TOP 30 EPC: A RANKING OF KEY CONTRACTORS IN THE ENERGY SECTOR

Oil & Gas MIDDLE EAST

NEWS, INFORMATION AND ANALYSIS FOR THE MIDDLE EAST'S ENERGY PROFESSIONALS June 2016 • Vol. 12 • Issue 06

Regulars:

INTERVIEW

WEATHERING THE STORM

Dana Gas CEO Dr Patrick Allman-Ward is confident that under his steady leadership the company can overcome any trials and tribulations it might face


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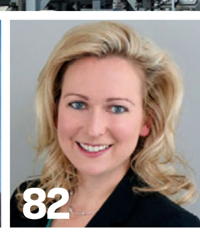

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Change is the only constant phenomenon

As a change of guard takes place in Saudi Arabia, it reinforces the fact that the old order must give way to a new

THIS ISSUE:
O&GME presents its annual list of the top 30 EPC contractors – a compilation of companies that have made the cut.

Change is the only constant thing in the universe, they say, an idea that was only underlined by the radical changes announced in the Kingdom of Saudi Arabia last month.

And Deputy Crown Prince Mohammed bin Salman, the young and dynamic 30 year old son of Saudi King Salman bin Abdulaziz, is clearly the face of that change in the Kingdom. He is believed to be the prime architect of the 'Saudi Vision 2030' – a revolutionary roadmap, laying out numerous bold ideas, to steer Saudi Arabia out of a decades-old dependency on its oil and gas reserves to an investment-driven economy.

As part of this ambition, not only will the Kingdom sell a stake of its most valuable asset – Aramco – but will use the money to create so mammoth a sovereign wealth fund that would help Saudi Arabia navigate the low oil price era with ease.

The Saudi leadership has also decided to dissolve the traditional oil ministry to create a neo-age jumbo Ministry of Energy, Industry and Mineral Resources (that includes the Ministry of Electricity), and with it has replaced the 80-year-old veteran Ali Al-Naimi, who had been at the helm of this now-defunct ministry for 21 years.

Mr. Naimi's story is by all means an inspirational tale – he started working for Aramco at the tender age of 12 as an office boy, and ascended the ranks through sheer perseverance and exemplary leadership skills. He went on to become the first Saudi national to assume the role of president and CEO in 1983, and eventually ended his nearly five decades-old career at the company in 1995, when he assumed charge as Saudi Arabia's oil minister.

During his two decades as oil minister, during which he presided over many an ebb and flow in crude oil prices, not only did Mr. Naimi elevate Saudi Arabia's status as a premier energy producing nation in the world, but also rose to become a doyen of the OPEC bloc, thereby dictating the cartel's (and the world's) oil policy.

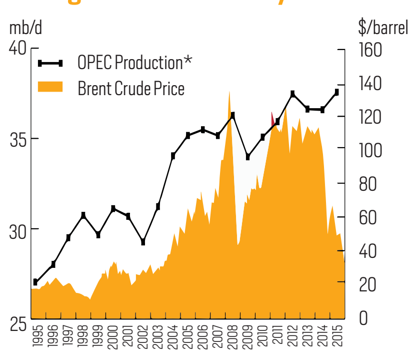
Although Mr. Naimi's replacement doesn't come across as a shock to many (cynics would cite the Doha talks' failure in April as an example of his waning clout), his departure definitely does put an end to an era of above par oil prices accounting for the prosperity of the Gulf states.

Khalid Al-Falih, Aramco's chairman and his successor, has much work to do you would suppose.

Here's wishing all our readers Ramadan Kareem!

Indrajit Sen
Reporter, Oil & Gas Middle East
indrajit.sen@itp.com

The rollercoaster ride of oil prices during Ali Al-Naimi's 21 years



Source: OPEC; Statistical Review; EIA; GI Research
*Total liquids production

Oil&Gas MIDDLE EAST

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Debt-driven market shakeout

Oil and gas companies are looking to complement their aggressive capex and cost reductions with divestitures, mergers and acquisitions

Depressed oil prices will force oil and gas companies in distress to seek scarce buyers in a debt-driven shakeout, according to AT Kearney's *Oil and Gas M&A Outlook*. The report, recently released, reveals that 2016 will be a pivotal year for all oil and gas companies.

Globally, companies with weak balance sheets will be forced to offload assets and seek partners to support their cash position as funding options dry up, while companies in a stronger financial position will have the opportunity to capture reserve and merger synergies.

"There will be ample opportunities for potential buyers, and we expect to see a surge in assets and companies up for sale," said Richard Forrest, AT Kearney's global lead partner for the Energy Practice, and co-author of the report.

In 2015, oil and gas M&A activity was limited, with only a few major deals dominating headlines, such as Royal Dutch Shell's $81.5bn acquisition of BG Group. Midstream deal value rose by 68%, with the Energy Transfer Equity-Williams deal in the lead. Master limited partnerships (MLPs) largely contributed to this increase, making up well over half the total deal value.

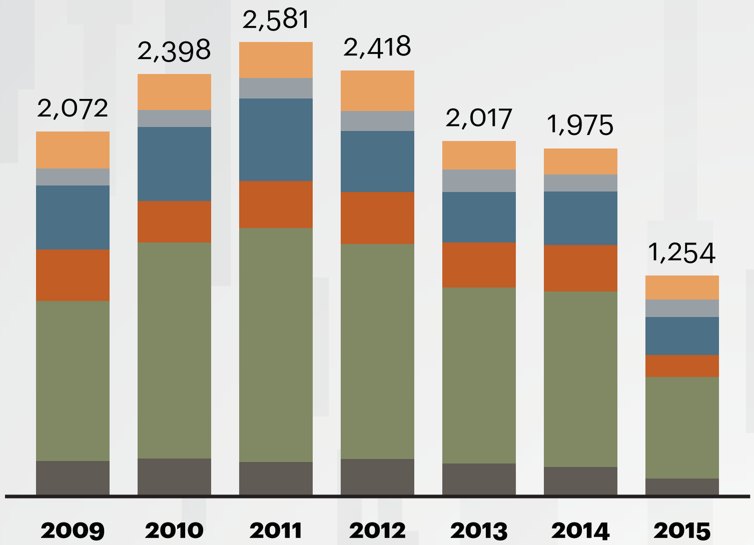
However, total upstream deal value declined by 13%; if the impact of the outsized $81.5bn Shell-BG deal in 2015 is excluded, total upstream deal volumes dropped by 54%. Oilfield services total deal volume declined 61%, and with the exception of the Cameron International-Schlumberger transaction, the top 10 deals involved financial investors rather than incumbent firms within the industry purchasing oil and gas assets.

Recent price volatility has created sharp differences in valuation expectations between buyers and sellers, delaying M&A decisions. Companies are focussing on cash preservation and cost reductions but are quickly exhausting options and now have to dig deeper and structurally change their strategies.

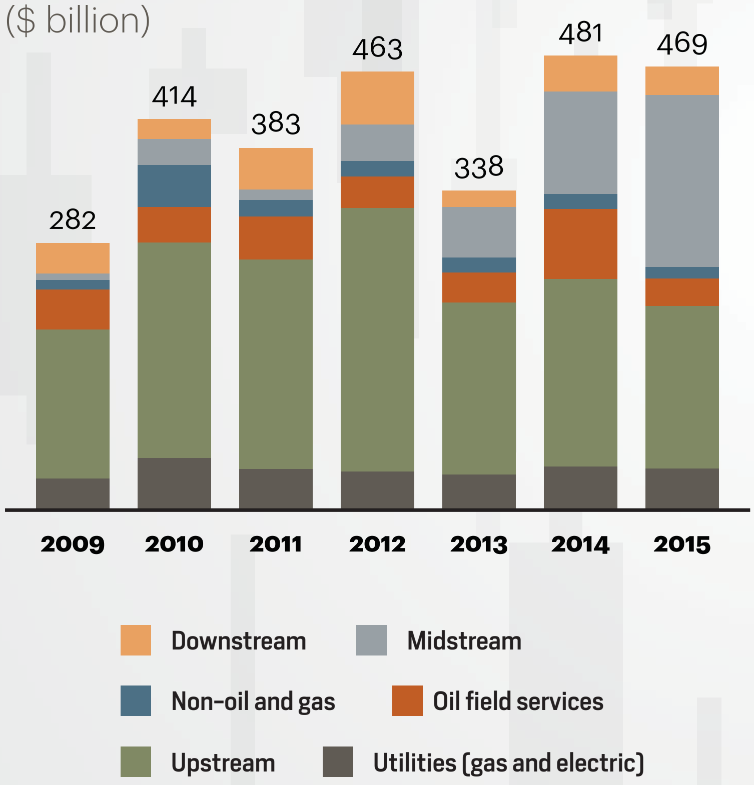
Deal volume dropped in 2015, but value remained stable

Mergers and acquisitions

Transaction volume by target
(number of deals)

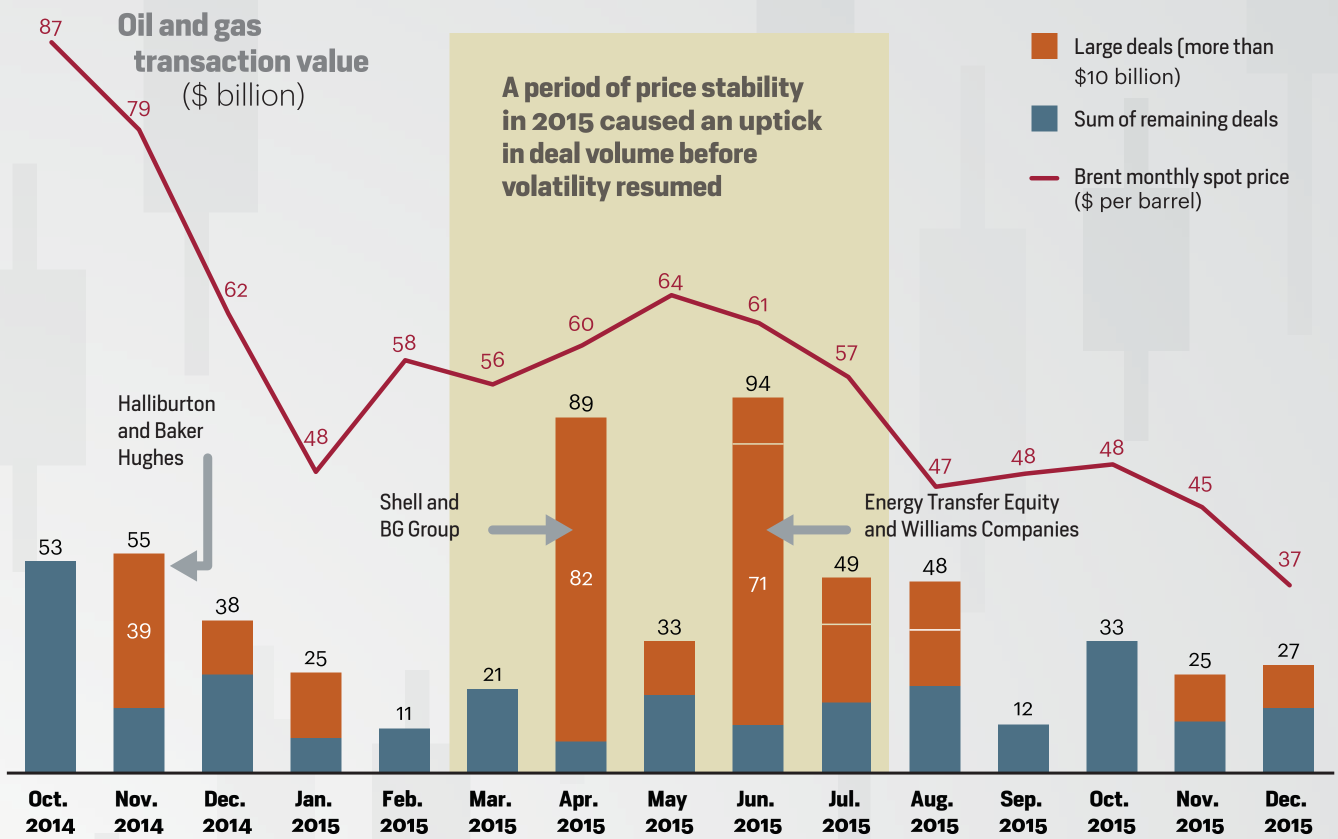


Transaction value by target
($ billion)



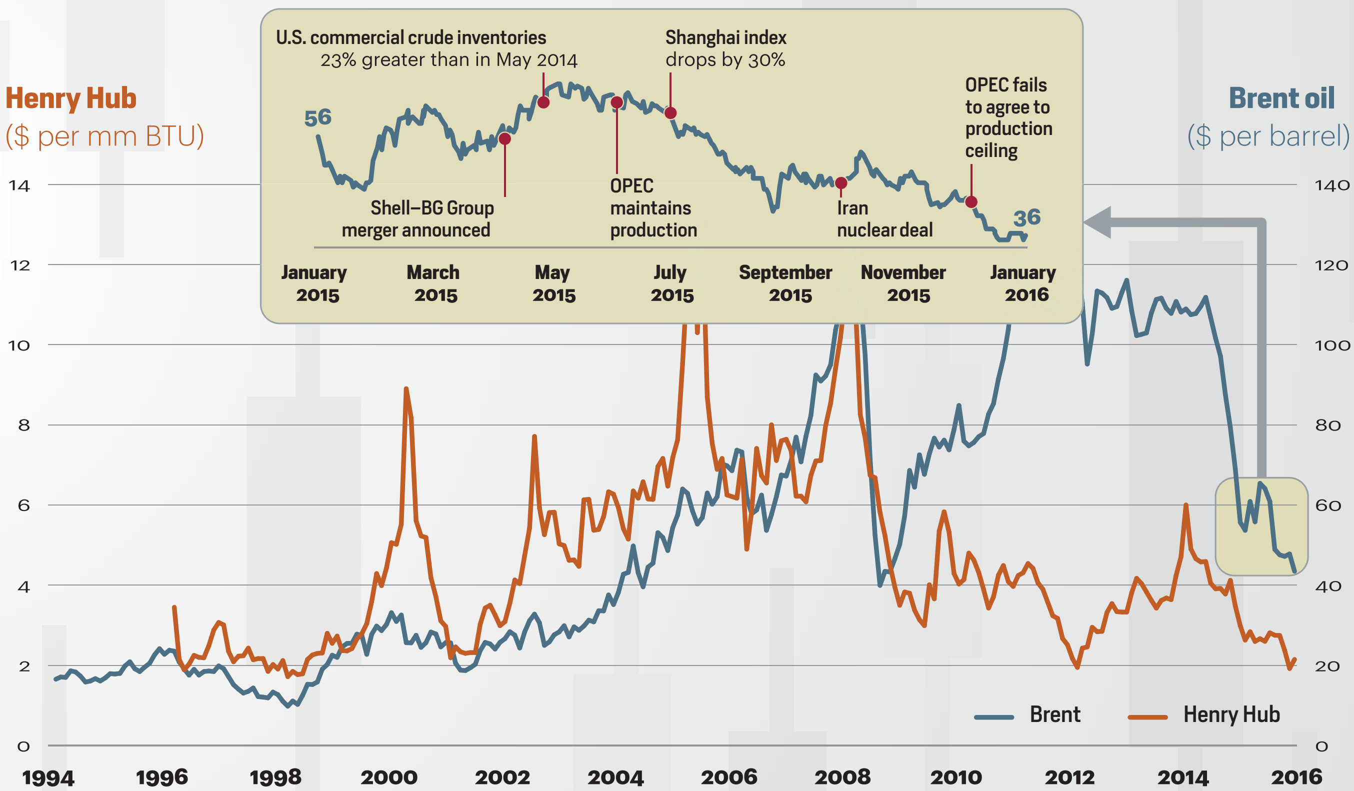
Sources: Dealogic; AT Kearney analysis

Volatility hampered oil and gas M&A activity in 2015



Sources: Energy Information Administration; AT Kearney analysis

Supply factors and economic woes push oil prices down



Note: mm BTU is million British thermal units

Sources: *Bloomberg*; AT Kearney analysis

UPDATE

Coming up:

Saudi Arabia names Khalid Al-Falih as new Energy Minister

Aramco chairman replaces 80 year old Ali Al-Naimi at the helm of the Kingdom's new integrated Ministry of Energy, Industry and Mineral Resources


Ali Al-Naimi


Khalid Al-Falih

WHAT WILL THIS MEAN FOR THE SAUDI OIL POLICY?
It is unlikely to mean much of a shift, as Saudi's oil policy is being crafted to a large degree by Deputy Crown Prince Mohammed bin Salman, who oversees energy and economic policies.

Saudi Arabia in May appointed Khalid Al-Falih, chairman of the state oil giant Saudi Aramco, as its new Energy Minister, replacing Ali Al-Naimi, who had held the post since 1995.

Falih's appointment, part of a major economic shake-up, is likely to strengthen oil strategy rather than lead to any change in thinking, according to analysts.

A royal decree said the Petroleum Ministry had been renamed the Ministry of Energy, Industry and Mineral Resources, and that Falih would give up his post of Health Minister. The Ministry of Electricity had been merged into the energy portfolio, the decree said.

Falih has for years been considered a possible successor to Naimi, who also stepped up to the post of oil minister after heading Aramco.

"We see the market balancing some time in 2016; we see demand ultimately exceeding supply and soaking up a lot of the excess inventory, and prices in due course will respond, regardless of when and by how much," Falih told a news conference in Riyadh in late December.

"Saudi Arabia, more than anyone else, has the capacity to wait out the market until this balancing takes place," he said.

Falih has spent more than 30 years at Aramco, where he was chief executive from 2009 until he was named chairman last year. Naimi took the reins at the oil ministry after a long career at Aramco, following a path by which the Saudi ruling family keeps highly experienced technical experts involved in wider energy strategy. He has become an advisor at the Royal Court, the decree said.

Naimi has always tried to use Saudi financial muscle and oil supply scale to drive out higher-cost producers or rivals during oil market downturns. He did so while helping to steer OPEC through a minefield of instability provided by the political travails of several member countries, including wars involving Iraq and Libya, and sanctions on Riyadh's main strategic rival, Iran.

QUOTE: "WE SEE DEMAND ULTIMATELY EXCEEDING SUPPLY AND SOAKING UP A LOT OF EXCESS INVENTORY, AND PRICES IN DUE COURSE WILL RESPOND, REGARDLESS OF WHEN AND BY HOW MUCH."

Media reports ADNOC plans to cut 5,000 jobs by year-end

About 2,000 of the lay-offs have already been carried out, the report said

JOB CUTS The Abu Dhabi National Oil Company (ADNOC) plans to cut 5,000 jobs by the end of the year, and 2,000 of the lay-offs have already been carried out, according to a report by the Middle East news service *MEED*.

ADNOC has roughly 55,000 staff. Many companies in Abu Dhabi and elsewhere in the Gulf are trying to cut costs as low oil prices slow economic growth and pressure state finances.

An ADNOC spokesman, contacted by *Reuters*, did not confirm or deny the cuts but said: "In keeping with the entire oil and gas industry, ADNOC is constantly looking at ways to be more efficient and more profitable, particularly in the current market environment.

"This is in line with our strategic goals of efficiency, profitability and performance," the spokesman said.

Lay-offs are expected by the end of 2016.

5,000

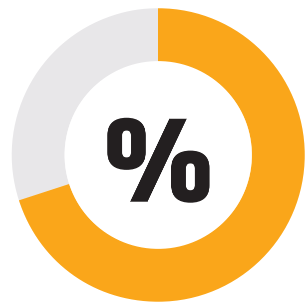
Job cuts are planned at ADNOC by the end of this year, *MEED* reported.

2,000

Lay-offs are said to have already been carried out at the firm till date.

SPOT POLLS

HOW DO REGIONAL ENERGY PRODUCERS SEE PRODUCED WATER?



Source: *Gulf Intelligence*

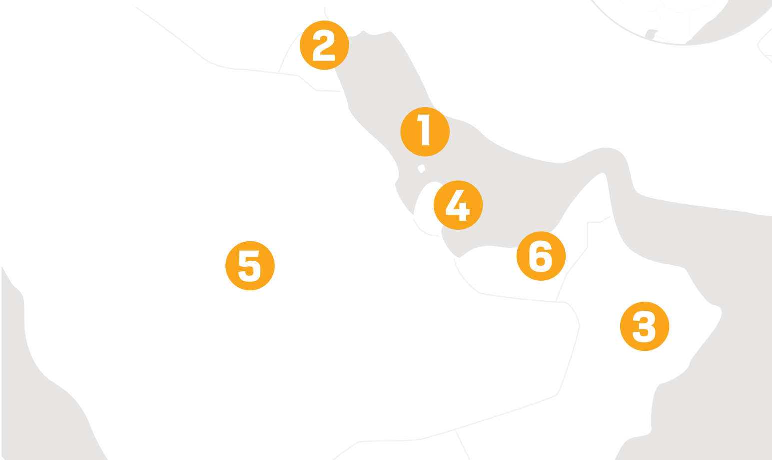
GE affirms commitment to 'Saudi Vision 2030'

Saudi Arabian Industrial Investments Company and GE have agreed to co-invest in strategic sectors that will help develop and localise industrial value chains in Saudi Arabia. Joint investments of $1bn will be rolled out by 2017, as will an aggregate potential investment of $2bn to drive projects in water, energy, aviation, digital and other sectors.

REGION

AROUND THE GCC

Latest developments across the region



1. BAHRAIN

Russia's Gazprom is currently working to create an LNG distribution hub in Bahrain. The hub will intake LNG from various sources, including Russia. Russia is currently negotiating the possibilities of LNG deliveries to the kingdom with possible financing provided by the country's Vnesheconombank . The possibility of Russian independent natural gas producers has also been taken into consideration.

2. KUWAIT

Q8 Oil, a subsidiary of Kuwait Petroleum International has reopened its $100mn blending plant in the Belgian port city of Antwerp. The facility, which was originally build as a storage house for fuel and lubricant imports, will now manufacture lubricants for European domestic markets and export. The plant's current production capacity stands at 125mn litres per year.

3. OMAN

Oman plans to build a major oil storage terminal on its southeastern coast, spending upto $400mn on the first phase, Minister of Oil and Gas Mohammad bin Hamad al-Rumhy has said. It will be built by a subsidiary of the state-owned Oman Oil Company about 70km from Duqm, where the government is developing a port and industrial zone, the state agency in charge of the zone quoted Rumhy as saying.

