Energy Exhibition & Conference

Gas and LNG represents a reliable and low cost energy source that will provide a perfect partner to renewables as the industry transitions to lower emission energy. Gastech brings the gas, LNG and energy community together to drive towards a cleaner energy future.

35,000
International Attendees

700+
International Exhibitors from the complete energy value chain

55,000
SQM Exhibition Space

16
Exhibiting Country Pavilions

100+
Countries Representing the Global gas, LNG and energy ecosystem

250
Expert Speakers

Book your stand now, call **+44 (0)203 615 5916** or email **sales@gastechevent.com**

Supported by

Held In

"Triple ONE" performance by AD-111 powered by AlMansoori

By: AlMansoori

A drilling-rig with the beautiful name "triple one" will always be associated with creating a "111" performance expectation. This indeed is the case for the team of AD-111. The team has set the proud record of being the land-driller with the best drilling performance, where 6,224 feet was safely drilled in 33 hours. An amazing record with 12 ¼" hole ROP being the highest average ROP in the long history of ADNOC land-drilling operations, reaching just under 190 feet per hour average ROP.

Ali Al Braiki, the ADNOC Onshore Drilling Team Leader responsible for this rig said: "Achievements like this do not come by luck; this is the result when true team-work, performance motivation and technology all meet at the same time, in this case for 33 hours. We know about the catalyst effect of performance motivated teams but now we are talking about the technology. It was AlMansoori providing us with their latest high performance mud motor technology.

Mohamed Al Kasrawy, the AlMansoori Directional Drilling Operations manager takes up the story from here and explains: "My company invested in a complete new fleet of high performance motors in support of providing the highest service quality for our clients in UAE, KSA and India. We love to work with teams whereby we break records together in a safe manner!"

"Our AlMansoori directional drilling philosophy is that we must always drill from shoe-to-shoe at the optimum ROP. This is the holistic approach towards achieving the best possible drilling process whereby the optimum ROP will result in a good balance between rig and downhole equipment wear and tear, repair and maintenance costs, hole cleaning, hole quality and daily progress. Our job is not just about achieving the safest and highest ROP. It really is about the most efficient drilling operation – without non-productive time and invisible lost-time - delivering the best quality hole so that the casing runs smoothly to the bottom. Fundamental to this is the bit selection in combination with our motor characteristics. In this case we used a bit with S "triple 2" IADC classification. Technology wise, at the heart of this performance is the unique power section design of our motors. These contain a stator with a powerful R-wall profiled section that allows an increase of 50 per cent more power output compared to a conventional power section. It allows operations at differential pressures twice as high as conventional motors and with a much higher stall torque preventing motor shutting down by increasing the load," he adds.

Total launches innovative engine coolant for marine and energy sectors

Total Lubmarine provides a new way to reduce operating costs, increase reliability, mitigate engine risks and reduce environmental impact with WT SUPRA.

Total Lubmarine brings innovation to the coolant market with its patented carboxylate technology. WT SUPRA Coolant is an environmentally friendly inhibitor concentrate that delivers extended service life and superior corrosion protection.

"We offer a solution to help increase operating performance and protection for both engine manufacturers and operators alike, and which gives complete assurance on their engine performance," says Stuart Fuller, global brand manager at Total Lubmarine. "We are truly delighted with WT SUPRA's proven coolant performance and corrosion inhibitors. It is approved by more than 10 major engine designers which gives the market confidence in the quality and suitability of our product technology and what it can deliver for the marine and power generation industries."

Carefully formulated using unique organic technologies, the product has been specifically designed for use in marine 2 stroke, 4 stroke and stationary engines as well as smaller, high speed auxiliary engines.

"WT SUPRA, contains none of the inorganic ingredients, such as phosphates, nitrates, amines, boron or silicates, typically found in other coolants," says Fuller. "We have been careful to develop an advanced solution that reduces the need for frequent waste disposal and provides added protection to the environment with non-polluting properties. It uses the latest organic technology, delivering high performance and extended service life to equipment, reducing overall maintenance costs."