4. QATAR

A revision in the LNG agreement with Qatar has helped bring down the price of importing natural gas to less than $5 per million British Thermal Units (mmBtu) from $12, India's Oil Minister, Dharmendra Pradhan, has said. In December, India got Qatar to agree to slashing gas price by half to match a slump in global energy rates, and got a waiver on the penalty for buying 38% lower than agreed quantities.

5. SAUDI ARABIA

In a major boost to women's education and employment in Saudi Arabia, IT giant Wipro, along with Saudi Aramco and Princess Nora University (PNU), have inaugurated the kingdom's first all-women's business park in Riyadh, which will create nearly 21,000 jobs by 2025. The accord for the initiative was signed at the inaugural ceremony at PNU, the world's largest women's university.

6. UAE

ADNOC Distribution has signed a 50-year Mustaha agreement with Abu Dhabi Ports to strengthen the former's capacity to develop new projects at Khalifa Industrial Zone and provide logistical support to its existing developments. The company will begin to implement a plan to set up a lube and grease plant, as well as storage warehouses to support distribution operations in different emirates.

Iran oil contract to be ready in July

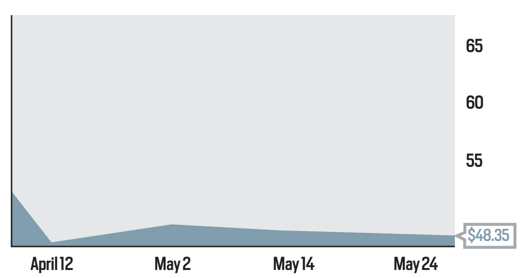
CONTRACT Iran's new oil industry investment contract for international oil firms will be ready by July, a senior Oil Ministry official was quoted as saying by Iranian state TV.

"The new contracts will be ready in June, [or] July. Hopefully we will have oil tenders in July. We welcome investors from all countries," Deputy Oil Minister Rokneddin Javadi said, adding: "Iran's oil exports are expected to increase in the coming days to 2.2mn barrels per day (bpd)," Javadi said.

The Oil Ministry's official website *Shana* Iran's oil output has risen to 3.7mn bpd. Oil exports reached 2.1mn bpd in the month of Ordibehesht [which started on April 19]. Iranian officials have said that they expect Tehran to attain its pre-sanctions output level by the end of the Iranian month of Khordad, which falls on June 20.

DATA SNAPSHOT

BRENT CRUDE OIL PRICE



It was a decent month for Brent crude prices which regularly came close to touching the $50 mark.

Source: oil-price.net

Moody's lowers GCC credit ratings

Moody's said Saudi Arabia was hit hard by the prolonged decline in oil prices

OUTLOOK Moody's has downgraded Saudi Arabia's credit rating as the oil price slump hits the kingdom's public finances. Other Gulf producers Oman and Bahrain also saw their ratings downgraded and, while the UAE and Qatar saw their ratings unchanged, Moody's announced a negative outlook for both countries.

Saudi Arabia's gross domestic product dropped by 13.3% in 2015, with a further 5% reduction expected by Moody's this year. The agency said government finances had 'deteriorated significantly'.

Oman too had its ratings downgraded as lower prices led to massive declines in government revenue. Around 87% of these used to come from oil and gas sales, but Moody's said that over the forecast period this is likely to fall to 60%.

Moody's also said it expected Bahrain's government debt and fiscal deficits to rise further.


Moody's has downgraded Saudi Arabia's outlook.

HOW ABOUT THE OTHER GCC STATES?
Oman and Bahrain also saw its ratings downgraded, while Moody's maintained its negative outlook for the UAE and Qatar.

IN BRIEF

- **Oil production from OPEC soared by 140,000 barrels per day** (bpd) to 32.52mn bpd in April, as Iran and Iraq ramped up production by a hefty 150,000bpd each, according to the latest survey by S&P Global Platts. This rise in output occurred after OPEC and non-OPEC producers failed to agree on a proposal to freeze output in Doha on April 17 in a bid to stabilise prices.

- **The Oman Oil Company Exploration & Production LLC,** a subsidiary of Oman Oil Company SAOC, announced completion of the loading of the first shipment of crude oil that was fully processed at the new Musandam Gas Plant on May 4.

IN QUOTES

"We are looking at what we will have to do in terms of reducing operating costs elsewhere in our business, and that clearly is not about just cutting costs."
Dr Patrick Allman-Ward, CEO – Dana Gas

"The Middle East is fortunate to benefit from a fairly close proximity to many of the world's largest sulphur consumers, China, Morocco and India, which reduces transportation costs."
Angie Slavens, managing director, UniverSUL Consulting

"The availability of renewables depends on the availability of sunlight or wind while gas-based power generation is steady and controllable."
Saji Sam, partner – Energy, Oliver Wyman

Shell cuts spending further by 10% after BG acquisition deal

EU's largest oil company has been under pressure to cut annual expenditure

AUSTERITY Royal Dutch Shell has announced reduced spending plans for 2016 by another 10% from the target set in February when it completed the acquisition of BG Group, and said it could cut further if deemed necessary by the management.

In its first results since the deal that transformed it into the world's top liquefied natural gas producer, Shell trimmed spending to $30bn by cancelling projects, such as the Bab sour gas project in Abu Dhabi, and by slashing exploration costs.

$30BN
Shell is under pressure from its shareholders to cut annual spending below $30bn.

$40BN
Shell estimates its annual operating expenses to fall to $40bn this year.

Europe's largest oil company has been under pressure from shareholders to cut annual spending below $30bn to ensure it can maintain its dividend, given the slow recovery in the oil prices.

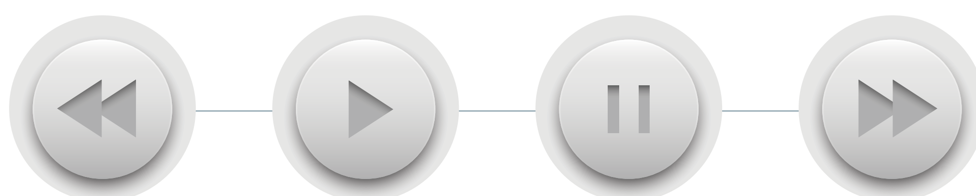
In a bid to slim down and raise cash, Shell is pressing ahead with a $30bn asset disposal programme by the end of 2018, targeting first and foremost its downstream division.

It expects to make at least $3bn from mainly downstream disposals this year, Henry said, meaning Shell needs to step up asset sales in the coming years to meet its target.

Shell also said its annual operating expenses will fall to $40bn this year, despite the BG acquisition, from $53bn in 2014.

PLAY/PAUSE:

Who's moving up in the oil and gas world this month, and who's falling away?



Abu Dhabi's Taqa has reported a net loss in Q1 2016, due to low oil prices. Taqa made a net loss attributable to equity holders of $165.5mn in Q1 2016, versus a net profit of $69.69mn in the same period last year.

Qatar Petroleum (QP) has announced reaching a 'milestone' in May, with the loading of the 10,000th LNG cargo from Ras Laffan Port. The LNG cargo was bound for the South Hook LNG Terminal, UK.

Petroleum Development Oman (PDO) is targeting savings in excess of $900mn over the next five years, according to a report. The initiatives, include 'Contract Optimisation Reviews' and 'Smart Contracts'.

State-owned Kuwait Petroleum Corp (KPC) has confirmed that the company plans to raise oil production by 44% to almost 4mn bpd in 2020. Kuwait exports most of its oil: an average of 2mn bpd in 2015.

Aramco expects Saudi marine complex operational by 2021

The first part of the shipyard will be ready by 2018, and it will make oil rigs and tankers

MARINE National oil giant Saudi Aramco expects a huge ship repair and shipbuilding complex that it is developing at Ras al-Khair on the kingdom's east coast to be fully operational by 2021, chief executive officer Amin Nasser has recently said.

The first part of the shipbuilding complex will be ready by 2018, and it will eventually make oil rigs and tankers, Nasser told reporters during a rare media visit to company facilities in Dhahran.

A presentation by the company showed the complex would create 80,000 jobs and allow Saudi Arabia to reduce its imports by $12bn, while increasing the country's gross domestic product by $17bn.

Under a sweeping economic reform programme announced last month, Aramco is to play a big role in developing industrial projects as Saudi Arabia tries to diversify its economy beyond reliance on oil exports.

THE PROJECT'S BENEFITS

The complex would create 80,000 jobs and allow Saudi Arabia to reduce its imports by $12bn, while increasing the country's GDP by $17bn.

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HITS OF THE MONTH

1 Honeywell targets Saudi market with new technology.

2 OPEC pumps 32.52mn bpd of oil in April.

3 ADNOC plans to cut 5,000 jobs by year-end.

4 Abu Dhabi National Oil Company rejigs leadership.

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$5.4BN

CANADA'S ENERGY REGULATOR HAS SUGGESTED THE GOVERNMENT APPROVE KINDER MORGAN CANADA'S THE $5.4BN PROJECT TO NEARLY TRIPLE PIPELINE CAPACITY FROM 300,000 TO 890,000 BARRELS OF CRUDE OIL A DAY.

25BCM

ENERGY FIRMS FROM THE EU AND ALGERIA ARE ATTEMPTING TO GET THEIR ENERGY COOPERATION BACK ON TRACK AFTER YEARS OF DWINDLING EXPORTS. IN 2013, THE EU ESTIMATED ALGERIA EXPORTED 25BCM OF NATURAL GAS VIA PIPELINES TO SPAIN AND ITALY - LESS THAN HALF THE CAPACITY.

3.2%

DEMAND FOR OIL AT CHINESE REFINERIES CONTINUES TO GROW AS THE COUNTRY'S AGING OIL PROPERTIES SLOW PRODUCTION. CHINESE PRODUCTION FELL THE MOST MONTH-OVER-MONTH SINCE NOVEMBER 2011 IN APRIL, DOWN 3.2% FROM MARCH.

45%

THE OBAMA ADMINISTRATION HAS ANNOUNCED NEW RULES IN MAY AIMED AT CUTTING METHANE EMISSIONS BY UP TO 45% BY 2025 FROM NEW OIL AND GAS WELLS AND FRACKING OPERATIONS.

$44BN

THE GOVERNMENT OF MEXICO IS AIMING TO RAISE AT LEAST $44BN IN FOREIGN INVESTMENT VIA ITS SALE OF DEEPWATER OIL AND GAS EXPLORATION RIGHTS OPEN TO OVERSEAS BIDDERS.

40

INDIA IS PUTTING UP FOR AUCTION NEARLY 40 SMALL OIL AND GAS FIELDS IN THE FIRST SUCH SALE IN SIX YEARS, IN A BID TO UNLOCK ENERGY RESOURCES WORTH $40BN.

6.2%

BRAZILIAN OIL PRODUCTION FELL 6.2% YEAR-ON-YEAR TO 2.264MN BPD IN MARCH, ACCORDING TO THE NATION'S ENERGY REGULATOR ANP.

$2.1BN

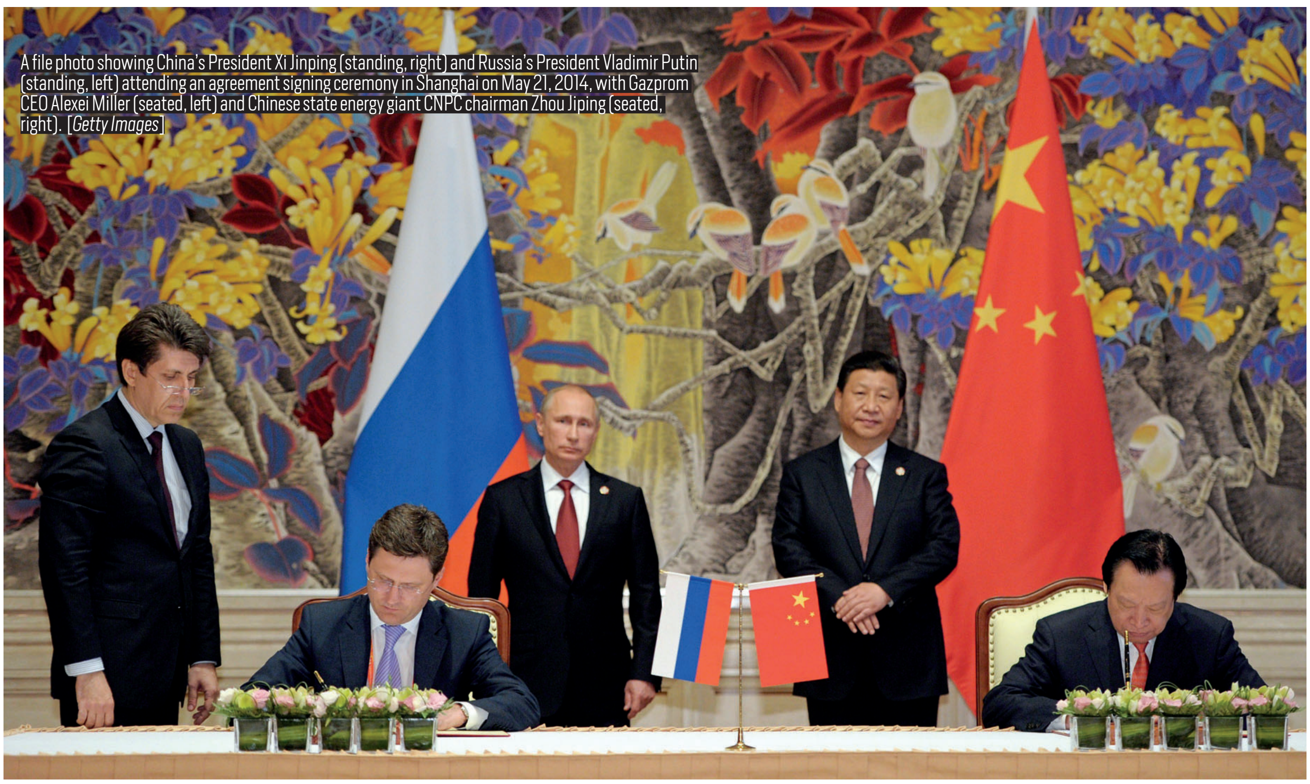
KENYA IS INVITING COMPANIES TO DESIGN AN 891KM-LONG CRUDE OIL EXPORT PIPELINE, COSTING SOME $2.1BN, WHICH SHOULD BE COMPLETED BY 2021. TULLOW OIL AND PARTNER AFRICA OIL FIRST STRUCK OIL IN LOKICHAR IN NORTHWEST KENYA IN 2012.

Have your say:
Contact indrajit.sen@itp.com

How the Russia-China oil and gas nexus impacts the Middle East

The Russia-China alliance is a compelling combination of a major global supplier meeting a major global consumer, with deals often built in defiance of major global sanctions, according to Iain Stewart-Linnhe

About the author:
Iain Stewart-Linnhe is a specialist in global regulatory policy, risk management and capital markets.



A file photo showing China's President Xi Jinping (standing, right) and Russia's President Vladimir Putin (standing, left) attending an agreement signing ceremony in Shanghai on May 21, 2014, with Gazprom CEO Alexei Miller (seated, left) and Chinese state energy giant CNPC chairman Zhou Jiping (seated, right). *[Getty Images]*

The China-Russia oil and gas deals take on new resonance in a market which now includes a resurgent Iran after recent relaxations of its major oil and gas-related sanctions of recent years.

The China-Russia nexus is a compelling combination of a major global supplier meeting a major global consumer of oil and gas, with deals often built in defiance of major global sanctions policies. From a Middle East perspective, the re-emergence of Iran is a major factor, as further oil and gas supply has been enabled as a result of the sanctions imposed in recent years having been relaxed. Not least in a market where relatively low oil price has presented challenges for many producers, and where both China and Russia have been involved in deals of their own with Iran.

There is no doubt that sanctions policy enforcement on a global scale is hitting global industries such as oil and gas in a profound way. Take the two most potent weapons of current enforcement – removing access to US dollar-denominated transactions, (Russia – via Ukraine-related sanctions), and restricting oil and gas suppliers from participating in the market (Iran, prior to the relaxations allowed as part of the JCPOA/Iran Nuclear Deal). Bearing in mind that sanctions policy is only as effective as the ability to enforce it.

To every action there is an equal and opposite reaction – in sanctions policy terms, this is often the case – see Russia in response to the Ukraine sanctions. In reality, to paraphrase: to every sanctions-related action, you can certainly expect an opposite reaction – compliant, or, more tellingly, subversive. This could be greater compliance with existing issues, leading to gradual lifting of sanctions. Or a more subversive response in direct contravention of sanctions policy, where deliberate attempts are made to satisfy existing and future supply/demand needs by finding ways around it.

There is little point ignoring the major impact of Ukraine-related sanctions on Russia's ability to function as an economy. With oil and gas revenues a major source of income, the double whammy of major US dollar restrictions and a relatively low oil price are certainly influencing forward planning. Tie-ups between China and Iran in recent years are a good indication of the unintended consequences of economic sanctions policy. As this has led to a shift in the strategic nature of oil and gas-related projects, as one of the world's largest consumers (China) looks to source the best supply from sanctions designated and targeted countries such as Russia and Iran, looking to inter-governmentally brokered deals to find away around tough sanctions.

For Iran, the impact of severe sanctions policy has been considerable in the past. Its output was virtually halved, after former sanctions were imposed in 2011, from 1,400 thousand barrels a day in 2014 compared to its previous 2011 figure of more than 2,600 thousand barrels a day. With further sanctions relaxation afforded to Iran in the aftermath of the JCPOA, for China and Russia, the emergence of a sizeable potential oil and gas partner offers a powerful new dynamic, for differing reasons. Despite Russia's contention of "unjustifiable Western sanctions", there is no doubt that oil and gas-related ballistic missile and military deals between Russia and Iran pose great potential issues for major global sanctions enforcers, such as the US, with retaliation from this and global sanctions regimes a real possibility.

There is certainly cause to think that China's deals with Iran, such as the trade deals agreed in January 2016 for $600bn, may ultimately be negative for Russia. Particularly if China shows a continued willingness to go to the Iranian oil and gas market for supply. It should be noted that China was importing crude oil from Iran even when Iran was under sanctions, and there is plenty to suggest that both China and Russia are trying to forge relationships with countries at the wrong end of the global sanctions regime. Intergovernmental deals may appear to be a more robust way around harsh sanctions regimes, but they are by no means infallible, and there may be repercussions for major illicit activities, such as the state sponsoring terrorist activities.

The impact of sanctions enforcement is having fascinating knock-on effects in the oil and gas space. With Russia's economy so highly correlated to the oil price, and sustained low oil prices in recent times, it is almost certainly the weaker link in the China-Russia oil and gas nexus, with its current, sanctions-related requirement for US dollars – something which China, with its substantial holding of US Treasuries, is readily able to supply.

OPEC's calls for a production freeze – and the response to this – have reflected the complexity at the heart of dealing with OPEC and non-OPEC members, such as Iran and Russia – particularly when those non-members have a lot of potential supply and are able to weather the storm of relatively low oil prices.

Recent oil price levels may not be excessively low by historical standards, but many oil and gas producing countries have embarked on major infrastructure programmes – particularly in the GCC countries – and are feeling the impact of sustained, lower prices. The presence of non-OPEC Russia and Iran into the mix looks set to bring further uncertainty in the Middle East and elsewhere. With major demand from China, which will not be averse to lower commodity pricing in more challenging markets as it struggles to sustain previously consistent high levels of growth.

It may well be the case that the strategic machinations of China and Russia are subordinate to the proper functioning of oil and gas markets. But there are very real issues surrounding the funding of oil and gas industry players, and these are particularly acute where oil prices face sustained, relative lows. Likewise, with so much sanctions-busting activity prior to, and subsequent to, major sanctions enforcement initiatives, there is a clear read-across between the prospect of further enforcement and violations in the face of major potential breaches.

As Iran and Russia have found, trying to trade without being able to supply the market due to sanctions, or being denied access to US dollar transactions, are major obstacles to the ability to perform. So the implications of any future deals between China, Russia and Iran will necessarily lead to significant knock-on effects in the Middle East and globally.

Have your say:
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A change in culture of upstream companies

The digital transformation of the oil and gas industry's culture and operations has already begun, believes Morgan Eldred, a research director for Gartner's Upstream Oil and Gas Industry Advisory Services

About the author:
Morgan Eldred of Gartner advises business leaders on digital oilfields and major capital projects. He has had a variety of roles, working within corporate with global coverage, in upstream assets, on major capital projects and within joint ventures while on international assignment in the Netherlands, Nigeria, Japan and Qatar.

For decades, the predominant culture within upstream companies has been formed out of operating in favourable market conditions, high levels of investment, and rapid expansion of global operations. However, a combination of forces has begun to change the culture in many oil and gas companies.

As a result of the realisation that market conditions will be more volatile for a long time to come, companies are redefining the concept of operational excellence. Digital business practices have matured significantly in other industries, and the experiences of other heavy industries (such as manufacturing, aviation and utilities) have clarified best practices for expanding digitalisation, and reduced the risk of change. And the remarkable progress made by early adopters within the oil and gas industry has caught the attention of many boards of directors, as indicated via innovation leaders who have created multi-billion dollar digital transformation business cases, on par with field development plans in terms of net present value (NPV). While at the same time technology vendors, oilfield service companies and even EPCs are amplifying their digital offerings to operating companies.

Untapped digital innovation opportunities exist across the entire value chain, including: exploration, (such as improving the accuracy of simulation models and increasing the productivity of geoscientists); development, (such as algorithmic control of drilling and completion opportunities); production, (such as orchestration of whole-field artificial lift to increase recovery); project management, (such as global collaboration and information management to shorten the time to value); business operations, (such as optimising global procurement spend and better cash modelling); and, of course, IT, (such as virtualisation of field infrastructure and automated operations).

As tough market conditions continue into 2016, some firms are expanding their leadership over digital innovation that enhances operational excellence. For Middle East oil and gas companies, these innovations include:

- Advanced analytics and business simulation, which continue to identify new ways to reduce costs and increase recovery rates for all types of upstream assets.
- Integrated planning and operations solutions that enable the optimisation of technical, operational, and business performance.
- Asset performance management, which is unlocking innovative new operating practices that yield higher asset integrity, lower maintenance costs, increased safety, and higher performance levels.
- Mobile workforce solutions, the transformative impact of which will depend on the convergence of wireless technology, application development, enterprise mobility management tools, collaboration, analytics, security technology, cloud computing, and the IoT. Being able to rapidly develop applications, access/share data via the cloud, and add context at the point of activity via analytics, will substantially improve worker performance, productivity, safety and reliability.

Priorities for other digitalisation opportunities vary based on factors such as the asset portfolio, financial strength, and business strategy. Other key technologies that are emerging, but require a greater investment and have higher risk, are:

- Outsourced digital oilfield services, which will not only increase revenues, but will help provide higher reliability and lower-cost operational solutions through economies of scale. Initially these services are focused on asset performance of operating equipment, (such as a turbine, break out preventer, etc.), and are offered as a managed service. However these services are now extending to reservoir management and production operations workflow by acquiring data, (such as pressure, temperature, flow rate, water cut), and displaying it through integrated applications. These services are mostly run in pilots or proof of concepts at the moment.
- Virtual Infrastructure Management solutions that unify the physical and digital worlds. Operating companies continue to invest in technology to capture and store greater volumes of project, engineering, operational and maintenance data, with the aim of using this data to better plan, operate, maintain, and retrofit their mission-critical assets and infrastructure. They are also starting to invest in technology to improve data context and visualisation. At the heart of these solutions is the use of 3D computer models to virtualise physical infrastructure and visualise data in a more meaningful way, opening the door to an immersive approach to interacting with data through new sensory tools, such as helmets and gloves that incorporate augmented reality. These solutions are poised for rapid growth, empowered by IoT, digital business, laser scanning, engineering modelling solutions, integrated data warehouses, and next-generation smartphones.

The digital transformation of oil and gas operations has already begun. As digitalisation is at the root of this transformation, oil and gas leaders have unprecedented opportunity to deliver new value to their companies.

New management challenges will come in the form of designing digital architectures, liability concerns of digital services, security and ownership concerns over data and algorithms, and oil and gas firms will need appropriate strategies to support the new wave of digital transformation. Organisations need to create strong capabilities that focus on safe, secure and reliable operations, while at the same time conducting creative digital innovation projects utilising fast, agile and collaborative multidisciplinary teams.

Award Winners: Class of 2015

As voting for the seventh annual *Oil & Gas Middle East* and *RPME* Awards gets underway, we take a look back at the winners in 2015

↑ This year's *Oil & Gas* and *Refining and Petrochemicals Middle East* Awards will build on the success of last year's event, to celebrate innovation and achievement.

HSE Product/ Application of the Year
Saudi Aramco – e-Factory, IT Future

Operational Excellence Strategy of the Year
National Industrialisation Company – TASNEE Petrochemicals, Saudi Arabia

Localisation Strategy of the Year
Oman Refinery and Petrochemical Industries Company (ORPIC)

Training Initiative/ Programme of the Year
Value Engineering Centre

Oilfield Service Company of the Year
Gulf Drilling International

Technical Innovation of the Year
ScanTech Offshore – HeaterSentry

HSE Initiative of the Year
AlMansoori Specialized Engineering

CSR Initiative of the Year
Aries Oil Field Services – Earthquake Relief in Nepal

Oil & Gas Woman of the Year
Nada Al Mesfer, Kuwait Oil Company

Young Oil & Gas Professional of the Year
Abubaker Saeed, Saudi Aramco

Enhanced Oil Recovery Project
Saudi Aramco – Uthmaniyah CO_2-EOR and CCS Projects

EPC Project of the Year
Al Hosn Gas – Shah Gas Project

"It has been a long journey. [We've been through some] very difficult times and this award gives us recognition for [achieving] the target we had in mind. Every member of the team deserves this award as much as the people here, if not more."

HARITH AL-QURTASS, MANUFACTURING EXCELLENCE EXECUTIVE, TASNEE – WINNER OF OPERATIONAL EXCELLENCE STRATEGY OF THE YEAR.

"We actually felt great to have been nominated for the awards in the first place. To get shortlisted was a major achievement; to win it was delightful."

JENNIFER BROOM, MARKETING CO-ORDINATOR, SCANTECH OFFSHORE – WINNER OF TECHNICAL INNOVATION OF THE YEAR.

"I think our project won because of the magnitude of challenges that you face when you work on a sour gas field. The field was discovered in the 1960s, so we had to wait decades for the technology to be developed."

PARTICIO RIVERA, VICE PRESIDENT, HSE, AL HOSN GAS – WINNER OF EPC PROJECT OF THE YEAR.

"It's a real pleasure to win an award like this, and my company really encouraged me to get involved, especially my boss, so it is really an honour."

NADA AL MESFER, SENIOR ENGINEER AT KUWAIT OIL COMPANY – WINNER OF OIL & GAS WOMAN OF 2015.

"I think the main thing that impressed the judges was our immediate response to the crisis and the speed with which we reacted."

GIREESH MENTON, DIRECTOR, NAVAL ARCHITECT, ARIES, OIL FIELD SERVICES – WINNER OF CORPORATE SOCIAL RESPONSIBILITY OF THE YEAR FOR ITS EARTHQUAKE RELIEF IN NEPAL.

His time as the CEO of Dana Gas hasn't exactly been a joy ride so far, but seasoned energy professional Dr Patrick Allman-Ward has been a steadying hand in controlling the Sharjah-based company's operations at home and abroad.

FIRMLY IN COMMAND

WORDS: INDRAJIT SEN

It has not being easy going for Dana Gas, one of the rare – if not the first – privately-owned natural gas E&P companies in the Middle East. The Sharjah-based company has been embroiled in a dispute with the Iranian government, hit some rough patches in its expansion bid in Egypt, and currently finds itself in the midst of a complicated litigation process with the Kurdistan Regional Government (KRG) in Iraq.

The man at helm of the company is clearly weathering the storm with a smile on his face, however. Dr Patrick Allman-Ward, the chief executive officer of Dana Gas, was a veteran of the industry even before joining the company in 2012, and is confident he will see Dana Gas through any turmoil in which the company may find itself.

During his illustrious career spanning almost 35 years, Allman-Ward has worked in nearly all of the major oil and gas hubs in the world, from Malaysia to Houston, the most notable of his roles being with Royal Dutch Shell and Saudi Aramco (in a joint venture).

"The reason I was interested in Dana Gas in the first place was the growth potential that the company has in Egypt and also in the Kurdistan region of Iraq. There are very few companies that

Sharjah-based Dana Gas has expansion plans in Egypt and the UAE.

Dana Gas started producing gas at the Zora Offshore platform in Q1 of this year.

I'm aware of, the size of Dana Gas, that are sitting on the scale of growth opportunities that is represented in our portfolio and that – as an explorer and a geologist - is thrilling," the executive tells me, referring to his doctorate degree in mining geology from Imperial College, London.

The Iranian dispute

Dana Gas, which was listed on the Abu Dhabi Securities Exchange (ADX) in 2005, has encountered a variety of challenges throughout its 11 years of existence, the initial one being its entanglement in a dispute with the Iranian government. As part of a 25-year contract, the National Iranian Oil Company (NIOC) was to provide Crescent Petroleum, a sister company of Dana Gas, with 600mn cubic feet of gas per day (mcf/d) from its Salman gas field through an undersea pipeline built specifically for that purpose.

The gas import project – reported to be worth $1bn – was one of significant strategic importance, not just for the fact that it would serve as a diversified source of energy, but also because the supply amount represents about one-tenth of the UAE's total gas consumption, and would be used to feed the gas-starved commercial and industrial units in the Northern Emirates.

"Dana Gas was IPO'd for the UAE gas [import] project in 2005, and the first gas was expected to be delivered in the same year. But it was not. This was at the same time that the [Mahmoud] Ahmadinejad regime took over Iran, and then the Iranian officials decided that the gas price that they had negotiated four or five years earlier, in 2001, was no longer attractive to them. So they entered into a dispute process to negotiate higher tariffs and gas prices, which was never resolved and ended up in arbitration," Allman-Ward reveals.

"There have been some discussions and, parallel to that, the arbitration process continues. This year the final damages phase of the arbitral process will be heard, and that is going to take place

from 1 September. We are confident there will be a damages award. The only question really is how much that will be," he says.

"That was a frustrating beginning for Dana Gas," the CEO admits. "Fairly quickly after it was realised that the gas was not coming from Iran, the company needed to produce its own gas. So the company raised $1bn and purchased assets, the primary ones being in Egypt."

$355MN

DANA GAS HAS AGREED WITH THE GOVERNMENT TO INVEST IN ITS ASSETS IN EGYPT OVER THREE YEARS IN RETURN FOR ITS SHARE OF THE PRODUCE.

The Egyptian adventure

Dana Gas ventured into Egypt in January 2007 and has since increased gas production by up to 40% from its facilities in the country. The company is currently producing an estimated 24mn standard cubic feet of gas per day, primarily from the Balsam gas field, and Allman-Ward hopes to double that output by H2 2016.

However, Dana Gas' journey in Egypt hasn't been smooth sailing. The Arab Spring swept through North Africa in 2011, before shaking up the Middle East, throwing Egypt into major

Patrick Allman-Ward is confident about the company's bright future.

turmoil. The oil and gas industry in the country, along with other crucial sectors of the economy, therefore, was plunged into crisis. "Since then, the story in Egypt has been about recovering money from the market, and discussing and negotiating win-win solutions with the Egyptian government, whereby we can continue to invest in Egypt," Allman-Ward says.

He elaborates, saying: "In 2014, we managed to negotiate something called the Gas Production Announcement Agreement with the [Egyptian] government, whereby we have undertaken to invest in drilling new development wells and to add them to our existing facilities. In return for $355mn-worth of new investments over the course of three years, there will be incremental gas and liquid production. We agreed with the government that we will take our share of liquid production, and give the government its share. We will sell that volume in the international market, directly to third parties, which will allow us to get paid directly in US dollars."

"THE STORY IN EGYPT HAS BEEN ABOUT RECOVERING MONEY FROM THE MARKET, AND DISCUSSING AND NEGOTIATING WIN-WIN SOLUTIONS WITH THE EGYPTIAN GOVERNMENT."

Dana Gas has since been pressing ahead with its E&P campaign in its Balsam asset and has also entered into a partnership with BP. The company has drilled and started producing gas from the Balsam 2 and 3 wells, both of which were discovered close to the initial Balsam 1 facility. "The wells were completed by the end of October [2015]. In a question of months, we have seen these two wells tied in. Once again, there has been an increase in production, manifesting itself in our production profiles," Allman-Ward says.

The Kurdistan conflict

Dana Gas ventured into the vast oil- and natural gas-rich Kurdistan region of Iraq in 2007, in a consortium – known as Pearl – with Crescent Petroleum. The KRG, despite awarding the Pearl consortium a 25-year deal to develop the Khor Mor and Chemchamal gas fields, has been unhappy about certain apparently thorny issues in the agreement ever since.

The KRG, according to Allman-Ward, was displeased over particular clauses of the agreement relating to, "whether we [Pearl] were entitled to the liquids; how long was the duration of the contract; were we entitled to develop the two fields; were we prevented from exporting liquids from Kurdistan by virtue of circumstances pertaining; and, under those circumstances, were the KRG obliged to pay for those products? And if so, at what prices? These were all parts that the KRG disagreed with us about, in terms of our interpretation of the contract.

"On top of that," he continues, "there was also a further disagreement about the accounting mechanism – how to account for revenues earned by the consortium partners, versus the money owed to the KRG." In 2009, the disagreements became a dispute when Pearl, which at that time was a 50/50 joint venture between Crescent Petroleum and Dana Gas, sold 10% each to Hungary's MOL

"WE ARE LOOKING AT WHAT WE WILL HAVE TO DO IN TERMS OF REDUCING OPERATING COSTS ELSEWHERE IN OUR BUSINESS."

Patrick Allman-Ward is focussing on increasing Dana Gas' production capabilities at home.

and Austria's OMV. The KRG protested, saying the consortium had violated the contract and claiming entitlement to a share of the money that Pearl had earned from that stakes sale.

"Since 2009, the resolution of the dispute didn't make progress and we had to go to a dispute resolution mechanism in 2013, first to mediation and when that didn't work, to arbitration. However at all times we've made it clear that we think a negotiated settlement is the right way to go, rather than litigation," Allman-Ward says.

Elaborating on the legal process, the CEO adds: "It has been helpful to us because in the arbitration [in the London Court of International Arbitration], what we've been able to establish – through judgements made by the tribunal – is that our contract is legal and binding, that our contractual interpretation is shared by the tribunal, and they've confirmed that we have the title to the hydrocarbons, that we are entitled to export those hydrocarbons, and – if we're not able to export them – that the contract specifies that the government of KRG has got to take and pay for those products at international prices. And that the duration of the contract was at least 25 years with two five-year extensions."

The London court has ruled in favour of the Pearl consortium, ordering the KRG to pay $1.963bn for liquid products – in the form of both condensates and LPGs – that it had lifted but did not pay for till June 30, 2015, as per the terms of the contract.

"That's clearly established out rights. We had been booking receivables in our financial results, because we believed that these were legitimate invoices for which we had not been paid, and of course it's then helpful to us to have this tribunal agree that these are indeed monies that are owed to the consortium," Allman-Ward says.

Under his leadership, Dana Gas has been navigating through troubled waters both at home and abroad. Despite facing hardships in the current low oil price period, much like its regional and global peers, Dana Gas has registered a profit of $6mn in Q1 2016. Also in the first quarter of this year, the company started producing gas from the Zora offshore gas field in Sharjah to feed entities such as the Sharjah Electricity and Water Authority (SEWA) for power generation. Although output began at 20mcf/d, the CEO hopes to soon achieve a flow rate of 40mcf/d from the field.

Allman-Ward is also focussing on increasing Dana Gas' production capabilities at home – a strategy that he believes will help the UAE meet its growing gas requirements. "There are, particularly in the Northern Emirates, exploration opportunities. I think that, given the fact that the UAE is gas-short, and given the fact that they are currently building LNG import facilities in Fujairah, which will mean that the UAE will need to pay international prices to import gas for that shortfall, it makes eminent sense to encourage the exploration for additional gas sources domestically, because it's my conviction that there are additional gas fields to be found throughout the country," he says.

However, Dana Gas has axed 40% of its total workforce, mostly at its headquarters in Sharjah, in order to survive the lean period. "We are looking at what we will have to do in terms of reducing operating costs elsewhere in our business and that, clearly, is not about just cutting costs," Allman-Ward states. "It's about looking intelligently at the way we go about executing our business and making sure that we take out unnecessary costs where we can. You need to protect the technical integrity of the company going forward, to make sure that we can continue to operate efficiently, and that we have a basis from which to regrow the company."

Oil&Gas MIDDLE EAST

A SPECIAL REPORT THAT ANALYSES A CERTAIN SEGMENT OF THE ENERGY INDUSTRY

SOUR GAS SPECIAL REPORT

Oil & Gas Middle East **takes a look at the sour gas sector within the regional oil and gas industry and how NOCs are investing in various technologies to develop production**

+ **TECH FOCUS**

TECHNOLOGIES AT PLAY IN THE SOUR GAS SECTOR

MARKET FOCUS

The UAE's pioneering role in regional sour gas production / *p32*

KNOWLEDGE PARTNER

Wintershall is using its expertise and resources to exploit the Shuwaihat gas field / *p34*

COMMENT

EDITOR'S LETTER

Indrajit Sen is the reporter for *Oil & Gas Middle East*. He can be reached at: indrajit.sen@itp.com

Sour gas will be devoured

As demand for – and consumption of – sulphur-rich gas rises, the regional oil and gas industry continues to invest in implementing proven technologies to develop the sector

The Middle East boasts of controlling about 41% of the Earth's natural gas reserves, and a significant portion of that is rich in hydrogen sulphide (H_2S) content – effectively making the gas sour in quality. This sour gas has been proved to be vastly useful for various industrial operations, supreme among those being its use in the power generation sector.

Following on from the success of last month's special report on pipeline maintenance and management, we continue with this fresh initiative, which provides an opportunity to delve into the intricacies of a dominant aspect of the industry. This month,we turn our attention to sour gas and sulphur recovery.

As sour gas grows in importance, not just from the industrial consumption point-of-view, but also with respect to the production of electricity, our special report will shed light on the various facets of the sour gas and sulphide producing sector.

Despite below par global crude oil and natural gas prices, GCC governments and NOCs alike are pressing ahead with their plans to increase sour gas production. The UAE is undoubtedly leading the way when it comes to the sour gas sector, and the number of projects the country has initiated to produce sour gas from the rich fields in Abu Dhabi are surely pioneering.

"We are very happy with the current level of production in our fields, Shah Gas being one of them. I think there is room to grow in this business," HE Suhail Mohamed Al Mazrouei, UAE Minister of Energy, told me during ADIPEC in November.

German E&P firm Wintershall, our Knowledge Partner for this special report, has been utilising the chemical expertise of its mother company BASF and making concerted efforts to produce sour gas from the complex reserves of ADNOC's Shuwaihat gas field. Even after more than four years of partnership with ADNOC, Wintershall is still in the experimental stage of the project. But the company's executives are hopeful of soon implementing the methods that are currently being tested in its laboratories to produce gas from Shuwaihat, and are equally mindful of the risk of exceeding the project's budget.

NOCs in the other GCC nations are also swiftly developing their own sour gas reserves – a fact that is evident from the number of project tenders being floated – in a bid to meet the hunger for sour gas, which albeit modest at present, is expected to surge with the rising energy demands of the region.

SOUR GAS ECONOMICS: Treading the sulphur route

The UAE is leading the way as far as sour gas and sulphur production in the region is concerned, attracting both attention and investments from international majors in this sector

↑ **The most advanced sour gas project in the UAE, the Shah gas field, is operated by Al Hosn Gas.**

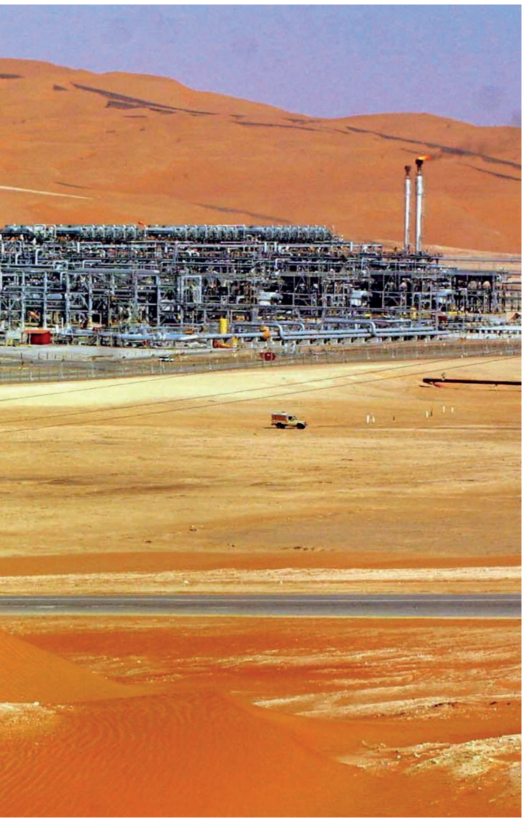
WORDS: MARTIN MENACHERY

The UAE holds huge potential in the sour gas sector – the world's seventh largest gas reserves, according to some estimates, amounting to approximately 212tn cubic feet – of which a large proportion is sour. As a result, several technically challenging projects to exploit this potential are under development in the country.

Krishnaswamy Iyer, director – UAE, Egypt, Iraq and Qatar, WorleyParsons, said: "The UAE is becoming the centre of gas conditioning, evidenced by [projects such as] the Al Hosn Gas project, the upcoming Shuwaihat gas field development, and the Hail field and Bab gas field, which will be pivotal in coming years."

Taking the lead in developing gas fields with very high hydrogen sulphide (H_2S) concentrations, the Abu Dhabi National Oil Company (ADNOC) has collaborated with leading IOCs to develop Shah and Bab – two of the biggest sour gas fields in the world. However, although most of the gas fields in the Middle East are sour, some operators in the region are reluctant to consider such processing schemes due to health, safety and environment (HSE) concerns and the perceived risks of operating complications and corresponding production losses.

Many of the non-associated sour gas fields in the Middle East have acid gas ($H_2S + CO_2$) concentrations in the range of 50% or more. Gas production



from such fields involves increased capital and operating costs associated with the removal of these impurities. Emphasising the importance of developing non-associated gas fields, however, Angie Slavens, managing director, UniverSUL Consulting, said: "Associated gas from oilfields may be somewhat lower in H_2S content, but because it is a by-product of oil production, the rate at which associated gas can be produced is completely dependent on the oil production rate. To meet the region's energy needs, independent from oil export demand, non-associated gas fields must be developed."

A milestone project

Al Hosn Gas operates the most advanced sour gas project in the UAE, the Shah gas field, located south-west of Abu Dhabi. The field was was initially considered unsafe for extraction since the reserve has very high levels of H_2S and CO_2. The development of more robust equipment has now made it possible to extract the gas in a cost-efficient, environmentally friendly fashion, however.

In 2011, ADNOC and Occidental Petroleum signed an agreement to develop this field in a project that will contribute significantly to the energy needs of the UAE over the next 30 years by providing clean-burning fossil fuel to consumers. The project, which produced its first gas in 2015, represents a $10bn investment.

The largest ultra-sour gas development project in the world, the project processes around 1bn cubic feet per day (bcf/d) of sour gas into 0.5 bcf/d of usable gas. The methods used by Al Hosn Gas project to address technological and economic challenges – including the recovery of sulphur on an unprecedented level – are being closely watched by the industry worldwide.

Angie Slavens, managing director of UniverSUL Consulting.

Lucrative demand for sulphur

A sulphur granulation facility is a key facet of Al Hosn Gas project and is expected to produce 3.4mn tonnes of sulphur per year – equivalent to 5% of the world's supply. The project is expected to ship up to 7mn tonnes of granulated sulphur per year via the Etihad Railway to the Ruwais refinery in Abu Dhabi.

"The Middle East benefits from a fairly close proximity to many of the world's largest sulphur consumers – China, Morocco, and India – reducing transportation costs, and making sulphur production a more lucrative venture here than in many other parts of the world," said Slavens.

"Current sulphur production rate in the UAE is approximately 16,500 MTPD (six MMTPA), making it the world's largest sulphur-producing nation."

The UAE is likely to be the world's largest sulphur producer for the foreseeable future, and many international sour gas and sulphur experts will focus on the region, supporting its growth.