The science behind WT SUPRA provides:

1. Enhanced protection of wet cylinder liners at increased temperatures
2. Exceptionally low inhibitor depletion rate ensuring long term system protection
3. Excellent protection of engine materials against corrosion and cavitation, including aluminum, brass, copper, solder, steel, and cast iron
4. Outstanding service life – at least 32,000 hours in engines with just a 5 vol. per cent concentration.

GLOBAL ENERGY SHOW

EXHIBITION & CONFERENCE

shaping the future of energy

BOOK YOUR SPACE TODAY!

400+
Technical Conference Delegates

5
Technical Panel Sessions

1,000+
Exhibiting Companies

22,500+
Represented Companies

60+
Technical Presentations

30+
Poster Presentations

53,657+
Exhibition Attendees

12
Technical Categories

NORTH AMERICA'S LEADING ENERGY EVENT

JUNE 9-11, 2020 | CALGARY, CANADA

globalenergyshow.com

Penspen and QiO Technologies partner for THEIA

Penspen has developed THEIA in partnership with QiO Technologies as an environment for pipeline operators across the world to access Penspen's expertise in defect assessment and asset integrity management.

Penspen's CEO Peter O'Sullivan explains: "There is no secret about the challenges we face in the energy industry. Ageing pipeline assets mean greater risks that are in turn set against a background of industry-wide cost reductions and increased regulatory demands."

THEIA combines Penspen's 65 years of technical experience, industry knowledge and quality assurance skills with QiO Foresight Maintenance

technology to provide a complete picture of pipeline assets under a wide range of different environmental and operating scenarios. Penspen believe harnessing predictive data analytics in this way will enable its clients to gain future insights into how best to manage pipeline integrity alongside whole life-cycle technical assurance.

"The more operators use THEIA in tandem with our expertise at Penspen, it's more likely that defects will be quickly identified and prevented from causing failure," O'Sullivan maintains.

The ability to run complex assessments securely, providing predictive or real-time information and analysis, forms the backbone of the current THEIA offering. Further ahead, QiO's specialist skills in machine learning and AI will contribute to the further development of THEIA's capabilities and Industry 4.0 standard, as part of the growing trend for automation away from manual processes, and the unlocking of trapped business value through the use of the most advanced analytical techniques.

THEIA is a cloud-based, subscription service designed to allow clients a high degree of flexibility in accessing their pipeline information and the level of analysis required, while at the same time ensuring maximum security for all their critical data. Over the next 12 months, Penspen aim to make instant first level checking of defects available to every pipeline operator worldwide.

Baker Hughes & C3.ai release BHC3 production optimisation

Baker Hughes and C3.ai have launched BHC3 Production Optimisation, an AI-based application that allows well operators to view real-time production data, better project future production, and help optimise operations for improved oil and gas production rates.

Launched at the Baker Hughes Annual Meeting 2020, the application is now generally available to oil and gas customers globally. The application continuously uses machine learning algorithms to quickly aggregate historical and real-time data across production operations and creates a comprehensive view of production from individual and multiple wells to the pipeline, distribution, and point-of-sale. BHC3 Production Optimisation then applies machine learning to the data for anomaly detection, production forecasting, and prescriptive actions that improve production performance.

"BHC3 Production Optimisation delivers the data visibility and optimisation capabilities that are critical for upstream businesses to meet production targets during a time of growing energy demand," said Derek Mathieson, chief marketing and technology officer, Baker Hughes. "Releasing this application is part of a continued commitment from Baker Hughes and C3.ai to help the energy industry improve productivity and efficiency with enterprise-scale AI applications."

BHC3 Production Optimisation enables more precise and timely decision-making to optimise the right level of production to meet business goals and energy demand. Advanced machine learning models create a continuous, near real-time and accurate virtual representation of production operations by generating flow rate, pressure and temperature predictions of hydrocarbon production and flow across wells, pipelines, and network assets.

Additionally, the application uses a hybrid approach that draws on physics-based and data-driven AI models to generate predictions and prescribed actions that are accurate and easier to interpret. For example, engineers can now pinpoint exactly which injection wells to tune for higher production output.