DEUTSCHE TECHNOLOGIE IN THE UAE DESERT

In a quintessential case of Western knowledge being applied in the Middle East, German E&P company Wintershall is working with ADNOC to conduct feasibility studies and chemical recovery experiments to produce sour gas from one of the rich yet complex gas fields in the Abu Dhabi desert, Shuwaihat

WORDS BY INDRAJIT SEN | PHOTOGRAPHY BY GRACE GUINO

The UAE may have become the leading sour gas-producing country in the region, by virtue of the huge hydrogen sulphide-rich gas reserves in the fields of Abu Dhabi, but the country could not have achieved this feat without implementing some tried-and-tested exploration and production (E&P) technology – German expertise, for instance.

Wintershall, an E&P company and subsidiary of German chemicals giant BASF, has been involved with the Abu Dhabi National Oil Company (ADNOC) since 2012, as part of an agreement to conduct feasibility studies and chemical enhanced oil recovery (cEOR) experiments to produce sour gas from one of the rich yet complex gas fields in the Abu Dhabi desert, Shuwaihat. Since entering into the partnership, Wintershall has spudded one well, studied numerous reservoir samples, and plans to drill a second well offshore – a first for Abu Dhabi – all to determine the feasibility of a production project, as Mario Mehren, Wintershall's CEO, told *Oil & Gas Middle East* at DIPEC 2015.

"We are working in about 10 sour gas field projects in Germany. We also have chemical

↑ (L-R) Dr. Uwe Salge, Martin Bachmann and Mario Mehren of Wintershall with ADNOC officials, during ADIPEC.

> "ONE OF THE CHALLENGES THAT WE HAVE IN THE MIDDLE EAST – AND I THINK THIS IS WHY NOBODY IS DOING [EOR] ON A BIG SCALE YET – IS THAT THE RESERVOIR ROCKS ARE MAINLY CARBONATES, NOT SAND."

drilling expertise from our parent company BASF. ADNOC has been picking their partners quite carefully and has put their trust in us," he explained.

In April, Martin Bachmann, the company's head of exploration and production for Europe and the Middle East, said: "I am looking for a 35 to 40-year relationship [with ADNOC]." And Wintershall has an ace up its sleeve. Having spent years working on some of Germany's most challenging fields, it might be the only drilling company in the region that knows how to unlock Shuwaihat's difficult reserves.

"One of the reasons we brought the field of EOR to ADNOC and to Abu Dhabi is because we'd been working on EOR for a long time. We have all the research capability, all the labs, everything that BASF does, at our disposal," Bachman said.

The Shuwaihat field is known for its high concentration of sulphur (about 20% of H_2S content) and challenging geology that means EOR will be required to develop its reserves. As an expert in the field of EOR and improved oil recovery (IOR), Wintershall is well positioned to provide ADNOC with the technical know-how on EOR, while its access to special chemicals through its parent company BASF might prove crucial in developing a tailor-made product that tackles the geological challenges in question.

"We looked at the whole portfolio of BASF and we are looking at which chemicals will be right for the special conditions there," Bachmann said.

"One of the challenges that we have in the Middle East – and I think this is why nobody is doing [EOR] on a big scale yet – is that the reservoir rocks are mainly carbonates, not sand; often there is [a high content of] sulphur in the reservoir, and the temperature is quite high. These three things make it quite challenging to find the right chemicals."

"The second challenge is — and we know this from [our experience in] Germany — how you apply it in the field. What sounds simple — I take the chemical, inject it in the reservoir and produce oil — is much more complex in practice. But, once we have selected a pilot, that would be the next step."

Wintershall is hoping to secure a 35 to 40-year contract to develop the field, with Bachmann saying a production agreement could be struck as early as next year. "The contract that we have allows us to go into developing and operating the field. Whether it is going to be done in a big development in the region, we will have to see. I think we've made a good first step in demonstrating that we can drill complicated oil and gas wells. I think the next step is to come up with a field development plan and create a concept for developing the field."

Wintershall's exhibition stand at ADIPEC last year in Abu Dhabi.

With regards to the update on the status of the Shuwaihat sour gas project, Uwe Salge, general manager Middle East, Wintershall, further told *Oil & Gas Middle East* during ADIPEC last year: "At this stage we are happy with the results. Next year we will start with the second appraisal well, which we expect to complete by 2017, which is when we will go for Shuwaihat 6 and then, later on, Shuwaihat 7. We will have little analysis phases in between. As we know that producing sour gas has its complexities, we need to complete a sequence of wells to fully understand what volumes are behind this. That would determine the development concept, which we will plan in 2017."

It is widely known that producing sour gas, especially in the GCC, is an expensive affair and involves the use of chemical methods. Regarding the developmental costs of the Shuwaihat project, Mehren said, "Producing sour gas is challenging and has to be done in a manner that is profitable to both companies (ADNOC and Wintershall). It is too early to talk about costs. We just have the find from the first appraisal well – we have to finalise the analysis of that. We are in the technical phase of evaluating and getting to know the reservoir and the conditions that we have there. After that, we will talk about development, and only then can we have an idea of costs."

Even though the Shuwaihat gas field is not as big as the Shah, it is a productive asset for ADNOC, mainly because of smaller gas reserves that have been found nearby. "The Shuwaihat project may not necessarily produce as much as the Shah project. But we see that Shuwaihat also has some sister reserves," Salge revealed.

"If we are successful in the first phase of developing Shuwaihat, finding the right innovations and tools to produce cheaper, efficient and sustainable sour gas, then we can use similar [methods] to extract from the sister reserves. We would also be adding a lot of volume and substance to it. This might not happen soon, but I hope it will eventually."

BATTLING ACIDIC COSTS WITH INNOVATION

The implementation of innovative technologies will be the foundation that makes the Middle East's sour gas projects economically viable, writes *Martin Menachery*

Processing sour gas requires special handling and infrastructure, and is costly and dangerous, as it is highly corrosive, flammable and explosive. These difficulties are the prime reasons for many of these resources not being extracted for many years after the initial discoveries were made.

The last decade, however, has witnessed IOCs with the resources, expertise and technology to handle these scenarios successfully developing many major sour gas projects around the world, including in the Middle East.

The advantages of sour gas development – enhancing gas supply, aiding enhanced oil recovery (EOR) operations, and catalysing industry growth – are major attractions for international energy companies, which are investing heavily in the segment. In return, they are bringing innovative technologies to the region's hydrocarbon sector.

Operators must apply the sophisticated technologies available, and invest substantially in R&D to develop new and

Krishnaswamy Iyer of WorleyParsons.

innovative technologies, in order to obtain maximum commercial value from the sour gas projects. IOCs, facing health and safety as well as environmental challenges, are demanding safety management systems and risk mitigation plans to be integral parts of these projects.

Most of the sour gas locations in the Middle East involve a hostile natural environment as a result of the extreme desert heat. This reinforces the need for the highest industry standards in quality for all elements involved with the sour gas projects in the region.

Key challenges related to sour gas processing in the Middle East include very high levels of H_2S and CO_2, as well as the presence of contaminants such as organic sulphur and BTEX (benzene, toluene, ethylbenzene and xylenes) hydrocarbons. Additionally, fields that do not contain significant liquids (condensate and/or oil) can face challenges related to elemental sulphur precipitation and subsequent plugging in wellheads, gas gathering systems and processing facilities.

Giving an insight into the Middle East sour gas sector, Angie Slavens, managing director, UniverSUL Consulting, remarked: "Many of the technologies used in the Middle East to address these challenges are also employed elsewhere around the world, but the mega-scale of the Middle Eastern facilities makes them unique. Having said that, every gas plant is different and requires a tailor-made approach for its specific composition."

With the current low oil prices, technologies that can achieve superior technical performance while also minimising cost (CapEx and OpEx) are of the most interest. Some examples include hybrid solvents and integrated acid gas removal/tail gas treating designs.

"BTEX has been historically dealt with in the region by maximising H_2S content in acid gas, air and acid gas preheat and/or natural gas co-firing. However, some operators are considering the possibility of oxygen enrichment to achieve adequate BTEX destruction temperature, while also de-bottlenecking existing sulphur recovery unit (SRU) trains," Slavens continued.

Opportunities for technology suppliers

Sour gas compositions in the Middle East are often complex and challenging, presenting opportunities for technology suppliers that offer clever alternatives for processing at the lowest cost.

"Technology suppliers that have access to a portfolio of technologies to address many of the unit operations in the facility have an advantage due to their ability to develop integration and optimisation schemes between various operating units," Slavens said.

The Middle East is a region where experience and a proven track record with similar-sized facilities are critical. Thus, novel or first-of-a-kind technologies are rarely employed. Technology suppliers must often provide adequate commercial references from plants that are of a similar size and complexity.

"We have extensive experience in the many treating processes available, noting that no single process is ideal for all applications. We believe the selection of the right tools is crucial. These tools could be a 'right' technology, a 'right' solvent, a 'right' simulator, all critical and mutually inclusive to proper economic design, with low energy consumption to reduce operating and capital costs," said Krishnaswamy Iyer, director – UAE, Egypt, Iraq and Qatar, WorleyParsons. He added: "The selection of the appropriate chemical, physical or hybrid solvent technology, together with recognition of synergies with the downstream sulphur recovery process, allows an integrated approach to the removal and sulphur recovery of sour gas processing. Final selection is ultimately based on process economics, reliability, versatility and environmental constraints."

There are many elements that increase the cost of exploiting sour gas reserves. The most important of which are that its contaminants make it very poisonous, creating health and safety issues, and that it is highly corrosive to iron, causing sulphide stress-cracking in the flow lines and production equipment. As a result, there are major complexities in drilling, completion, engineering, handling and storage, and the environmental implications are enormous.

Commercial feasibility

According to the World Bank, the population of the Middle Eastern countries grew by approximately 60% from 1990 to 2010, versus a total world growth rate of about half this figure. Two of the countries in the region that grew the most during this period were the UAE and Qatar, each at around 300%.

Slavens stated: "The main driver for development of sour gas projects in the Middle East is a desire for national energy security to meet the growing demand, coupled with a trend toward switching from heavy fuels to cleaner natural gas for power generation.

"Near-term projections show similar population growth rates for the Middle Eastern countries and, therefore, sour gas demand is expected to continue to increase during the foreseeable future," she continued.

Describing the dynamics of sour gas processing in the UAE, Iyer said. "The development of the UAE's ultra-sour gas fields brings many significant challenges, particularly as the levels of H_2S and CO_2 are considerably higher than in many other gas deposits globally. The extraction process requires specialised design and enhanced infrastructure to manage the corrosive and toxic by-products that the extraction process creates."

"For example, the development of the Bab field, one of the largest non-associated gas fields in the UAE, will require a specialised and integrated approach to bring together the many different technical and operational solutions to resolve the corrosive nature of the development," he continued, adding that, along with these technical issues, the other challenge the development of these ultra-sour fields creates is the considerable increase in costs to deliver these projects.

Current sour gas production in the UAE is in the range of 7bn standard cubic feet per day (bcf/d). For the country, sour gas projects are important for the uninterrupted availability of natural gas as feedstock in power generation and industries. As demand for gas in the UAE will continue to grow in the future, there will be a need for further sour gas projects. The country has dealt with some of the most complex sour gas fields in existence and has plans for the development of even more challenging fields in the future.

Since low-cost energy sources are running out, energy producers around the world are making more determined endeavours to ensure the commercial viability of more complex and harder-to-reach hydrocarbon reserves. The economics of sour gas projects are determined by the ongoing technological advances, rising demand for gas, and the global price for the hydrocarbon. For the companies tackling sour gas, the Middle East offers enormous potential.

↑ **The Shah gas field in Abu Dhabi.**

THE POWER OF SOUR

Operators are striving to meet the specific requirements of certain fields and develop the infrastructure necessary to handle and process toxic and corrosive sour gas

INTERVIEWEE: SAJI SAM, PARTNER – ENERGY, OLIVER WYMAN

What is your opinion of the sour gas market in the region?

In the context of the overall supply and demand situation, GCC countries have been actively developing their sour gas reserves, both on- and offshore. Operators are overcoming the numerous challenges, which include the need for deep drilling and advanced technology to meet the specific requirements of certain fields, as well as creating the infrastructure necessary to handle and process the toxic and corrosive sour gas.

The GCC countries have a number of sour gas projects under development. Of particular note is the Shah Gas field in Abu Dhabi, which started producing gas last year. The field will process 1bcf a day of sour gas into 500mcf of usable gas after stripping it from sulphur.

Qatar, similarly, is developing the Barzan gas project, located 80km northeast of Ras Laffan Industrial City. The $10.3bn project will deliver gas to the domestic market, primarily serving power and desalination needs. This project will be delivered in two phases: Train 1 is almost complete and Train 2 is also nearing completion. When in operation, the total offshore production from all RasGas-operated facilities will reach approximately 11bcf per day.

Do you think the utility of sour gas is limited to electricity production, or do you believe it can prove useful for other sectors as well?

Once sour gas is processed, it competes with other natural gas supplies in a particular market. It also competes as a fuel for power generation against other options in the power mix, such as liquids, gas, coal and renewables.

Saji Sam, partner - Energy at Oliver Wyman.

The demand for gas in the GCC is driven by power generation, desalination, petrochemical projects and EOR (enhanced oil recovery based on gas injection as oil fields mature and transition from primary to secondary and tertiary recovery).

Renewables, especially photo-voltaic (PV) and onshore wind, have become very cost-competitive and achieved grid parity in many markets. The bid by ACWA power for the DEWA solar PV project has set a new benchmark of less than $0.06/kWh. GCC countries seeking to diversify their energy mix in power have a viable choice between developing renewable energy or investing in sour gas projects.

The availability of renewables is not continuous and depends on the availability of sunlight or wind, while gas-based power generation is more reliable and controllable. While renewables may not be suitable to supply the full base load, they are becoming a very important part of the energy mix – for example in the Middle East, power generation from solar sources coincides conveniently with the daytime peak load of air-conditioning usage.

Should demand for sulphur decline, do you think that NOCs will continue to develop their sour gas reserves and production capabilities?

The Internal Energy Agency (IEA) estimates cost of high-sulphur gas from new offshore fields in Saudi Arabia to be between $3.50 and $5.50/MMBtu. The cost of production at Shah Gas field is expected to be as high as $5.50/MMBtu. The viability of sour gas projects depends on the pricing of gas in the region. Current prices in the GCC range from about $0.75/MMBtu in Saudi Arabia to $0.95-2.35/MMBtu in other Gulf countries. The current subsidised pricing environment will not be able to sustain sour gas development costs.

The Economist Intelligence Unit forecasts that Saudi Arabia's natural gas demand will double between 2010 and 2020. Some GCC countries, such as the UAE and Kuwait, have become net importers of gas. The viability of a sour gas project in the GCC, therefore, depends on the alternative sources of natural gas with which it competes.

Development of sour gas projects is also determined by a country's energy strategy. For example, although sour gas development may not be economically competitive compared to alternative sources of gas supply, its development could still mean longer-term energy security and diversification.

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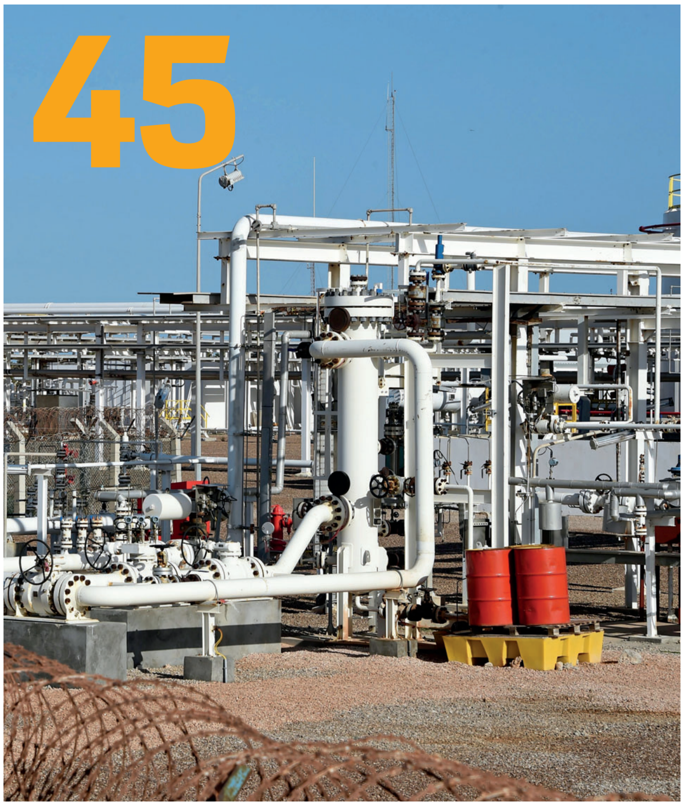
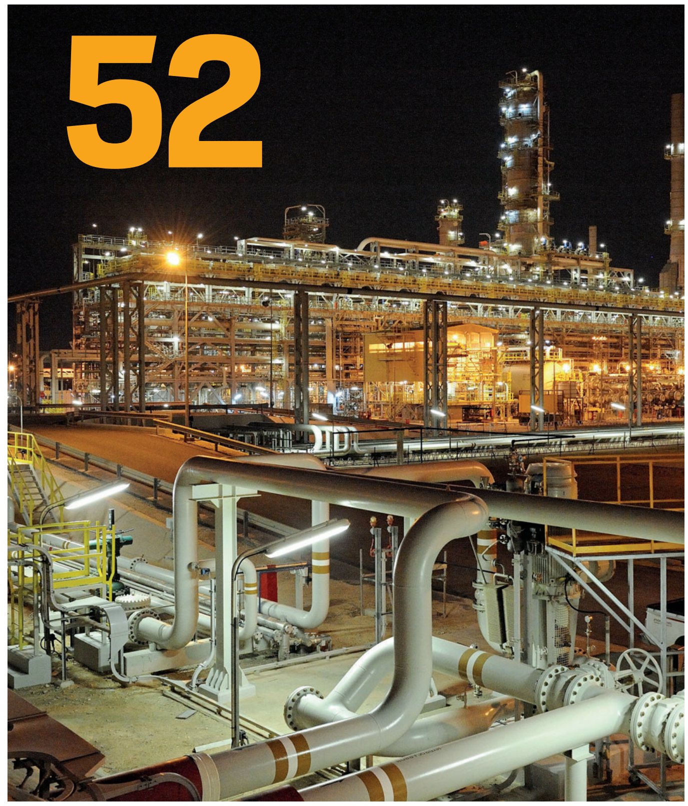
Oil&Gas MIDDLE EAST

TOP 30 EPC CONTRACTORS

Oil & Gas Middle East presents its annual list of the leading local and global EPC contractor companies that, despite facing challenges in this period of low oil prices, are leaving no stone unturned to deliver both onshore and offshore projects for the region's energy sector that are on time and within budget





EPC 30

May the engineering force be with you!

EPC contractors in the region have displayed great resilience to not just survive but deliver quality work

This year's rankings have been compiled on the basis of contract wins in the region in the last 12 months and latest balance sheet info.

Welcome to *Oil & Gas Middle East*'s annual list of the 30 prominent EPC contractors.

It is never an easy task to judge and rank the numerous local and global contracting companies serving the MENA region's vast oil and gas industry, especially when the nature of projects, and the engineering required to deliver them, are so varied.

Nonetheless, we have shortlisted 30 companies – out of nearly double that number of players operating in the sector – based on their pioneering work and involvement in major upstream projects. The yardstick for comparing organisations has been kept simple, using the volume and value of contract wins in 2015 and so far in 2016, coupled with the latest available financial results, as the two touchstones. We sincerely hope we have done justice in bestowing the deserved rankings to the featured companies and, of course, we welcome your feedback, whether you agree with the standings or not.

I consider it my duty to commend all the EPC contractor firms involved in the regional oil and gas industry, especially the local entities, for their resilience in not just surviving the blows of rock-bottoming oil prices in the last 12 months, but also displaying an overwhelming determination to perform A-grade engineering jobs, and in bidding for – and eventually winning – the far fewer contracts that are now on offer. Hats off to these companies!

Patience is a virtue and good tidings are on their way, however. As crude oil prices crawl back up – missing the $50 a barrel mark by cents every now and then – and as the NOCs and IOCs learn to adjust to this subdued oil price era, more and more EPC project contracts are expected to be awarded in the coming months. As the saying goes, 'where there is a will, there is a way'.

Indrajit Sen
Reporter, *Oil & Gas Middle East*
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Oil&Gas MIDDLE EAST
TOP 30 EPC CONTRACTORS

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PETROFAC

Petrofac is helping secure its bright future in the region through its commitment to nationalisation schemes

For the second time in a row, UK-based global oilfield services giant Petrofac has earned the top spot in the *Oil & Gas Middle East* Top 30 EPC Contractors list. In mid-2015, Petrofac was awarded a $780mn contract by the Kuwait Oil Company (KOC) for its manifold group trunkline (MGT) system. The lump-sum engineering, procurement and construction (EPC) project is integral to KOC's plans to increase and maintain crude production over the next five years, Petrofac stated at the time.

Also last year, a $900mn-worth contract was awarded by Petroleum Development Oman (PDO) to provide EPC services for its Yibal Khuff project. The four-and-a-half year contract will see Petrofac provide reimbursable detailed engineering, and construction and commissioning management support services and procurement on an incentivised pass-through basis.

$900MN

VALUE OF THE DEAL AWARDED TO PETROFAC BY PDO IN OMAN FOR ITS YIBAL KHUFF PROJECT.

Earlier this year, Saudi Aramco awarded Petrofac the EPC contract for its greenfield development, working on the sulphur recovery plant as part of Saudi Aramco's Fadhili gas programme.

Despite allegations surrounding a senior company executive paying a bribe worth $2mn to secure a contract in Kuwait, Petrofac enjoys an esteemed reputation of being not just a major EPC contracting firm, but also for supporting various nationalisation schemes. In Saudi Arabia, Petrofac has trained around 140 young Saudi nationals to become engineers in the oil and gas sector in the kingdom. A dozen Saudi women have also been hired in the company's Khobar office in information technology, project controls, contracts, administration, organisational development and corporate social responsibility roles, Petrofac stated.

LARSEN & TOUBRO (L&T)

Progressing up the list this year to bag the second spot is Indian construction giant Larsen & Toubro (L&T). The company, in a consortium with Singapore-based Emas AMC, recently won a massive EPC contract worth more than $1bn from Saudi Aramco for the expansion of the offshore Hasbah sour gas field. Work on the expansion scheme includes building platforms and pipelines, with the field's supply feeding the Fadhili gas plant, a $6bn complex that will include a gas processing unit and sulphur recovery.

It is the second major contract win for the duo in recent months: Emas AMC, a unit of Ezra Holdings, also teamed up last year with the firm to secure a long-term contract with Aramco to work on offshore facilities. The expansion of Hasbah will supply 2bn standard cubic feet per day (scfd) of gas to the Fadhili plant, for which Aramco awarded a construction contract last year.

In April L&T Hydrocarbon Engineering (LTHE), a subsidiary of Larsen and Toubro, won two orders, worth $370mn from state-owned Petroleum Development Oman (PDO). The first of these is an engineering, procurement and construction (EPC) deal for the Saih Nihaydah Depletion Compression Phase 2 (SNDC2) project. The second is an EPC deal for phase two of the Kauther Depletion Compression (KDC2) project.

$370MN

THE FINANCIAL VALUE OF LTHE'S ORDERS FROM PDO IN OMAN.

Last year, LTHE commissioned the $400mn-plus Umm Lulu Phase-I & Nasr Phase-I Field Development projects of the Abu Dhabi Marine Operating Company (ADMA-OPCO). Modifications were also made to ZADCO's Umm Al Dalkh Central Processing Platform and the Umm Shaif platform in the Nasr field to improve production, and a new multiphase sub-sea export pipeline was installed at Total's Abu Al Bukoosh facilities.


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SNC-LAVALIN

Third on our list is Canada-based contractor SNC-Lavalin. In March the company announced that it had been awarded a significant oil and gas contract in the Middle East with an approximate value of $800mn. The project will involve developing the infrastructure and processing facilities for a gas field, with SNC-Lavalin's lump sum turnkey engineering, procurement and construction (EPC) scope on the project including connecting gas producing wells into the main processing plant.

Late last year, Qatargas awarded a contract to SNC-Lavalin for a water recycling facility at its Laffan Refinery 2 plant in Ras Laffan Industrial City. SNC-Lavalin is providing engineering, procurement, supply, construction and commissioning services for the recycling facility to handle treated industrial water from the Laffan Refineries 1 and 2. The contract is expected to be completed in Q1 2017. SNC-Lavalin was also awarded a contract in mid-2014 by the Abu Dhabi Company for Onshore Oil Operations (ADCO), a subsidiary of Abu Dhabi National Oil Company (ADNOC), to provide a front-end engineering design (FEED) study for Phase 2 of the Qusahwira Oil Field.

$8.94BN

THE VALUE OF SNC-LAVALIN'S BACKLOG BY THE END OF 2015.

The firm also tripled its adjusted profits in Q4 2015 to $0.33 per share compared with the $0.11 per share achieved in the same period in 2014. After years of weathering successive corruption cases in multiple countries and all the associated legal costs, the company's adjusted Q4 2015 net income rose to $49.2mn, from $16.9mn in 2014. The company said it anticipated earnings to rise in 2016 to between $1.12 per share and $1.27 per share.

By the end of 2015, SNC's backlog stood at $8.94bn, and the company started 2016 strongly, winning the $600mn oil and gas project in Qatar, as well as a $1bn nuclear plant project in Ontario, Canada.

SAIPEM

The Italian construction firm announced that it won offshore EPCI projects worth $680mn in Q4 of last year

Italy's Saipem has secured the fourth spot in the EPC contractors rankings. In Q4 2015, the company announced that it had won offshore EPCI projects worth $680mn from Saudi Aramco and Italy's Eni.

The Saudi Aramco contract involves the engineering, procurement, transportation and installation of offshore structures. The EPCI contract from Eni, meanwhile, was for the Block 15/06 – East Hub Development Project, which is scheduled to be completed by the end of 2016.

This year, Saipem also entered into a memorandum of understanding (MoU) with Iranian energy firm Ravazi Oil and Gas Development, to develop the Toos gas field, in northeastern Iran, drilling up to seven wells, and designing and building all upstream gas production facilities for the project.

$1.3BN

VALUE OF CONTRACTS AWARDED TO SAIPEM FOR AL ZOUR NEW REFINERY PROJECT.

The Italian contracting company is also making strides in the regional downstream sector. In September 2015, Saipem was awarded contracts worth $1.3bn by the Kuwait National Petroleum Corporation for Package 4 and Package 5 of the Al Zour New Refinery Project (NRP). Package 4, for which Saipem has received award notification in joint venture with Essar Projects Limited, consists of engineering, procurement, construction, pre-commissioning, and assistance during commissioning/start-up/performance testing for the tankages, related road works, buildings, pipe racks, pipelines, water systems and control systems, and will be completed by the beginning of 2019. Package 5, for which Saipem has received award notification in joint venture with Hyundai Engineering & Construction and SK Engineering & Construction, consists of offshore maritime export facilities for the Al-Zour NRP.

WOOD GROUP

Wood Group has secured two new, three-year contracts, collectively valued at more than $140mn, to deliver technical services and expertise to a leading international oil company (IOC) in Iraq, earning the company the fifth spot in our list. Wood Group PSN (WGPSN) will provide brownfield front end engineering design (FEED), detailed engineering, project management, procurement services, system completion and commissioning support for operations and start-up on a significant onshore asset in southern Iraq under the two contracts.

Effective immediately and creating more than 100 new jobs, the contracts will be delivered from southern Iraq and Dubai.

David Buchan, WGPSN's eastern region managing director, said: "Establishing an office in Dubai and a base in Iraq reflects our intention to build lasting customer relationships and focus on the development of our Iraqi workforce and supply chain partnerships."

Late last year, the company also announced winning a $90mn contract to deliver services for an unnamed IOC in Iraq. WGPSN said it will provide project management for an onshore facility under the three-year contract. Concept and FEED work for future projects was also included in the contract.

$140MN

THE VALUE OF THE TWO NEW WOOD GROUP CONTRACTS IN IRAQ.

Also in 2015, the group was awarded a contract by Saudi Aramco for greenfield and brownfield EPC support for new facilities in the Gulf. The six-year contract, which includes options for two three-year renewals, includes the establishment of an offshore engineering centre of excellence in Al Khobar, Saudi Arabia. Work will be performed by Wood Group Mustang in the US. In-kingdom work scope will be executed by Saudi Arabian joint venture, Mustang-HDP.

↑ Gigi Korah

Alderley

INTERVIEWEE: GIGI KORAH, MANAGING DIRECTOR, ALDERLEY FZE

Which major oil and gas clients do you work with?
We have been serving the Middle East market from our Jebel Ali base for more than 16 years and have developed strong relationships with end users such as Saudi Aramco, Kuwait Oil Company, Kuwait National Petroleum Co, RasGas, Gazprom Neft, Gasco, ADCO, Qatar Petroleum, and QatarGas, as well as international EPCs such as Petrofac, JGC, Saipem, Fluor, Daelim, and Tecnicas Reunidas.

Alderley is a market leader in the supply of bespoke engineering packages for custody transfer/fiscal measurement solutions, produced water treatment solutions, hydraulic onshore and offshore control systems, and skid mounted package units from our manufacturing facilities in Jebel Ali, UAE, and Dammam, Saudi Arabia.

We are currently commissioning the last few skids for the KOC Telemetry project executed by Daelim – approximately worth $45mn – and from Qatar Petroleum for the new stream integration project in Mesaieed, Qatar, worth more than $8mn. The team is in the process of executing three different packages for Saudi Aramco's Jazan Refinery and Terminal Project, which have a combined value of more than $30mn.

How do you develop the skills of your workforce and ensure HSE standards are met?
We look at skills development needs from an employee level and at a group level to ensure that we provide technical, management and leadership training and development across all operating companies. The company also prides itself on meeting stringent North Sea standards and replicating the same standards in the Middle East. We are OHSAS 18001:2007 certified and also abide by the HSE regulations imposed by the Jebel Ali Free Zone authorities.

What can we expect from the company in 2016?
The current throughput at Alderley FZE, as well as work in progress, adds to a healthy sales funnel for the more mature markets of Saudi Arabia and Kuwait. The 'new' Iranian market also presents a great opportunity for us going forward, as we already have strong installed bases in the region. We have secured a fair share of the market, including the KNPC Clean Fuels Project for the Mina Abdullah, Saudi Aramco NAUG System, and a metering project for the Saudi Electric Company Power Plant 14 Project.

What distinguishes Alderley from its competitors?
We are a 100% systems integrator with no bias to a vendor or product. We are a solutions provider that uses the latest proven technologies to cater to customers' needs, and not off-the-shelf products. We have arguably the best project management teams at our command, and the delivery leaders are by far the 'who's who' in their field. We are the only fully fledged and autonomous company of this kind in the region.

What is your opinion of the standard of EPC projects in the region's oil and gas industry?
The standard has seen a decline in the past decade or so, and focus has been on commercial bias. EPCs continue in a race to the bottom, which impacts the overall quality of project execution and, ultimately, returns. It has been a task for NOCs to contractually ensure that the EPCs do not waiver from previously established standards on lump-sum projects. The smarter EPCs are adopting the same principles in the contracts with their vendors in kind. Overall, this helps weed out the poor performers, though it is often at a cost to the market.

Improvement needs to start with NOC budgets. To ensure technical compliance, robust designs and the quality of products must matter more than price. When it comes to specialty engineering, they should work closely with the experts, and importantly trust their experience, as quality is remembered long after price is forgotten.

06

GALFAR

Oman's Galfar Engineering has rocketed up from number 22 last year to sixth in this year's list, by virtue of its nearly $300mn contract win from Petroleum Development Oman (PDO) for the Yibal Khuff project southwest of Muscat. The contract will see Galfar build a new central processing facility at the field.

Galfar has been the contractor of choice for PDO, as mid last year the company announced it had won a contract to build and install a gas gathering system at the Khazzan Gas project in Oman. The firm said that the contract is worth $110mn and involves the construction of duplex stainless steel (DSS) pipelines, including main headers, sub-headers and flowlines.

Last month, Galfar announced that the parent company continues to maintain an order book position in the range of more than $1.9bn. The company bagged projects worth $493mn during the first quarter of 2016, of which $296mn was in the oil and gas sector. The parent company has made a net profit of $2.5mn for Q1 2016.

$296MN THE VALUE OF OIL AND GAS PROJECTS BAGGED BY GALFAR IN THE FIRST QUARTER OF 2016.

07

$7.28BN THE TOTAL VALUE OF WORLEY PARSONS' REVENUES REGISTERED LAST YEAR.

WORLEY PARSONS

It has been good going for Australian project and engineering consultancy firm Worley Parsons, as it has held its position as one of the chief consultants to Saudi Aramco for more than a decade. In mid-last year, the firm bagged a new six-year contract to provide project management services for the world's biggest oil producing company's offshore programme. Under the new contract, the company has been providing project management and engineering services for existing and new offshore facilities as part of Aramco's capital programme. Worley Parsons will also provide project management consultancy services for marine vessels.

In December 2015, the firm won a project management contract worth $87mn from the Bahrain Petroleum Company (BAPCO) for its modernisation programme. The programme aims to optimise the refinery configuration. Upon completion, the total refinery throughput is expected to stand at 360,000 barrels per day (bpd).

The company, which registered revenues of $7.28bn in 2015, last year won a FEED contract from Lukoil in Iraq, as well as a five-year project management contract from the Kuwait Oil Company (KOC), and a four-year engineering services contract from the Kuwait Gulf Oil Company's Wafra Joint Operations.

↑ Surendra Dhanekula

Trans Asia Pipeline

INTERVIEWEE: SURENDRA DHANEKULA, MANAGING DIRECTOR, TRANS ASIA PIPELINE SERVICES

How was business for your company in 2015, and what impact did the low oil prices have on your operations?
The oil and gas, marine and offshore industry is experiencing one of the worst headwinds in decades. The outlook for 2016 is not great, and with fewer projects on offer there is a lot of pressure on pricing and quality. This certainly puts service providers like us in challenging situations. Despite this, we had a good year in 2015. We had a few big jobs in the MENA region, especially in Saudi Arabia, where we had three major projects. In the UAE, we have had some big breakthroughs in process services, where we did a few chemical cleaning and nitrogen testing jobs, as well as tank cleaning works. We also executed a big pipeline project in Latin America in 2015 – our first major project outside Asia.

What products and services do you provide to clients?
Headquartered in Sharjah, UAE, we are a leading provider of pipeline and process services to the oil, gas and petrochemical sector, with more than 200 employees and a presence in 12 countries around Asia. We provide pipeline and specialty services to the oil and gas, marine, and petrochemical industries. We also provide equipment on rental to various oil companies and EPC contractors. We work with all the major national and international oil companies in Asia. However, the majority of our direct clients are EPC contractors, construction companies, pipeline operators, and so on.

What major contracts have you have won?
In pipeline services, our projects typically range anything in between \$100,000 to \$5mn. We have recently finished a project in Saudi Arabia, where there were five pipelines ranging from 30” to 44”, and that project was about \$4mn. Our Latin America project also increased our topline by about \$3mn. In process services, in 2015 we had a couple of jobs amounting to \$500,000 each, and in 2016 we are working on a couple of projects where we expect topline revenues of about \$600,000 each.

What efforts has your company made to boost the skills development of your workforce?
Being a service company – and also a knowledge-based service company – our employees are our brand ambassadors. We also operate in an industry where experience, knowledge, work safety, and quality matter the most, and it has always remained challenging for us to enhance our employees’ knowledge base, their skills level, and to empower them. Fortunately, we are able to create an atmosphere where everybody feels included in the business and takes ownership of the tasks assigned to them.

What do you expect from the business in 2016?
We are fortunate to have won a few projects, especially in Saudi Arabia, Kuwait and Vietnam, where we will be busy throughout 2016. Receiving repeat clients on a regular basis, and the longevity of positive relationships formed in the sector are testament to Trans Asia’s success. We have already reaped rewards at the beginning of 2016 via the attainment of a prestigious project in the Middle East alongside one of the largest national oil majors. In addition, we are bidding aggressively for new jobs in the pipeline and process sectors, and we expect a few wins by the end of June 2016.

↑ Trans Asia’s workshop in Sharjah, UAE.

08

NPCC

The UAE's National Petroleum Construction Company (NPCC) has made it into the top 10 EPC contractors due to its regional ambitions and focus on midstream contracts. NPCC has been chosen as a contractor for the Saudi-Bahrain pipeline project, due to be completed by next year.

Along with its Saudi subsidiary, NPCC was selected to build the pipeline's offshore section, running from Saudi Arabia's east coast to southwestern Bahrain. The Emirati company was awarded the project's second package, with the scope of work including engineering, design and procurement, as well as fabrication, transportation and installation of the offshore pipeline, which will equipped with a submarine fibre optic cable, and Impressed Current Cathodic Protection (ICCP) to control corrosion on the pipe.

In addition, NPCC is working on a $410mn EPC contract for ADNOC's subsidiary GASCO. While the initial phase of the project is being executed from the contractor's office in Abu Dhabi, it is scheduled to later move to the offshore sites for construction activities.

$410MN THE VALUE OF THE EPC CONTRACT AWARDED BY ADNOC'S SUBSIDIARY GASCO TO NPCC.

$42MN THE NET INCOME ATTRIBUTABLE TO US FIRM KBR IN THE FIRST QUARTER OF 2016.

KBR

American engineering, procurement and construction company KBR Inc has announced solid Q1 2016 financial results. Net income attributable to KBR was $42mn. Consolidated revenue was $1bn.

"We are on track to achieve the year-end 2016 targets for at least $200mn in annual cost savings and to date, the company has identified and actioned more than $180mn of the savings target," Stuart Bradie, president and chief executive officer of KBR, said.

KBR has had a strong presence in the Middle East for decades, working on several major petrochemical projects in Saudi Arabia, including providing Saudi Aramco with front-end engineering and design and project management services for the Jazan Refinery, the Yanbu Refinery and the Shaybah NGL programme.

The company is presently providing project management services to Saudi Aramco for its offshore programme. This six-year contract will see KBR provide services for Aramco's capital program. KBR's Saudi joint venture company, KBR-AMCDE, will undertake all in-kingdom work, while the Houston and London operations centres will execute all out-of-kingdom scopes. KBR-AMCDE is also developing an in-kingdom centre of engineering to train Saudi engineers.

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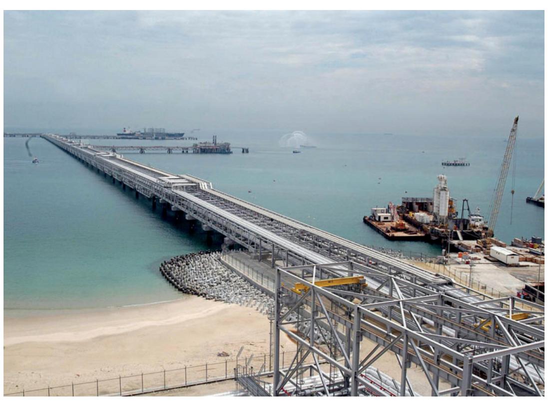
HYUNDAI ENGINEERING & CONSTRUCTION

Hyundai Engineering & Construction (E&C) is leading a consortium of contractors that won a contract worth almost $3bn in Kuwait in the first quarter of this year. The Kuwait National Petroleum Company (KNPC) awarded the deal, which will see the consortium build LNG facilities in the country. The consortium said the project would be completed in 2020.

Hyundai E&C subsidiary, Hyundai Heavy Industries (HHI), is also working on a $1.94bn contract for engineering, procurement, construction, installation and commissioning work at the second package of the UAE's Nasr Full Field development project from the Abu Dhabi Marine Operating Company (ADMA-OPCO).

Hyundai E&C is also building the processing and export facilities for ADMA-OPCO's Satah Al-Razboot (Sarb) Full Field Development Project.



$1.98BN THE VALUE OF HYUNDAI E&C'S CONTRACT AT THE SARB FULL FIELD DEVELOPMENT PROJECT.

Q2 2018 THE PROJECTED END DATE FOR MCDERMOTT'S EPCI CONTRACT WITH SAUDI ARAMCO.

MCDERMOTT

McDermott International has won a large contract from an upstream oil and gas operator for a project offshore in the Middle East. The scope includes engineering, procurement, fabrication, transportation and installation of offshore pipelines. Engineering and offshore mobilisation of McDermott's in-house vessels has commenced for this assignment, with project completion expected by the end of 2016.

Linh Austin, VP – Middle East, said: "The nature of this fast-track project was ideally suited to our vertically integrated capabilities involving our engineering, project management and procurement teams based in Dubai, as well as our marine assets in the region."

McDermott International has also been awarded a lump-sum contract by Saudi Aramco for brownfield work in various offshore fields in Saudi Arabia. The package of engineering, procurement, construction and installation (EPCI) projects that make up the contract represent the largest single award for McDermott's Middle East Area operations in company history. Work is expected to be executed through Q2 2018. The award follows the June 2015 signing of a second long term agreement (LTA) between McDermott and Saudi Aramco for EPCI opportunities in various fields offshore Saudi Arabia.

↑ Emad Elatreby

Ali & Sons Marine Engineering

INTERVIEWEE: EMAD ELATREBY, GENERAL MANAGER, ALI & SONS MARINE ENGINEERING FACTORY LLC

How was business for your company in 2015?
The facility was busy with booked works and ongoing projects in 2015, but the main challenge was to book works and win jobs for 2016, to build up the backlog. This was challenging due to the reduction in the number of bids and delays in the potential awards.

Which major oil and gas clients do you work with in the region?
We have diversified business units and work directly with the major EPC contractors like Petrofac in the UZ 750 project, Tozzi in the Mender project, Q Con in ADGAS, and Schneider in ZADCO, as well as others for which we build skids, modules, E houses, and pipe fabrication works. We provide design, engineering, procurement and fabrication/construction scope based on the clients' needs. We also have our jack-ups/rigs business that serves the oil and gas upstream section, where we provide upgrades, refurbishment, cold and warm stacking, and equipment recertification, and the ship repair business, which helps oil and gas service providers and the offshore/marine sector, as we work with clients like NMDC, Valentine Marine, ALE, ESNAAD, Zakher Marine and others.

How do you expect to perform in 2016?
So far, we are performing well. We are implementing some cost-saving initiatives to cope with the downturn while focusing on completing current projects on time to maintain the targeted revenue levels.

We are optimistic that the coming years will bring more work to the industry once the oil price stabilises, which will allow operators to plan long term and restart the projects that were put on hold. We have a very ambitious plan to further develop our jetty, dredging across our quayside, building a one-stop-shop for services, a new office block and training centre, enhancing our rolling and welding capabilities, and improving our certification level. We have secured some reasonable orders this year and have a healthy bid pipeline, and we are working on converting those bids into awarded projects.

What distinguishes your company from its competitors in the marketplace?
We have 350m of waterfront facility that can serve all the offshore and overseas works, and gives us the flexibility to build oversized, non-land transportable packages. We will also complete a 75m x 80m x 9m draft basin by the end of June that will enable work on ships, rigs and jack-ups from land in three different directions, reducing the HSE risks associated with using hanging scaffolds, rope access, or work over pontoons.

What is your opinion of the standard of EPC projects in the region's oil and gas industry?
I think, especially in the current market, splitting the mega EPC contracts into medium-sized contracts would be more efficient, as it would allow more contractors to enter into the equation, providing more competitive solutions and making risks and liabilities more manageable in the case of any delays. That would enable the NOCs and IOCs to budget more of those medium-sized projects in a shorter period.

As the major EPCs are mostly international companies, this concept would allow local contracting companies like us to also benefit, encouraging them to take EPC risks. This, in turn, would benefit the industry and the country's economy, as project funds would move between the NOCs and local contractors, creating more local transactions and new jobs for the locals, and improving the community.

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JGC GROUP

Japanese engineering firm JGC won a $355mn contract in Q1 2016 to design and build a mid-sized gas plant for Bahrain National Gas. The facility will recover liquefied petroleum gas and naphtha from associated gases released when extracting crude oil, ready for export. The plant, slated for completion by September 2018, will be located 20km south of Manama and have a daily processing capacity of 350mn cubic feet. JGC beat competitors Technip and US-based CB&I to win the contract.

JGC is pursuing smaller projects in the Middle East and Southeast Asia as below par crude oil prices dampen demand for large oil- and gas-related facilities.