"The energy industry is at an inflection point where companies globally are being challenged to make operations more efficient, safer, and more productive," said Ed Abbo, president and CTO, C3.ai. BHC3 Production Optimisation is the second AI software application developed out of the Baker Hughes and C3.ai strategic relationship announced in June 2019.

Siemens to modernise full drilling-drives package

Siemens was awarded a contract by Arabian Drilling Company to modernise a complete and integrated drilling-drives lineup, including auxiliaries and controls, that will be installed on an offshore jackup drilling rig for a customer in the Middle East.

In addition to new features and benefits, the upgrade will also enable the customer to meet the latest safety standards. Delivery of the new system is planned for the early part of 2021.

The contract includes engineering, design, manufacturing, and delivery of the fully integrated modernisation based on Siemens' BlueDrive technology. The Siemens solution, known as Master2Blue, will use the

footprint, cable network, and communication principles of the existing system, enabling quick, modular-style installation, commissioning, and startup.

The BlueDrive system, developed and refined over the years to meet the offshore industry's demanding requirements, is ideal for energy distribution in propulsion and drilling systems. The BlueDrive system is an efficient, environmentally friendly multi-drive solution that provides high levels of reliability, availability, and ease of service, with low emissions and an option for remote support.

"As the reactivations of stacked and un-utilised drilling rigs are increasing, Siemens stands fully ready to modernize offshore rigs and ships to make them safer and more energy efficient," said Thomas Steenberg, Siemens Offshore Solutions, Business Development Director. "By using the latest drilling and propulsion drives technology, customers can assure their rigs and ships remain at the highest level of supportability for many years to come."

Hi-Force offers specialist lifting solutions

The UK's leading hydraulic tools manufacturer, Hi-Force, offers products that are specifically designed for heavy duty lifting and lowering applications in various industries including heavy engineering, construction, oil and gas, railways and ship building.

Hi-Force's hydraulic tools can be relied upon to deliver optimum quality to the most challenging or hazardous of projects. Key to this reliability is the company's commitment to research and development, which also ensures Hi-Force remains at the forefront of high pressure, hydraulic tool technology. The Company's 50,000 sq. ft. manufacturing facility located in Daventry, UK, houses numerous DMG Mori CNC machines, offering state of the art manufacturing capabilities. Machines such as the DMG Mori

SL603 Lathe have dramatically reduced the delivery time for custom-manufactured and standard high tonnage hydraulic cylinders.

Hi-Force boasts a wide range of single and double acting hydraulic cylinders with capacities ranging from 4.5 to 1012 tonnes and stroke lengths up to 508 mm. A choice of hydraulic pumps are available for use with Hi-Force hydraulic cylinders, ranging from steel or aluminium manually operated pumps to air, electric, battery or petrol driven powered pumps. All hydraulic pumps are designed for operator convenience, each with a maximum working pressure of 700 bar and reservoir capacities up to 200 litres. Custom designed options can be manufactured to meet specific and unique customer requirements worldwide.

Complementing the heavy lifting products range are the multi-functional fixed and variable speed drive synchronous lifting systems from Hi-Force. The SLF fixed drive and SLV variable drive range has been designed for precise and controlled lifting and lowering of heavy loads and structures using multiple synchronised hydraulic cylinders. Built with a robust framework to withstand the demands of operation in harsh environments and high usage applications, both the SLF and SLV models can be adapted to suit customer's special lifting requirements. Ease of operation from a centralised control point, real time load lift monitoring and a user-friendly design that allows safe and efficient movement of loads are the key features of the SLF and SLV synchronous lifting systems, which meet and exceed the demands of the industry.

Through investment in facilities, product design and manufacturing capabilities and with nearly four decades of hydraulic tool manufacturing and technical sales experience, Hi-Force is certainly a company that can be trusted with current and future hydraulic tool demands.