In Q3 2015, JGC bagged a reported $200mn contract from Saudi Aramco for the construction of shale gas processing facilities, wellheads and gas pipelines in northwest Saudi Arabia as part of Aramco's mega project, System A. The gas-gathering facility increased its capacity to 66mn scfd (standard cubic feet per day) from 50mn scfd when the project was originally tendered.

$355MN THE VALUE OF THE CONTRACT AWARDED TO JGC BY BAHRAIN NATIONAL GAS IN Q1 2016.

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$2.8BN THE VALUE OF CB&I AND TAIWAN-BASED CTCI CORPORATION'S LIWA PLASTICS CONTRACT.

CB&I

Chicago Bridge & Iron company (CB&I) has been awarded a contract worth approximately $60mn by the Zakum Development Company, a subsidiary of the Abu Dhabi National Oil Company (ADNOC) for the refurbishment of two storage oil tanks on Zirku Island, located about 25km northwest of Abu Dhabi.

Since Q3 2014, CB&I had already been working for ADMA-OPCO, another ADNOC subisidiary, as part of a $90mn contract to conduct a major overhaul of five crude oil storage tanks on Das Island, ADMA-OPCO's main industrial base in the UAE.

On the downstream side, the joint venture between CB&I and Taiwan's CTCI Corporation was awarded a $2.8bn contract for the Liwa Plastics project in Sohar, Oman, late last year. The deal was signed with Oman Oil Refineries and Petroleum Industries Company (Orpic) and will see the JV build the steam cracker and associated utilities, including a grassroots 880-ktpa ethylene plant, pygas unit and MTBE unit. CB&I's scope of work also includes the construction of cryogenic and atmospheric storage tanks and pipe spool fabrication. The cracker will use CB&I's SRT cracking heaters, and its recovery section design, which features low-pressure separation and mixed refrigeration.

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TECHNIP

French multi-national construction major Technip has announced strong financial results for the first quarter of 2016, earning $3.13bn in revenues.

Since late 2014, Technip has been working on a contract to provide project management consultancy (PMC) services for the engineering, procurement and construction (EPC) works of the Nasr Phase II Full Field Development project, which serves Abu Dhabi Marine Operating Company's (ADMA-OPCO) strategic objective for the midterm total sustainable production target. Technip PMC is executing the project, which is scheduled to be completed in 2019.

On the downstream side of its business, Technip has been working on a PMC deal alongside Japan's Unico to upgrade a refinery in Basra, southern Iraq. Last year, Technip also won two contracts for refinery upgrade and expansion in Egypt. The company signed a joint agreement with Midor (Middle East Oil Refinery) for the modernisation and expansion of the 100,000 bbl/d Alexandria refinery in Egypt.

$3.13BN REVENUES FOR FRENCH MULTI-NATIONAL TECHNIP IN Q1 OF THIS YEAR.

$5.3BN REVENUES REPORTED FOR CCC IN THE FIRST SIX MONTHS OF 2015.

CCC

Consolidated Contractors Company (CCC), with a geographically diverse portfolio and more than 130,000 employees, has become a frontrunner in tackling the decrease in infrastructure spending by GCC governments that has come on the back of constantly fluctuating oil prices.

The Greece-based contractor's significant project wins in the GCC include the $3bn Abu Dhabi Midfield Terminal in a joint venture with Arabtec and TAV, $300mn roadworks in Oman, and the $4bn Kuwait Oil Company's (KOC) Lower Fars heavy oil development with Petrofac. Looking ahead, CCC enjoys an amply-supplied project pipeline. "Currently, our strategy is to focus on heavy infrastructure projects," Samer Khoury, president for engineering and construction at CCC, told *Construction Week* in an exclusive interview last year. "If we want to maintain our growth and expect good margins in return, we need to focus on these market segments," he said.

Khoury added that the firm expects projects with Saudi Aramco, as well as in Qatar, and for Abu Dhabi Company for Onshore Oil Operations (ADCO) in the UAE. Overseas, an LNG plant is planned in Mozambique. CCC reported revenues of $5.3bn in the first half of 2015, and has plans to grow at around 5% per year, he stated.

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GS ENGINEERING

South Korea's GS Engineering is the main contractor at the huge Rumaitha and Shanayel Fields Phase III development project in Abu Dhabi. The Korean contractor has been appointed by the Abu Dhabi Company for Onshore Operations (ADCO) to build a massive crude oil processing plant at the site. The project will almost double the plant's capacity from 46,000 to 85,000 barrels of oil per day. GS Engineering and Dodsal, a Dubai-based contractor, are hard at work to complete the job by the end of this year, with commercial operations expected to start in early 2017.

GS is also working on a $651mn order to build a floating LNG terminal and supporting facilities in Bahrain. The facility will have a capacity of 22.65mn cubic metres per day (mcmd) and is expected to be completed by June 2018. In Oman, GS is part of the consortium building the Liwa Plastics Industrial Complex operated by Orpic.

$651MN VALUE OF THE ORDER GS IS WORKING ON TO BUILD A FLOATING LNG TERMINAL IN BAHRAIN.

$1BN THE TOTAL APPROXIMATE VALUE OF TARGET ENGINEERING'S PROJECTS.

TARGET ENGINEERING

Target Engineering is a single-source EPC contractor with operations in the UAE, Qatar and Saudi Arabia. It is part of Arabtec Holdings, the largest UAE-based construction group. Target owns a controlling stake in Italian firm Idrotec, a marine design engineering company that has a worldwide reputation for its specialist marine, hydraulic and environmental designs for the oil, gas and marine sectors.

The company claims to be working on electrical and marine projects for regional NOCs with the total combined value of the contracts amounting to around $1bn. Target is working on a number of electrical projects for Saudi Aramco and, in terms of marine contracts for the oil and gas sector, the company is working on the Ruwais LNG Terminal Project; Project No. 5308 for ADNOC subsidiary GASCO and Excelerate LNG Development, worth $29.99mn; and cleaning and enhancement of NEB main channel and navigation facilities at Al Dabiyah, Abu Dhabi for the Abu Dhabi Company for Onshore Oil Operation (ADCO), another ADNOC subsidiary, worth $7.5mn.

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FLUOR

As one of the largest publicly traded EPC contractors in the world, Fluor was awarded a portion of the massive Al Zour refinery project in Kuwait. As part of a consortium with Daewoo and Hyundai Heavy Industries, the company bagged $5.7bn to build the support units and infrastructure at the 615,000 barrels per day (bpd) refinery.

Fluor has developed some of the region's most complex petrochemical and refining facilities. Its portfolio of projects in the GCC includes the water facilities and modular buildings at the Saudi Kayan Petrochemical Complex, alongside a super absorbent polymer plant, as well as Sadaf's petrochemical complex and Jubail acetyls plant.

Some of its 2015 construction milestones include the completion of BASF's high-performance chemical production facilities in China and a large chemical complex in Germany. Last year also marked the completion of Dow's $2.7bn-plus Reverse Osmosis (RO) facility at the Sadara petrochemical complex, which is the first plant of this kind outside the US.

$5.7BN AMOUNT BAGGED BY FLUOR, DAEWOO AND HYUNDAI HEAVY INDUSTRIES FOR AL ZOUR PROJECT.

$3.2BN THE VALUE OF AMEC'S TAKEOVER OF FOSTER WHEELER.

AMEC FOSTER WHEELER

Amec Foster Wheeler announced last year that it was expanding its UAE operations in response to recent key contract awards and growing opportunities in the Middle East. The UK-based construction giant is currently busy executing a number of contracts from Abu Dhabi, the largest of which is a project management consultancy (PMC) contract for the UZ750 project in the Upper Zakum field.

In March this year, Amec Foster Wheeler won a front-end engineering design (FEED) contract from Sonatrach for three new refineries in Algeria, which will each have a capacity of 5mn tonnes per annum of Algerian crude oil, and contain facilities for atmospheric distillation, liquefied petroleum gas separation, hydrocrackers, desulphurisation, bitumen production, utilities, blending, effluents treatment, control room and laboratories. A sit in Biskra will also include lubrication oil facilities. At each of the refineries there will also be administrative buildings, storage tanks and shipping facilities. Amec Foster Wheeler will also support Sonatrach in the selection of technology licensors for all three refineries.

Narish Nathan

Eversendai Offshore

INTERVIEWEE: NARISH NATHAN, CHIEF EXECUTIVE OFFICER, EVERSENDAI OFFSHORE RMC FZE

Give us an idea of how business was for your company in 2015. What impact did the low oil price have on your operations?
For the Eversendai Group, 2015 was a record year, with record new orders secured across our group, and specifically by Eversendai Offshore. Last year was a very busy one for us, with the operational start of our waterfront fabrication yard facility [in Ras Al Khaimah, UAE], and also with executing the construction of two GustoMSC NG2500X liftboats. We had also been extremely busy bidding for new work in 2015.

Which are the major oil and gas clients that you work with in the region, and what is the scope of your work with them?
We work with the major EPC companies, such as Vahana Offshore for the liftboats, Tecnimont and Prosernat for projects with ADGAS, NPCC for projects with ADMA-OPCO, Petronas in Iraq, Technip, Hyundai, and many more. We mainly provide fabrication services for process modules, and large structures that require our waterfront facility for loadout.

Could you tell us about some of the major contracts that you have won in the past?
We are working on a $180mn liftboat contract for Vahana Offshore and $40mn-worth of projects in the UAE.

What effort has your company made for the skill development of the workforce, as well as to ensure HSE standards in operations?
Within the Eversendai Group, we have our own internal learning and development department, which focusses on training our employees. We maintain a strong HSE standard in our fabrication facility, with continuous HSE training for all employees. HSE has a very strong influence on our work culture.

How do you expect your company to perform during 2016? Can you tell us about any contracts or deals that you have secured this year?
This year will continue to be a very busy one for us. We have secured a few projects to date, and we are now focussing on 2017.

What would you say are the key factors that distinguish your company from your main competitors in the industry?
Our biggest advantage is our business diversity. The Eversendai Group is geographically diverse, and also diversified across business sectors with our business units. Eversendai Offshore is only one of the business units within the group. This allows the group to be very resilient during challenging periods.

What is your opinion of the standard of EPC projects in the region's oil and gas industry and how do you believe this could be improved?
The EPC segment must be more open to new ways of doing things. Most of the time, the industry is not ready to accept new companies that provide better products and services. The industry can optimise cost and increase efficiency if this is embraced more openly.

Record new orders were secured by Eversendai Offshore in 2015.

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MOTT MACDONALD

British construction major Mott MacDonald appeared to consolidate its grip on the regional oil and gas market when it signed a collaboration agreement with engineering, procurement, construction and project management company China Petroleum Engineering (CPE) last year. Under the agreement, CPE and Mott MacDonald will pursue opportunities including pipelines, storage, liquefied natural gas and loading jetties, as well as other infrastructure projects.

On the downstream side, Mott MacDonald was awarded a contract for the $4.3bn Ruwais refinery expansion project in Abu Dhabi in November 2015. The firm will manage the engineering, procurement and construction (EPC) packages from commissioning to initial operation for the utilities, off-site facilities, tankage and associated interconnecting piping. The project is located in the Ruwais Industrial Complex, approximately 250km west of Abu Dhabi.

$4.3BN THE VALUE OF THE RUWAIS PROJECT WHERE MOTT MACDONALD WAS AWARDED A CONTRACT.

$700MN THE VALUE OF THE CONTRACT AWARDED BY GASCO TO TR FOR WORKS IN ABU DHABI.

TECNICAS REUNIDAS

Spain's Tecnicas Reunidas (TR) made its mark in the regional oil and gas sector last year, when it was awarded a $700mn contract by Abu Dhabi Gas Industries (GASCO) for the construction of the Integrated Gas Development Expansion Project Package 3 in Abu Dhabi, part of the Abu Dhabi National Oil Company (ADNOC) programme to produce 400mn cubic feet of additional gas from its offshore fields. The scope includes engineering, procurement, construction, installation, pre-commissioning, commissioning and test run. The project consists of gas processing units, gas pipelines, and condensate pipelines, as well as the required interconnections.

This is the fourth large project for TR in Abu Dhabi. It has completed a project for the Petrochemical Complex of Borouge, the Sahil and Shah Field Development project, and is starting up the Shah Gas Gathering Centre.

In Q2 2015, TR and Petrofac were awarded contracts worth $4.7bn to build the Fadhili gas plant for Saudi Aramco, which will have a processing capacity of 2.5bn standard cubic feet per day (scfd) of sour gas from the onshore Khursaniyah and offshore Hasbah fields.

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FAITHFUL+ GOULD

British project management company Faithful+Gould aims to achieve approximately 30% of its Middle East revenue through industry-related activities by 2019. Middle East managing director, Campbell Gray, recently told *Construction Week* that the goal was in line with the consultancy's strategy to increase its non-property operations in the region. This shift is designed to guard against potential vulnerability to market fluctuations, given the consultancy's increasingly targeted service offering. Gray explained: "By focusing on fewer things, we're doing less but we're more exposed to market change. Consequently, we're simultaneously working to diversify."

He added that firm was working to increase its industry-related footprint across the region, and that energy was its prime focus.

"I would like to see industry account for approximately 30% of Faithful+Gould's Middle East revenue by 2019," he said.

30% THE AMOUNT OF REGIONAL REVENUE THAT FAITHFUL+GOULD ANTICIPATES WILL COME FROM INDUSTRIES.

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$6BN THE VALUE OF QATAR'S PETROCHEMICAL COMPLEX WHERE BECHTEL WON A CONTRACT.

BECHTEL

US-based Bechtel is perhaps one of the world's largest integrated design, procurement, construction, and project management companies for oil, chemical, and natural gas facilities.

The company has been behind one-third of global LNG capacity, and has worked on 53 major oil and gas field developments, more than 275 refinery expansions and modernisations, 380 major chemical and petrochemical projects, and 110 gas-processing plants, not to mention 50 major offshore oil and gas field development projects, nearly 80,000km of pipeline systems, and 42 tank and terminal projects.

In the Middle East, however, the company appears to be decreasing its involvement in oil and gas projects, which may not necessarily be a strategic move but rather the result of tough market conditions, fewer projects in the pipeline, and more competition. Bechtel was among several international contractors to be awarded contracts for Qatar's $6bn petrochemical complex in Ras Laffan. With the project falling victim to the oil price rout at the start of last year, however, its activities in the country are beginning to slow down.

MEGARME

INTERVIEWEE: DANIEL GILL, HEAD OF BUSINESS DEVELOPMENT, MEGARME LLC

How did the low oil prices impact business for your company in 2015?
Low oil prices have impacted the business in the region in 2015, with major maintenance projects and contracts being postponed. MEGARME also had a slow year operationally in 2015. However, due to our strategic roadmap, diversified services and regional presence, we experienced an operationally busy season in the last two quarters of 2015.

What major contracts have you won in the past?
MEGARME won the Total ABK contract for Conventional and Specialised Inspection Services. We also won and successfully executed piping and instrumentation works for Flare Tip at NSP and SSP, Upper Zakum, in Abu Dhabi.

How do you expect business to be in 2016?
At MEGARME, we expect to deliver our best year so far in terms of performance in 2016. We have won various contracts in the first and second quarters and have promising projects in the pipeline as well.

What factors distinguish your company from its competitors in the region?
Our operational strength and commitment to safety. At present, no other company in the industry offers similar services, drawing on the experience of the past 22 years. In addition, employing in excess of 500 full-time employees makes MEGARME one of the largest access, inspection, repair and maintenance services providers in the region. All MEGARME personnel are based within the GCC operations. This provides the much-needed operational flexibility to complete critical projects and turn them around according to clients' expectations.

What is your opinion of the standard of EPC projects in the region's oil and gas industry?
EPC projects in the region are still driven largely by conventional methods of execution. Innovative access solutions and multi-skilled personnel for execution will support a faster turnaround on projects, and deliver huge cost savings due to the time saved. Utilising multi-skilled technicians will also assist with 'place on board' challenges.

24

LAMPRELL

Dubai-based oil rig construction company Lamprell this year signed an agreement to expand its operations in Hamriyah Free Zone, Sharjah, as part of plans to grow its footprint in the region.

The company leased an additional 114,280m² in phase 2, bringing its total land area to 500,000m², including 1,430m of quayside. The additional land will be used to build fully automated fabrication areas, including pipe fabrication shops and blasting and painting sheds.

Also this year, Lamprell signed a memorandum of understanding (MoU) with Saudi Aramco, the National Shipping Company of Saudi Arabia (Bahri), and Hyundai Heavy Industries to investigate setting up a Maritime Complex in Saudi Arabia. The proposed facility would provide engineering, manufacturing and repair services for offshore rigs, commercial vessels and offshore service vessels. The MoU covers joint participation and due diligence on all work streams required to make a final investment decision.

Late last year, Lamprell also extended two options with Abu Dhabi's National Drilling Company (NDC), as well as signing an option for a new jack-up build.

"The group [views] its exposure to the Middle East region as an important factor in its current and near-term business performance," the company said at the time of signing the NDC deal.

1,430M THE TOTAL LENGTH OF LAMPRELL'S QUAYSIDE IN THE HAMRIYAH FREEZONE.

25

$3.8BN THE VALUE OF SAMSUNG'S JOINT VENTURE DEAL FOR KUWAIT'S CLEAN FUELS PROJECT.

SAMSUNG ENGINEERING

Samsung Engineering was one of the multiple Korean contractors to secure a share of the Clean Fuels Project in Kuwait. The company struck a $3.8bn joint venture deal, in which it holds 43% stake, with UK's Petrofac and CB&I's Dutch subsidiary owning 47% and 10% respectively. Samsung will handle engineering, procurement, construction and pre-commissioning of the Mina Abdullah I refinery package, part the of Kuwait National Petroleum Company's $12bn upgrade initiative.

At the end of 2015, Samsung built the utilities and offsites at the Ruwais expansion project. The firm also won the package for the construction of a power plant at Saudi Aramco's Wasit Cogeneration & Steam Generation Project.

That project helped Samsung make significant inroads in the Middle East's power plant market, winning the Shaybah and Yanbu-3 projects in Saudi Arabia and work for a 180km-long pipeline and a central processing facility at Algeria's Timimoun field development, worth $800mn.

26

SK ENGINEERING & CONSTRUCTION

SK Engineering & Construction (E&C) is part of the Hyundai-Saipem consortium, which in the third quarter of last year signed a deal to build the marine export terminal in Al Zour, Kuwait. With a total contract value of $1.5bn, this is a significant deal for the South Korean giant, which bagged another contract on a top refinery upgrade project in the small Gulf Arab state earlier last year.

In a joint venture with GS E&C and JGC Corporation of Japan, SK is currently working on the highly complex Clean Fuels Project commissioned by the Kuwait National Petroleum Company (KNPC) to produce high-quality refined petroleum products for domestic consumption and export.

KNPC CEO Mohammad al-Mutairi told *O&GME*'s sister publication, *Refining and Petrochemicals Middle East* in January that the project was 39% complete, and that it was expected to be commissioned in mid-2018.

$1.5BN THE TOTAL CONTRACT VALUE OF THE MARINE EXPORT TERMINAL IN AL ZOUR, KUWAIT.

27

CH2M HILL

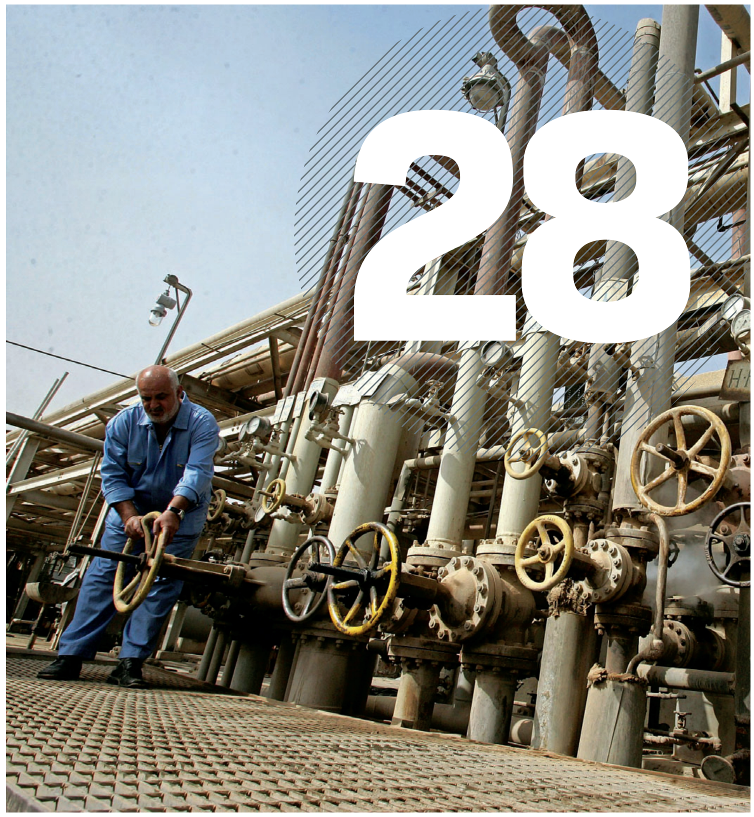
CH2M has served the oil and gas industry for more than 40 years, completing thousands of projects worldwide. The company specialises in all major refinery units, while its services range from engineering, procurement and construction management (EPCM), to in-plant engineering, construction, and turn-around.

The firm worked with Al Hosn Gas, an ADNOC subsidiary, to help develop the ultra-sour Shah Gas field. CH2M provided engineering, design and programme management consulting for six out of nine EPC packages.

"In the Middle East, developing strong client relationships is critical to success. So, when Al Hosn Gas' venture partner on the Shah Gas development unexpectedly withdrew during the project, we stepped up. They knew they could count on us to support them and make sure the project was kept alive. And now, it's completed," said CH2M's Alex Shakarchi, deputy regional manager, Middle East and North Africa, and VP of outside sales, oil, gas and chemicals.

40 YEARS THE LENGTH OF TIME THAT CH2M HAS SERVED THE OIL AND GAS INDUSTRY WORLDWIDE.

28



$2.25BN THE VALUE OF TECNIMONT'S EPC CONTRACT FROM ADCO, WHICH IT WON IN LATE 2014.

TECNIMONT

Italy's Tecnimont made its mark in the regional oil and gas industry when it won a $2.25bn engineering, procurement and construction (EPC) contract from the Abu Dhabi Company for Onshore Oil Operations (ADCO) in 2014. The deal saw Tecnimont implement process and associated units for the Al Dabbiya Surface Facilities Phase III project in Abu Dhabi. Pierroberto Folgiero, chief executive, said at the time that the project confirmed the company's strategy of pursuing opportunities in "selective, well-known geographies".

On the downstream side, Tecnimont was awarded almost $900mn to build polyethylene and polypropylene plants at Orpic's $3.6bn Liwa Plastic Industries Complex, marking the company's first contract win in Oman.

Together with Samsung, the Italian contractor worked on the expansion of Borouge's industrial complex in Ruwais, raising the company's total processing capacity to 4.5mn tonnes and that of parent firm Borealis to 3.4mn.

Tecnimont was also selected by the Abu Dhabi government to build Borouge 1 and 2. With a total value of $1.8mn, Borouge 2 is the largest polyolefin project Tecnimont has built to date.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Projector
Robot not included
Server
Multi-function Printer
LAN Switch
Conference Phone
Laptop
Tablet
T&C apply

29

DAEWOO ENGINEERING & CONSTRUCTION

South Korean firm Daewoo Engineering & Construction (E&C) won one of its few oilfield service contracts for the development of the Zubair oilfield in Iraq, totalling $588mn.

However, in May this year, Daewoo E&C made giant strides in Iran by signing an MoU with engineering firm Bahman Geno. The project, estimated to be worth around $10bn, calls for joint work on the construction of a 300,000 bpd refinery in Bandar Jask. Hyundai Engineering and Construction (Hyundai E&C), is also set to work on the refinery project, together with a number of local companies, in accordance with Iranian government regulations.

Also in May, Daewoo Shipbuilding & Marine Engineering won the right to manage Iran's state-run shipbuilder, paving its way into the Middle Eastern nation.

$10BN THE ESTIMATED VALUE OF THE IRANIAN PROJECT ON WHICH DAEWOO E&C HAS SIGNED AN MOU.

1,300 THE TOTAL NUMBER OF PEOPLE THAT ARE EMPLOYED BY NESTE JACOBS GLOBALLY.

NESTE JACOBS

Rounding off *O&GME*'s list of the region's Top 30 EPC contractors is the joint venture of Neste Jacobs. The Saudi Aramco Total Refining and Petrochemical Company (SATROP) recently awarded Jacobs a two-year contract to provide general engineering services at Jubail Industrial City II. Under the terms of the contract, Neste Jacobs is providing feasibility studies, concept design, and detailed engineering design services for a portfolio of low capital expenditure projects.

In April 2015, Neste Jacobs received an order from Emirates National Oil Company (ENOC) to provide technical consultancy services for one of its ongoing projects in Dubai. It was also awarded the technical consultancy for a steam and condensate balance and monitoring system by ADNOC operating company GASCO.

Neste will also act as FEED contractor for the modification of Borouge's polyethylene plant in Ruwais. It is the third project of this kind that the company is delivering to Borouge under a long-term service agreement. Neste Jacobs will also provide consultancy services for Takreer's Waste Heat Recovery Project in Ruwais, and design platforms at its refinery.

INDUSTRY INNOVATIONS

ECD launches new analyser

MEASUREMENT With a dual-parameter measurement range capability, the HP80 Hydrogen Peroxide Analyzer from Electro-Chemical Devices (ECD) measures H_2O_2 in both the parts per million (ppm) range and the per cent solution range, to support a variety of process applications. The HP80 Analyzer features amperometric H_2O_2 sensors that are manufactured with a gold cathode, a silver anode and a rugged microporous membrane. The device's H_2O_2 smart sensors store identity and calibration information internally.

NEW LAUNCHES

A round-up of some of the best releases this month

ENERGY MANAGEMENT

Trend Control Systems, an international manufacturer and supplier of Building Energy Management Systems (BEMS), has released the new Trend IQ4E Controller, which promises to deliver processing performance, versatility and cost-savings. The IQ4 range addresses the issue of reducing energy consumption, lowering overall energy expenditure and minimising carbon footprint, while maintaining comfortable conditions. Superior processing performance enables the most complex HVAC applications to be controlled and the IQ4E also boasts improved I/O bus capabilities, with an available length of up to 300m and the potential for 30 I/O modules to be configured.

VALIDATION TESTING

The Alfa Laval HCO filter is a solution for two-stroke engines where traditional camshafts have been replaced by hydraulic control systems. The hydraulic control system's core components are dedicated valves fed with oil from the main system flow, which must be very finely filtered with a minimal drop in pressure. Due to the sensitivity of the large centrifugal main pumps that are used to move the oil, additional drops in pressure across the HCO filter would risk engine damage. The Alfa Laval HCO filter provides an increased filtering surface with virtually no impact on pressure drop thanks to the patented shape of the Atrium filter elements and their smaller, highly optimised flow distribution system.

OPTICAL BEAM SMOKE DETECTOR

Designed to protect large areas (up to 1,500m^2) against smoking fires in potentially explosive environments, FFE's new ATEX-certified, explosion-proof Fireray 3000 Exd optical beam smoke detector is ideal for use in oil rigs, refineries, ordnance stores and similar premises, providing an early warning of smouldering or highly smoke-generative fires that may not be picked up by flame detectors. Its intuitive user interface means the Fireray 3000 Exd is easy to install and use, even by a single operator. Its Light Cancellation Technology actively monitors ambient light levels, allowing it to work in difficult lighting conditions, including in sunlight, or under sodium lamps or fluorescent lighting.

Aramco, Emerson boost control unit

The plant is the world's largest oil processing and crude stabilisation facility

UPGRADE Saudi Aramco and Emerson said they have successfully completed control system cutover at Aramco's 7mn bpd oil producing Abqaiq complex, located in Saudi Arabia's Eastern Province, 60km southwest of Dhahran. The project was commissioned to upgrade and migrate the plant's existing automation system and was completed with no impact on operations. "The team had to minimise the shutdown time for some of the risk areas that have tight operations. As a result of that, a hot cutover approach was chosen," explained Majed Al-Khalis, control systems engineer in Abqaiq Plants Facility, Saudi Aramco. The programme was distributed over 20 locations and included upgrades to 325 controllers, 105 workstations, and 42 network devices. The system at all three divisions of the complex – oil, natural gas liquids (NGL) and utilities – was overhauled, replacing Emerson's existing distributed control system with the company's latest release, DeltaV.

THREE REASONS TO BUY

Borets introduces Siemens' VFD system to its downhole PMM line of products

1 POWER SAVING

The permanent magnet motors typically range from 93 to 95% efficient with a power factor greater than .98 while its counterpart, a traditionally costly induction motor (all steel, coffin bar rotors, etc.), ranges from 85 to 87% efficiency with less than .95 power factor.

2 TRIED AND TESTED

Full-power proof of concept (POC) testing in Borets' US facility in Tulsa, Oklahoma, with Siemens SINAMICS Perfect Harmony drive, demonstrated stable operation from start-up and over varying speeds, torques and loads, reflecting various well regimes of operation.

3 SUCCESSFUL INSTALLATION

Successful installations of 42km of cable have been realised with the Siemens MV VFDS and no length restrictions with the Borets PMM ESP are expected. The software and parameter settings for the PMM ESP developed by Siemens demonstrated stability in a range of operational environments.

SELLING POWER

Robert Anderson, the inventor of HullWiper and technical director for GAC EnvironHull

HOW DOES THE SYSTEM HELP WITH FUEL SAVINGS?

Ship owners and operators can now compare the fuel cost savings reaped by hull cleaning with GAC EnvironHull's online fuel savings calculator. A foul-free hull offers the benefits of significantly enhanced fuel efficiency and lower operating costs by reducing resistance in the water.

WHAT LED GAC TO DEVELOP THIS?

GAC EnvironHull's online calculator was developed over the past year in response to calls from the market for a quick, easy-to-use method of comparing the savings achieved through different hull-cleaning techniques at a time when owners and operators are under intense pressure to cut costs.

HOW DOES HULLWIPER FUNCTION?

The system does not require divers, only an operator, and uses pressurised sea water jets to dislodge and remove fouling without causing damage to the paint beneath. Using GAC EnvironHull's environmentally-friendly system also promises savings of up to 30% on costs related to anti-fouling coatings.

HPS' one-stop support services

Honeywell Process Solutions introduces Total Care Services framework

MAINTENANCE Honeywell Process Solutions (HPS) has announced that it has developed a new, flexible framework of field instrumentation services to help its customers to improve safety, equipment reliability and system performance over the lifetime of their sites. Total Care Services offers a global framework that helps customers transition from reactive maintenance to a more effective, plannable and profitable solution, avoiding surprises and unexpected expenditures. "With a Honeywell Total Care Services agreement, we can help our customers achieve their long-term objectives," said Louis Oquendo, HPS services marketing leader. With Honeywell's Total Care Services, every instrument undergoes a visual check and basic preventive maintenance, reducing unplanned interventions and delivering greater cost savings. HPS will offer Total Care Services globally, enabling one-stop support for all Honeywell equipment.

REASONS TO HAVE:

- Increases peace of mind for site management and builds confidence in regulatory compliance.
- Provides drastic reductions in equipment and system failures, replacements, downtime and costs.
- Offers increased uptime, safety and operational efficiency.
- Allows operators to renew their focus on core business activities.
- Delivers a programme of enhanced preventative maintenance for all Honeywell equipment.
- One-stop support is available as HPS offers Total Care Services globally.
- Helps to avoid the unexpected expenditures that result from reactive maintenance.

PRODUCT FOCUS

E Instruments' E8500 PLUS emissions analyser is a complete tool for EPA compliance

The MetalPhoto anodised aluminium identification solutions offer reliable asset identification in extreme conditions.

MetalPhoto anodised aluminium identification solutions are primarily used when products and equipment face challenging conditions.

MetalPhoto is a customisable identification solution. The durable material can display anything from text and numbers to barcodes, 2D codes or company logos.

The MetalPhoto anodised aluminium identification material meets an array of commercial, governmental and military standards and specifications.

WHERE CAN I BUY IT?

For more information, e-mail: emea_request_marcom@bradycorp.com.

ALSO IN STOCK

SAE-300 MP PURE DC GENERATOR/WELDER

This machine is designed for construction and pipe welding

With a standard, built-in CV output contactor, Lincoln Electric's SAE-300 MP engine-driven welder eliminates the need for a separate wire feeder module – and the downtime associated with installing it. Additionally, the OCV Boost function can be used to aid starting and low-amperage welding. A standard onboard block heater enables the engine to be pre-heated for use in cold environments. 79

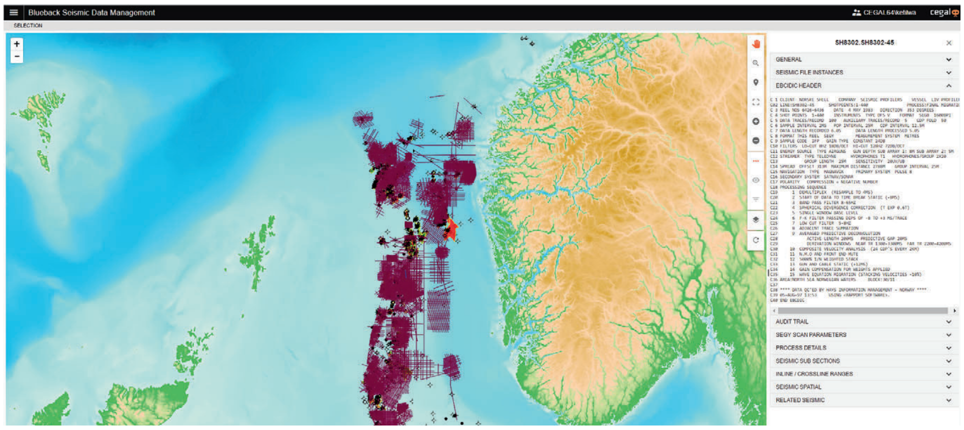
RANGE OF SAFETY SHOES

Mille SAS offers injected, welt and cemented footwear

French firm Mille SAS presented its GM'S-branded range of safety shoes at ADIPEC 2015. The GM'S range is comprised of five heavy-duty models: Winboots, Sunboots, Monster brown, Monster black, and Dealer. There are also three executive models: Oxford, Derby and Loafer. The shoes are available in a wide fit for maximum comfort, and feature a non-metallic toe cap for greater insulation from heat and the cold.

Blueback seismic data software

Cegal launches information management software solution for seismic data



WHAT IS BLUEBACK?

Blueback Seismic Data Management software provides lifecycle management for a range of geoscience applications.

WHAT DOES IT DO?

Blueback scans, catalogues, quality controls and prepares seismic data, aiming to solve the complexity of seismic data sets.

HOW IS THE SOFTWARE HELPFUL?

Offering cost and time efficiencies, the solution manages large volumes of seismic data with efficient workflows.

SOFTWARE Cegal has announced the release of Blueback Seismic Data Management, a software solution that provides full lifecycle management of seismic data for a range of geoscience applications. Built on a modern architecture and a web-based user interface, Blueback Seismic Data Management scans, catalogues, quality controls and prepares seismic data, aiming to solve the increasing complexity of seismic data sets. The solution is cost and time efficient, and manages large volumes of data with efficient workflows, allowing geoscientists easy access to available seismic data with self-service tools. "When developing Blueback Seismic Data Management, we focused on providing functionality that enables the geoscientist and data managers to prepare and quality control data for loading into geoscience applications. The data model is open and easy to use, and can be accessed directly with third-party tools to produce custom reporting and dashboards," said Ketil Waagbø, software portfolio manager at Cegal. The solution integrates with geographical information systems (GIS) and provides map- and table-based views. The spatial information can be accessed directly from ESRI ArcGIS for integration into GIS workflows and external maps.

EV ACQUIRES EPIDOTE LIMITED

EV takes full ownership of the Scottish software company

Specialist in well diagnosis, EV, has announced the acquisition of Aberdeenshire-based well integrity software supplier, Epidote Limited, to enable a world-class well diagnosis service. The acquisition results in EV taking full ownership of the company, which employs a staff of five. Epidote was established in 1999, its MIPS software providing multi-finger calliper data processing, interpretation and 3D visualisation. When combined with EV's cameras, data can be streamed in real time and played back on log data, eliminating the uncertainty of well diagnostics. Additionally, data can be sought in one run, resulting in faster,

better quality decisions and reduced downtime. EV founder and chief technical director, Jonathan Thursby, said: "The agreement opens up many new and exciting possibilities for EV, allowing us to enhance our capabilities and present a unique and sound offering that is unavailable elsewhere. We are confident that this considered move will be hugely beneficial for both companies. Together, we share not only unparalleled technical knowledge for the provision of thorough well diagnostics, but also an appetite for success, ambition and drive."

APICORP lends to Algerian firm

Sharia loan will finance part of the cost of equipment and working capital for a three-year service contract

FINANCE The Saudi-based Arab Petroleum Investments Corporation (APICORP) has issued a Sharia-compliant financing facility for Oil Recovery Services SAL (ORSsal), operating in Algeria. The facility is the first of its kind for APICORP in the Algerian market, and will finance part of the cost of equipment and working capital for a three-year contract that ORSsal won in March last year from state-owned Sonatrach. The project has a total value of $47.6mn and includes the provision of drilling/completion fluids, waste management and engineering services. The initial $10mn financing, provided by APICORP and overseen by Paris-based oil and gas private equity firm 4D Global Energy Advisors, will act as a template for the financing of several other contracts in the pipeline, the company said. "Completing this facility for ORSsal is a timely step for APICORP, as it helps us strengthen our position in the Algerian lending market, which is consistent with APICORP's objective to develop the energy sector in the Arab world," Dr Raed Al Rayes, deputy CEO and general manager of APICORP, said. According to a recent report, Algeria plans to invest $8bn in gas as it develops its midstream sector as part of the country's plan to expand total pipeline-network capacity by 30%.

ON THE MOVE

Roger Esson
Chief executive officer
Decom North Sea (DNS)

DNS, the representative body for the offshore decommissioning industry in the UK, has appointed a new chief executive. Roger Esson brings over 20 years' experience, having held leadership positions within companies ranging from SMEs to tier 1 contactors. He has played an active role in the execution of several of the UK's most significant decommissioning projects.

Kelly Tymburski
Partner – TMT practice
Dentons

Kelly Tymburski has joined the Dubai office of Dentons as a partner in the TMT practice. Arriving from Bird & Bird, where she was head of TMT in the Middle East since 2014, Tymburski specialises in providing TMT commercial/projects and regulatory advice to various private and public sector clients, advising on communications, media and technology legal issues.

Stephen Patterson
Non-executive chairman
Links Group

Links Group, UAE provider of commercial facilitation and advisory services, has appointed non-executive chairman Stephen Patterson to its board of directors. Based in Scotland, Patterson will support the development of the company's international business strategy, and brings to Links Group a proven track record in financial services.

Stacey Avalos
Business development manager
Reactive Downhole Tools

Reactive Downhole Tools, supplier of lower completion systems to the global oil and gas industry, has marked its fourth year of trading with the appointment of a business development manager for the North America region. Stacey Avalos joins the management team and will be based at Reactive's Houston facility, which was launched in 2013 and represented an investment of $5 million. Avalos' experience includes a seven-year period with Baker Hughes, during which time she held a number of field engineer roles and, latterly, a post as operations manager, which saw her lead engineering teams and projects, while handling profit and loss (P&L) for West Central Area completions.

Ahmed Mohammed Al Kaabi

Appointment of the Month

UAE's OPEC Governor

Ahmed Mohammed Al Kaabi, the UAE Energy Ministry's Assistant Undersecretary for Oil, Gas and Mineral Resources, has been named as the country's Governor for the Organisation of Petroleum Exporting Countries (OPEC). Al Kaabi enjoys a vast experience in oil market economics and OPEC operations. Prior to joining the UAE Energy Ministry, Al Kaabi worked as director of ADNOC's office in Singapore. He holds a Master's degree in oil and gas from the French Institute of Petroleum in Paris. He is a member of the World Petroleum Council (WPC), and serves as board member of the International Energy Forum (IEF) and the Bahrain-based Arab Shipbuilding and Repair Yard (ASRY).

JOBS

NOTICE BOARD

The latest jobs available in the oil and gas industry

KENTZ, KHOBAR, KSA
Lead Piping Engineer
Candidates for this position must have worked for at least five years as a senior engineer, supervising and guiding a team of piping engineers and designers working within a 3D data model environment.

QATARGAS, QATAR
Laboratory Technician
QatarGas is seeking a lab tech to conduct routine sampling and analysis of standard hydrocarbon products, and utilise the Laboratory Information Management System (LIMS) for recording and reporting test results.

HONEYWELL, UAE
Regional Sales Manager – Fixed Gas Detection
The successful candidate will be responsible for product introduction to match market demand from the wide portfolio of respiratory products and portable gas detection from Honeywell.

Rockwell Automation announces leadership changes

CAREER NEWS

NEW LEADERSHIP Rockwell Automation has announced that its board of directors has elected Blake D Moret, a 30-year veteran of the company, as president and chief executive officer, effective July 1, 2016. At that time, Keith D Nosbusch, who has been president and chief executive officer since 2004, will transition from those roles while continuing as chairman of the board. Moret has served in senior positions across Rockwell Automation, including international assignments in Europe and Canada. In 2011, he was named senior vice president of Control Products & Solutions, with FY15 sales of $3.6 billion. He has served as chair of the board of the Manufacturing Institute of the National Association of Manufacturers. He is also a member of the boards of directors for the Milwaukee-based Urban Ecology Center, and the United Way of Greater Milwaukee, as well as the advisory board of the Woodruff School of Mechanical Engineering at Georgia Tech.

ROCKWELL AUTOMATION'S APPOINTMENT OF BLAKE D MORET AS PRESIDENT AND CHIEF EXECUTIVE OFFICER WILL TAKE EFFECT IN JULY.

DarkMatter promotes Dr Najwa Aaraj as senior vice president of special projects

PROMOTION DarkMatter, an international cyber security firm headquartered in the UAE, has appointed Dr Najwa Aaraj as the senior vice president – special projects. Special projects falls under the CEO's office, and is responsible for identifying and developing new business opportunities, providing new security and technology tools to the company and focusing on research. In her previous role as vice president of the business unit, Aaraj oversaw the development and commercial introduction of a number of secure communications applications, including DarkMatter's Secure Voice and Chat offering.

GAC Group has announced two new appointments to its management team

APPOINTMENTS Global shipping, logistics and marine service provider GAC has announced two new appointments within its group management team. Håkan Wester takes on the new role of group vice president – strategy & planning, and is charged with coordinating and supporting the implementation of GAC strategy throughout the group's operations in more than 50 countries around the world. Mikael Leijonberg, meanwhile, has been named as the group's chief financial officer (CFO), and is responsible for all group finance and accounts, and business control matters.

ADMA OPCO – Nasr Full Field Development Phase 2

(Package 1 – Wellheads and Pipeline)

Continuing with the aim of reaching 1.75mn bpd of crude oil offshore production by 2018, the Abu Dhabi Marine Operating Company (ADMA-OPCO) is planning to carry out the phase 2 expansion of the Nasr field – located 130km northwest of Abu Dhabi City – which aims to produce an additional 100,000 bpd. This is the first package of the second phase of the full field development, focussing mainly on wellheads and pipeline.

PROJECT SCOPE

Works for the first package of the phase 2 – Nasr Full Field Development focus on pipelines and associated facilities.