تحت رعاية فخامة الرئيس عبد الفتاح السيسي رئيس جمهورية مصر العربية

HELD UNDER THE PATRONAGE OF HIS EXCELLENCY ABDEL FATTAH EL SISI, PRESIDENT OF THE ARAB REPUBLIC OF EGYPT

EGYPS

EGYPT PETROLEUM SHOW

SUPPORTED BY

وزارة البترول والثروة المعدنية
Ministry of Petroleum & Mineral Resources

9-11 FEBRUARY 2021 | EGYPT INTERNATIONAL EXHIBITION CENTER

2021 TECHNICAL CALL FOR PAPERS NOW OPEN

17 TECHNICAL CATEGORIES

- Upstream: Exploration of Conventional Resources (CONV)
- Upstream: Exploration of Unconventional Resources (UNCONV)
- Geoscience: Upstream Technology Developments (GEOT)
- Oil and Gas Field Development (FD)
- Drilling (DR)
- Completions (COMPL)
- Gas/LNG Processing, Transportation, Operations and Technology (GAS)
- Offshore and Marine Technology and Operations (MAR)
- Oil and Gas Economics, Concession Agreements and Project Finance (FIN)
- Project Management and Execution (PM)
- Operational Excellence (OpEx)
- Health, Safety and Environment (HSE)
- Downstream: Refining Technology, Operations and Marketing (REF)
- Downstream: Petrochemicals Technology and Operations (PET)
- Biofuels, Alternative Fuels and Renewable Energy (BIO)
- Digitalisation of Oil and Gas (DIGI)
- People and Talent Development (PPL)

SUBMIT YOUR ABSTRACTS TODAY AT WWW.EGYPS.COM/CFP

DO NOT MISS THE OPPORTUNITY TO SPEAK AT NORTH AFRICA & THE MEDITERRANEAN'S LEADING OIL AND GAS TECHNICAL CONFERENCE

2021 CALL FOR PAPERS IMPORTANT DATES

CALL FOR PAPERS OPENS
TUESDAY
11 FEBRUARY 2020

7 DAYS LEFT TO SUBMIT ABSTRACTS
THURSDAY
18 JUNE 2020

2021 CALL FOR PAPERS CLOSES
THURSDAY
25 JUNE 2020

TECHNICAL COMMITTEE MEETING
WEDNESDAY
12 AUGUST 2020

AUTHOR NOTIFICATION
WEDNESDAY
26 AUGUST 2020

EGYPS 2021 OPENS
TUESDAY
9 FEBRUARY 2021

SUBMISSIONS DEADLINE: THURSDAY 25 JUNE 2020

SUPPORTED BY

EGPC · EGAS · EGYPTIAN PETROCHEMICALS HOLDING COMPANY

ORGANISED BY

dmg::events

Global offshore discoveries and reserves

A look at Wood Mackenzie's February offshore data and rig stats from around the world

Offshore new discoveries

Water Depth	2015	2016	2017	2018	2019
Deepwater	25	12	16	13	14
Shallow water	85	66	72	46	40
Ultra-deepwater	19	16	12	17	13
Grand Total	129	94	100	76	67

Shallow water (1-399m), deepwater (400-1499m), ultra-deepwater (1500m+).

Offshore undeveloped recoverable reserves

Water Depth	Number of fields	Recoverable reserves liquids mbl	Recoverable reserves gas mboe
Deepwater	549	39,894	19,781
Shallow water	3,193	270,937	103,342
Ultra-deepwater	329	37,452	32,056
Grand Total	4,071	348,283	155,179

Contingent, good technical, probable development
The total proven and probable (p+p or 2P) reserves which are deemed recoverable from the reservoir.

Offshore onstream and under development remaining reserves

Region	Number of fields	Remaining reserves liquids mbl	Remaining reserves gas mboe
Africa	615	20,535	12,852
Asia	870	16,734	7,278
Europe	828	12,719	14,282
Latin America and the Caribbean	205	6,174	30,341
Middle East	124	90,714	146,409
North America	587	3,060	14,975
Oceania	98	12,495	1,573
Russia and the Caspian	58	7,892	12,130
Grand Total	3,385	170,324	239,840

Onstream and under development
The portion of commercially recoverable 2P (proven+probable) reserves yet to be recovered from the reservoir.

February 2020 rig stats

Updated as at 1/2/2020

Worldwide

Rig Type	Available	Contracted	Grand Total	Utilisation	Difference*
Drillship	23	66	89	74%	1%
Jackup	114	339	453	75%	0%
Semisub	42	64	106	60%	-1%

Africa

Rig Type	Available	Contracted	Grand Total	Utilisation	Difference*
Drillship	2	14	16	88%	6%
Jackup	8	28	36	78%	0%
Semisub	1	3	4	75%	0%

Middle East

Rig Type	Available	Contracted	Grand Total	Utilisation	Difference*
Jackup	24	117	141	83%	1%
Drillship		2	2	100%	0%

Asia

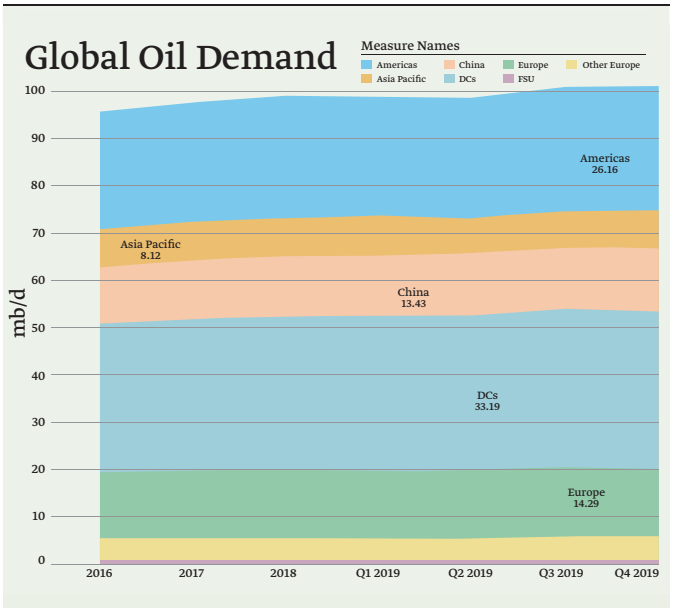
Rig Type	Available	Contracted	Grand Total	Utilisation	Difference*
Drillship	5	7	12	58%	0%
Jackup	43	108	151	72%	1%
Semisub	18	11	29	38%	-1%

Source [for all] : Wood Mackenzie

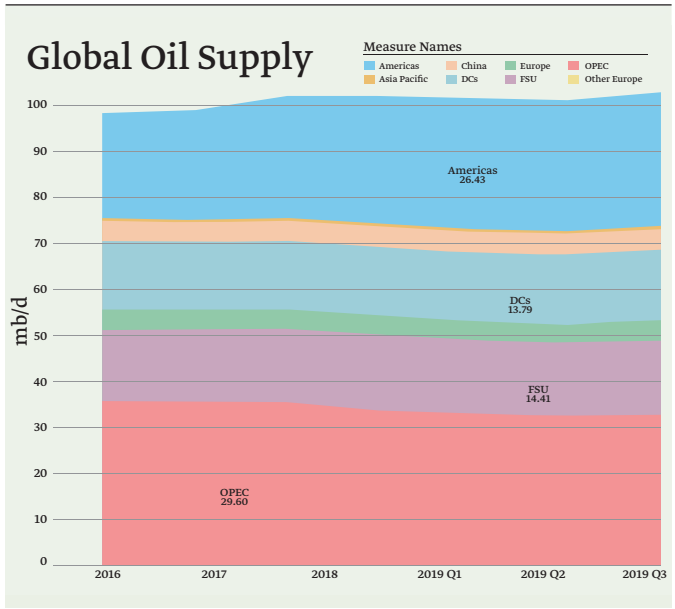
* % difference from the month before

Overview of global oil demand and supply

A snapshot of the global oil production and supply, OPEC and non-OPEC rig count



Source: OPEC



Source: OPEC

OPEC Rig Count

Rig Count	2017	2018	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Jan 20
Algeria	54	50	47	49	42	41	41
Angola	3	4	5	5	4	3	6
Congo	2	3	4	4	3	2	2
Ecuador	6	8	9	8	9	6	6
Equatorial Guinea**	1	1	1	1	1	1	1
Gabon	1	3	7	6	7	9	9
Iran**	156	157	157	157	157	157	157
Iraq	49	59	65	75	77	77	77
Kuwait	54	51	44	44	46	48	53
Libya	1	5	11	15	16	16	16
Nigeria	9	13	14	14	16	18	14
Saudi Arabia	118	117	118	115	118	109	111
UAE	52	55	58	59	64	67	66
Venezuela	49	32	25	23	25	25	25

** Estimated data when Baker Hughes Incorporated did not reported the data.

Source: Baker Hughes

Non-OPEC Rig Count

Rig Count	2017	2018	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Jan 20
US	875	1,031	1,045	990	920	819	792
Canada	207	191	185	83	131	138	205
Mexico	17	27	26	34	38	48	46
Norway	15	15	15	17	18	18	18
UK	9	7	13	16	16	13	10
OECD Europe	92	85	92	159	190	154	133
OECD Asia Pacific	15	21	24	29	31	30	28
Other Asia*	208	222	232	225	217	212	211
Latin America	112	123	128	122	123	113	102
Middle East	68	65	66	69	67	69	69
Africa	38	45	54	52	50	62	62

** Estimated data when Baker Hughes Incorporated did not reported the data.

Source: Baker Hughes

dmg :: events


ADIPEC 2019


Gastech 2019


EGYPS 2020

Events 2020

March

EAST AFRICA OIL & GAS SUMMIT AND EXHIBITION
March 18-19
Nairobi, Kenya
www.eaogs.com

May

THE CANADA GAS AND LNG EXHIBITION AND CONFERENCE
May 12-14
Vancouver, Canada
www.canadagaslng.com

June

GLOBAL ENERGY SHOW
June 9-11 June
Calgary, Canada
www.globalpetroleumshow.com

GAS INDONESIA SUMMIT
June 10-12, 2020
Jakarta, Indonesia
www.gasindosummit.com

September

WORLD HEAVY OIL CONGRESS & EXHIBITION (WHOC)
September 1-3, Muscat, Oman
www.worldheavyoilcongress.com

GASTECH
September 8-10, Singapore
www.gastechevent.com

GLOBAL ENERGY MANUFACTURING (GEM)
September 23-24, 2020
Edmonton, Alberta, Canada
www.canweldexpo.com

INTERNATIONAL PIPELINE EXPOSITION (IPE)
September 28-30, 2020
Telus Convention Centre, Calgary, Alberta
www.internationalpipelineexposition.com

November

ABU DHABI INTERNATIONAL PETROLEUM EXHIBITION & CONFERENCE (ADIPEC)
November 9-12, Abu Dhabi, UAE
www.adipec.com

GAS ASIA SUMMIT
November, 25-26, Beijing, China
www.gasasiasummit.com

CERTIFIED QUALITY

MAXIMUS MPX SERIES 2

The new Videotec's MAXIMUS MPX SERIES2 is an explosion-proof Full-HD PTZ camera, ideal for effective video surveillance and process monitoring in the Oil & Gas, maritime or industrial sectors where fire or explosion hazards may exist due to the presence of flammable gases or vapors, flammable liquids, combustible dusts.

Why Videotec:

- 34 years' experience in indestructible products for outdoor
- Certified Quality as a competitive advantage
- Winning technical specifications for global market needs
- The most extensive range of reliable and resistant products for the Oil&Gas and Offshore/Onshore Marine industries

VIDEOTEC
VIDEO SECURITY PRODUCTS
www.videotec.com
Made in Italy

IECEx INMETRO c UL us LISTED EAC Ex APPROVED TYPE APPROVAL SCHEME

Building a Fully Connected,
Intelligent World

HUAWEI

POWERED BY 5G & AI

Huawei OceanStor Dorado Transforms Enterprise Storage

Ever fast, ever solid, AI-powered all flash storage

Contact Us:
enterpriseME@huawei.com
e.huawei.com/ae

OceanStor Dorado