The scope of work includes:

- Seven wellhead platforms
- Installation of 132 wells and corresponding wellheads
- Construction of crude oil pumps, facilities to separate the oil and gas lift dehydration and compression
- Water treatment and disposal facilities implementation
- Oil and water trunkline
- Installation 110km of infield pipeline
- Installation of 32km excess gas pipeline
- Installation of 70km export oil line

CONTRACTORS

Contract Type	Pre-Qualified	Bidders	Awarded
PMC	• Technip	• Technip	• Vinson & Elkins • Baker Botts LLP • Ashurst LLP
EPC	• McDermott International • NPCC – National Petroleum Construction Company • Petrofac • Hyundai Heavy Industries • Saipem	• McDermott International • NPCC – National Petroleum Construction Company • Petrofac • Hyundai Heavy Industries • Saipem	• NPCC – National Petroleum Construction Company
FEED	Fluor Corporation		
Sub-Contractors	–	–	• CTCI

FAST FACTS

Name of Client
Abu Dhabi Marine Operating Company (ADMA-OPCO)

Estimated Budget ($ US)
900 million

Facility Type
Oilfield development

Sector
Oil

Status
Construction

Location
NW of Abu Dhabi

Project Start
Q4 2006

End Date
Q4 2018

Last Updated
08-05-2016

FEED CONTRACT
Fluor Corporation

PMC
Technip

Main Contractor
National Petroleum Construction Company

Contract Value (US$)
792 million

PROJECT FINANCE

Abu Dhabi Marine Operating Co. (ADMA-OPCO) is the project owner. ADMA-OPCO is 60% owned by ADNOC, while the rest of the ownership is broken down into:

- 12% JODCO
- 13 1/3% Total
- 14 2/3% BP

PROJECT SCHEDULES

Date	Status
June 2016	CTCI has been awarded the subcontract for construction by NPCC.
June 2016	Construction works by NPCC are ongoing at the moment.
Sep 2015	Engineering works continue and construction has started.
May 2015	The project is still at engineering and procurement stage.
Mar 2015	NPCC is currently carrying out engineering works for the project. The contractor will also carry out major sub-contracting works in-house.
Feb 2015	Civil works by NPCC are expected to start shortly, after which the piping works will be carried out by Hyundai Heavy Industries and KBR.
Sep 2014	The project is at the engineering stage.
Jul 2014	NPCC has been awarded the EPC contract for the package.
Jul 2014	An announcement of the EPC contract award has not yet been announced, despite the announcement of the phase 2 – package 2 being awarded to HHI and KBR.
May 2014	Commercial bids have been submitted with McDermott as the lowest bidder.
May 2014	Commercial bids have been submitted.
Apr 2014	Commercial bid proposal participation has been pushed back to May 4, 2014.
Apr 2014	Companies – McDermott, Hyundai Heavy Industries, Petrofac and NPCC are in the process of commercial proposal preparation, which will be submitted on April 20, 2014.
Jan 2014	Technical bids for this package have been received.
Sep 2013	Technical EPC bids for this first package are expected to be submitted by December 17, 2013.

Ongoing and upcoming projects

Information is supplied by DMS Projects

GCC GAS – MAY 2016

Project	Country	City/Region	Facility	Budget	Status	Completion Date
ADCO- Bab TH-F Peripheral Development	UAE	Abu Dhabi	Nitrogen	400,000,000	FEED ITB	Q4 2017
ADCO- Bu Hasa Shuaiba South- Gas Lift Network	UAE	Abu Dhabi	Gas Network	800,000,000	Construction	Q1 2018
ADGAS – Das Island Flaring & Emission Reduction (Package 2 & 3)	UAE	Das Island	Gas Production	100,000,000	Construction	Q1 2018
ADGAS- Integrated Facilities Project (IGD-S) Expansion (Phase 4)	UAE	Abu Dhabi	Gas Field Development	1,057,000,000	EPC ITB	Q3 2019
ADGAS- Integrated Gas Development (IGD) – Expansion (Overview)	UAE	Abu Dhabi	Gas Field Development	1,057,000,000	EPC ITB	Q1 2019
ADGAS- Integrated Gas Development (IGD) – Expansion (Phase 1)	UAE	Abu Dhabi	Gas Field Development	1,057,000,000	Engineering & Procurement	Q3 2017
ADGAS- Integrated Gas Development (IGD) – Expansion (Phase 2)	UAE	Abu Dhabi	Gas Field Development	1,057,000,000	Construction	Q1 2019
ADMA OPCO – Umm Shaif Super Complex- Additional Gas Supply & Flexibility Assurance	UAE	Abu Dhabi	Gas Production	494,000,000	Construction	Q2 2016
ADMA OPCO- Nitrogen Plant Upgrade	UAE	Abu Dhabi	Nitrogen	55,000,000	Design	Q1 2017
ADMA-OPCO – Das Island Flares Modifications – Revamp Project	UAE	Das Island	Gas Processing	50,000,000	Construction	Q2 2015
ADMA-OPCO – Nasr Full Field Development – (Overview)	UAE	Nasr Field	Oil Field Development	1,700,000,000	Construction	Q4 2018
ADMA-OPCO – SARB Offshore Oil Field Development – Package 2	UAE	Abu Dhabi	Oil & Gas Field	500,000,000	Construction	Q4 2016
ADMA-OPCO – SARB Offshore Oil Field Development – Package 3	UAE	Abu Dhabi	Gas Pipeline	600,000,000	Construction	Q1 2016
ADMA-OPCO – SARB Offshore Oil Field Development – Package 4	UAE	Abu Dhabi	Gas Processing	500,000,000	Construction	Q3 2017
ADMA-OPCO – Zakum Facilities for 4 Gas Injectors	UAE	Abu Dhabi	Gas Production	100,000,000	Construction	Q1 2016
Bahrain LNG WLL – Liquefied Natural Gas Receiving and Regasification Terminal	Bahrain	Hidd	Liquefied Natural Gas (LNG)	660,000,000	Engineering & Procurement	Q3 2018
Banagas – Central Gas plant 3	Bahrain	Sitra	Gas Treatment Plant	600,000,000	Engineering & Procurement	Q3 2018
Banagas – Fuel Pipelines And Storage Facilities Expansion	Bahrain	Sitra	Gas Storage Tanks	80,000,000	EPC ITB	Q2 2018
BP – Block 61 – Khazzan and Makarem Gas Fields Development	Oman	Oman	Gas Field Development	24,000,000,000	Construction	Q1 2022
BP – Block 61 – Khazzan Gas Fields Development – Phase 1 – Central Processing Facility	Oman	Al Dahirah	Gas Processing	1,200,000,000	Construction	Q2 2017
BP – Block 61 – Khazzan Gas Fields Development – Phase 1 – Overview	Oman	Al Dahirah	Gas Field Development	15,000,000,000	Construction	Q4 2017
BP – Block 61 – Khazzan Gas Fields Development – Phase 1 – Package 1	Oman	Al Dahirah	Gas Field Development	1,500,000,000	Construction	Q4 2018
BP – Block 61 – Khazzan Gas Fields Development – Phase 1 – Package 2	Oman	Al Dahirah	Gas Field Development	130,000,000	Construction	Q3 2017
Dana Gas – Zora Gas Field	UAE	Sharjah	Gas Exploration	100,000,000	Construction	Q4 2016
DNO – Block 8 Oil & Gas Field Development	Oman	West Bukha	Gas Field	45,000,000	Construction	Q4 2018
Emirates LNG – Fujairah LNG	UAE	Fujairah	Liquefied Natural Gas (LNG)	3,000,000,000	EPC ITB	Q3 2016
GASCO – Abu Dhabi Sales Gas Network- Compression Station	UAE	Abu Dhabi	Gas Pipeline	900,000,000	Feasibility Study	Q2 2018
GASCO – Black Powder Management	UAE	Abu Dhabi	Gas Pipeline	44,000,000	Construction	Q4 2017
GASCO – Habshan to Ruwais – 16 inch Condensate Replacement Pipeline	UAE	Abu Dhabi	Gas Pipeline	90,000,000	Construction	Q4 2016
GASCO – Integrated Gas Development (IGD) – Expansion (Onshore Pipeline)	UAE	Abu Dhabi	Gas Production	12,000,000,000	Construction	Q4 2016
GASCO – Yas – Mina Zayed Gas Pipeline	UAE	Abu Dhabi	Gas Processing	45,000,000	Construction	Q1 2015
GASCO- Gas Turbine Replacement (Phase 1 – Asab & Buhasa)	UAE	Abu Dhabi	Gas Processing	130,000,000	FEED	Q4 2017
GASCO- Habshan 5 – New Compression Train	UAE	Abu Dhabi	Gas Processing	800,000,000	EPC ITB	Q1 2018
GASCO- Taweelah Compression Station	UAE	Abu Dhabi	Gas Processing	700,000,000	FEED	Q4 2018
KGOC – Wafra Central Gas Utilization Project	Kuwait	Wafra	Gas Processing	1,000,000,000	FEED	Q1 2018

Project	Country	City	Facility	Budget	Status	Completion Date
KNPC – Mina Abdulla Refinery Sulphur Recovery Units	Kuwait	Mina Abdullah	Sulphur Recovery	1,000,000,000	EPC ITB	Q2 2018
KNPC – Al Zour LNG Import and Regasification Terminal	Kuwait	Al Zour	Liquefied Natural Gas (LNG)	3,330,000,000	Engineering & Procurement	Q4 2018
KNPC – Mina Al Ahmadi Acid Gas Removal Plant	Kuwait	Ahmadi	Acid Gas	522,176,000	Construction	Q2 2016
KNPC – Mina Al Ahmadi Refinery Fifth Gas Train	Kuwait	Mina Al Ahmadi	Gas Production	2,000,000,000	Construction	Q4 2017
KNPC – Mina Al Ahmadi Refinery LNG Storage & Re-gasification Services	Kuwait	Mina Al Ahmadi	Liquefied Natural Gas (LNG)	250,000,000	Construction	Q2 2016
KNPC – Mina Al Ahmadi Refinery Sulphur Recovery Units	Kuwait	Mina Al Ahmadi	Sulphur Recovery	50,000,000	EPC ITB	Q2 2018
KNPC – Mutla Ridge Project	Kuwait	Mutla Ridge	Oil Storage Tanks	1,000,000,000	Feasibility Study	Q4 2019
KOC – North Kuwait Manifold Gathering System for Gathering Centers (GC) 29, 30, 31	Kuwait	Northern Kuwait	Gas Gathering Centre	2,500,000,000	Construction	Q4 2017
MASDAR – Carbon Dioxide Capture and Storage – Phase I (Mussafah Steel Rolling Mill)	UAE	Abu Dhabi	Carbon Dioxide	280,000,000	Construction	Q2 2016
MASDAR – Carbon Dioxide Capture and Storage – Phase I (Overview)	UAE	Abu Dhabi	Carbon Dioxide	2,500,000,000	Construction	Q2 2016
NOGA – Gazprom – Liquefied Natural Gas (LNG) distribution centre	Bahrain	Various	Liquefied Natural Gas (LNG)	600,000,000	Feasibility Study	Q2 2018
NOGA – Onshore Deep Gas Exploration	Bahrain	Various	Gas Exploration	200,000,000	Engineering & Procurement	Q4 2015
Oman Gas Company – Murayrat PLS Upgrade	Oman	Adam Ad Dakhliya	Gas Processing	100,000,000	Construction	Q4 2017
Oman Gas Company – Muscat Gas Network	Oman	Muscat	Gas Network	100,000,000	FEED ITB	Q1 2020
Oman Gas Company – Salalah Loopline	Oman	Salalah	Gas Pipeline	70,000,000	Engineering & Procurement	Q2 2017
Oman Gas Company – Salalah LPG Extraction	Oman	Salalah	Liquefied Petroleum Gas (LPG)	100,000,000	FEED	Q2 2019
Orpic – Liwa Plastics Industries Complex – NGL Extraction Units	Oman	Sohar	Natural Gas Liquefaction (NGL)	400,000,000	Engineering & Procurement	Q1 2019
Oryx GTL – Expansion of Gas To Liquids Plant	Qatar	Ras Laffan	Gas to Liquids (GTL)	1,500,000,000	Feasibility Study	Q4 2019
PDO – Ghaba North Gas Field Re-Development	Oman	Northern Oman	Gas Field Development	250,000,000	Engineering & Procurement	Q1 2016
PDO – Kauther Depletion Compression Phase 2 (KDC2)	Oman	Al Dakhiliya	Gas Compression	190,000,000	Engineering & Procurement	Q2 2019
PDO – Khulud Tight Gas Development Project (KLD)	Oman	Kauther Field	Gas Field Development	100,000,000	Feasibility Study	Q4 2021
PDO – Rabab-Harweel Integrated Plant (RHIP) – Overview	Oman	Harweel	Gas Processing	3,000,000,000	Construction	Q4 2018
PDO – Saih Nahaydah Depletion Compression Phase-2 (SNDC2)	Oman	Saih Nihayda	Gas Compression	180,000,000	Engineering & Procurement	Q2 2019
PDO – Saih Nihayda Condensate Stabilization Plant	Oman	Saih Nihayda	Gas Treatment Plant	115,000,000	Construction	Q3 2016
PDO – SRCPP & SNGP Condensate Recovery Maximisation	Oman	Saih Nihayda	Gas Processing	300,000,000	Construction	Q1 2017
PDO – Yibal Depletion Compression – Phase 3 (Y3DC)	Oman	Yibal	Gas Processing	300,000,000	Construction	Q4 2016
PDO – Zauliah Gas Plant Project	Oman	Al Wusta	Gas Processing	110,000,000	Construction	Q1 2016
Qatar Petroleum (QP) – Air Compressor Replacement at Mesaieed Refinery	Qatar	Mesaieed	Gas Processing	50,000,000	Construction	Q4 2016
Qatar Petroleum (QP) – Bi-directional Pipeline Between KM and KS	Qatar	Doha	Gas Pipeline	80,000,000	Construction	Q3 2015
Qatar Petroleum (QP) – Vapour Recovery System at Multi Product Berth	Qatar	Mesaieed	Gas Processing	50,000,000	FEED	Q2 2017
RasGas – Qatar Barzan Gas Field Development Project (Overview)	Qatar	North Field	Gas Field Development	10,300,000,000	Construction	Q4 2021
RasGas – Qatar Barzan Gas Field Development Project – Offshore – Phase 2	Qatar	North Field	Gas Field Development	700,000,000	Engineering & Procurement	Q4 2019
RasGas – Qatar Barzan Gas Field Development Project – Offshore – Phase 3	Qatar	North Field	Gas Field Development	300,000,000	Engineering & Procurement	Q4 2023
RasGas – Qatar Barzan Gas Field Development Project – Onshore – Phase 1	Qatar	North Field	Gas Field Development	1,700,000,000	Construction	Q1 2016
RasGas – Qatar Barzan Gas Field Development Project – Onshore – Phase 2	Qatar	North Field	Gas Field Development	2,000,000,000	Feasibility Study	Q4 2019
Saudi Aramco – Arabiyah and Hasbah Gas Field Development	Saudi Arabia	Arabiyah	Gas Field	3,000,000,000	Construction	Q1 2019
Saudi Aramco – Dow – Ras Tanura Gas Plant (Overview)	Saudi Arabia	Ras Tanura	Gas Field	4,000,000,000	EPC ITB	Q4 2019
Saudi Aramco – Duba-1 Gas field	Saudi Arabia	Red Sea	Gas Field	25,000,000,000	Feasibility Study	Q3 2016

Project	Country	City	Facility	Budget	Status	Completion Date
Saudi Aramco – Fadhili Gas Plant – Main Processing Facilities (Package 1)	Saudi Arabia	Eastern Province	Gas Treatment Plant	2,500,000,000	Engineering & Procurement	Q1 2021
Saudi Aramco – Fadhili Gas Plant – Offsites & Utilities (Package 3)	Saudi Arabia	Eastern Province	Gas Field	2,000,000,000	Engineering & Procurement	Q1 2021
Saudi Aramco – Fadhili Gas Plant – Sulphur Recovery Unit SRU (Package 2)	Saudi Arabia	Eastern Province	Gas Treatment Plant	2,500,000,000	Engineering & Procurement	Q2 2021
Saudi Aramco – Fadhili Plant (Overview)	Saudi Arabia	Eastern Province	Gas Field	5,000,000,000	Construction	Q1 2021
Saudi Aramco – Hasbah Offshore Gas Field Expansion	Saudi Arabia	Hasbah	Gas Field	1,500,000,000	EPC ITB	Q2 2019
Saudi Aramco – Liquefied Gas Station For Shadqam & Al Uthmaniah Gas Plants	Saudi Arabia	Abqaiq	Natural Gas Liquefaction (NGL)	74,000,000	Construction	Q3 2018
Saudi Aramco – Liquefied Natural Gas (LNG) Receiving Terminal	Saudi Arabia	Jeddah	Liquefied Natural Gas (LNG)	1,000,000,000	Feasibility Study	Q3 2017
Saudi Aramco – Master Gas System Expansion (MGSE) (Overview)	Saudi Arabia	Various	Natural Gas Liquefaction (NGL)	4,050,000,000	Construction	Q1 2020
Saudi Aramco – Master Gas System Expansion (MGSE) – Phase I	Saudi Arabia	Various	Gas Pipeline	1,650,000,000	Construction	Q1 2020
Saudi Aramco – Midyan Gas Processing Plant	Saudi Arabia	Tabuk	Gas Processing	800,000,000	Construction	Q2 2016
Saudi Aramco – Unconventional Gas Program – Tight Gas Production Systems A	Saudi Arabia	Turaif	Gas Field Development	200,000,000	Construction	Q4 2020
Saudi Aramco – Unconventional Gas Program – Tight Gas Production Systems A and B (Overview)	Saudi Arabia	Turaif	Gas Field Development	3,500,000,000	Construction	Q4 2020
Saudi Aramco – Unconventional Gas Program – Tight Gas Production Systems B	Saudi Arabia	Turaif	Gas Field Development	800,000,000	Engineering & Procurement	Q4 2020
Saudi Aramco – Uthmaniya Gas Treatment Units	Saudi Arabia	Uthmaniyah	Gas Network	500,000,000	EPC ITB	Q2 2019
Shell – Pearl GTL Scheme – Onshore & Offshore Facilities	Qatar	Qatar	Natural Gas Liquefaction (NGL)	20,000,000,000	Construction	Q3 2019
Takreer– Hamriya Jetty and Pipeline Network Project – Marine Works 2	UAE	Hamriyah	Oil Storage Tanks	250,000,000	Construction	Q4 2014
Tatweer Petroleum – Central Gas Dehydration Facilities	Bahrain	Awali	Gas Processing	100,000,000	Construction	Q3 2018
VOPAK HORIZON – Fujairah Oil Terminal Expansion (Phase 7)	UAE	Fujairah	Gas Storage Tanks	200,000,000	Engineering & Procurement	Q2 2015
ZADCO – Upper Zakum Full Field Development – 750 Project – Surface Facilities – EPC 1	UAE	Zakum	Oil Field Development	1,300,000,000	Construction	Q4 2017
ZADCO – Upper Zakum Full Field Development – 750 Project – Surface Facilities – EPC 2	UAE	Zakum	Oil Production	4,200,000,000	Construction	Q4 2017
ZADCO– 750 West Region– CapaCity/Region Expansion & Sulphate Reduction Plant– EPC 3	UAE	Zirku	Oil & Gas Field	300,000,000	EPC ITB	Q1 2019

GCC OIL – MAY 2016

Project	Country	City/Region	Facility	Budget	Status	Completion Date
ADCO – Bab Far North CO2 Injection Pilot Project	UAE	Bab Habshan	Oil Field Development	305,000,000	Construction	Q4 2016
ADCO – Mender Field Development	UAE	Abu Dhabi	Oil Field Development	350,000,000	Construction	Q3 2018
ADCO – North East Bab (NEB) – (Al Dabbiya) ASR	UAE	Abu Dhabi	Oil Production	2,500,000,000	EPC ITB	Q1 2020
ADCO – North East Bab (NEB) – Phase 3 (Al Dabbiya)	UAE	Abu Dhabi	Oil Production	2,500,000,000	Construction	Q4 2017
ADCO – North East Bab (NEB) – Phase 3 (Rumaitha-Shanayel)	UAE	Abu Dhabi	Oil Production	2,500,000,000	Construction	Q4 2017
ADCO – Rumaitha North CO2 Injection Project	UAE	Rumaitha	Oil Field Development	500,000,000	Construction	Q4 2016
ADCO – South East Asset– Sahil Field Development – Phase 2	UAE	Abu Dhabi	Oil Field Development	800,000,000	Construction	Q3 2016
ADCO– Bab Integrated Facilities Project– Expansion	UAE	Bab	Oil Field Development	3,000,000,000	EPC ITB	Q1 2020
ADCO– Bab TH-F Peripheral Development	UAE	Abu Dhabi	Nitrogen	400,000,000	FEED ITB	Q4 2017
ADCO– Buhasa– Wellhead Automation	UAE	Abu Dhabi	Oil Field Development	100,000,000	FEED	Q3 2019
ADCO– Fujairah MOT – Hydraulic Pressure Recovery System Turbine	UAE	Fujairah	Oil Field Development	800,000,000	FEED	Q1 2017
ADCO– Qusahwira Field Development – Phase 2	UAE	Abu Dhabi	Oil Field Development	900,000,000	EPC ITB	Q3 2018
ADCO– South East Asset– Tie-in Project	UAE	Abu Dhabi	Oil Field Development	650,000,000	Engineering & Procurement	Q1 2018
ADMA OPCO – Nasr Full Field Development – Phase 2 (Package 2 – Platforms)	UAE	Abu Dhabi	Oil Field Development	200,000,000	Engineering & Procurement	Q4 2018
ADMA OPCO – Nasr Full Field Development – Phase 2 (Package 3)	UAE	Abu Dhabi	Oil Field Development	200,000,000	Construction	Q4 2018

Project	Country	City	Facility	Budget	Status	Completion Date
ADMA OPCO – Umm Shaif Super Complex– Additional Gas Supply & Flexibility Assurance	UAE	Abu Dhabi	Gas Production	494,000,000	Construction	Q2 2016
ADMA OPCO– Nasr Full Field Development – Phase 2 (Package 1 – Wellheads and Pipeline)	UAE	Abu Dhabi	Oil Field Development	900,000,000	Construction	Q4 2018
ADMA OPCO–Umm Shaif Oil Network Expansion	UAE	Abu Dhabi	Oil Field Development	300,000,000	EPC ITB	Q4 2019
ADMA-OPCO – 100 MBD DAS Facilities Upgrade Project	UAE	Abu Dhabi	Oil Field Development	48,000,000	Construction	Q3 2014
ADMA-OPCO – Das Island Flares Modifications – Revamp Project	UAE	Das Island	Gas Processing	50,000,000	Construction	Q2 2015
ADMA-OPCO – Nasr Full Field Development – (Overview)	UAE	Nasr Field	Oil Field Development	1,700,000,000	Construction	Q4 2018
ADMA-OPCO – SARB Offshore Oil Field Development – Package 2	UAE	Abu Dhabi	Oil & Gas Field	500,000,000	Construction	Q4 2016
ADMA-OPCO – SARB Offshore Oil Field Development – Package 3	UAE	Abu Dhabi	Gas Pipeline	600,000,000	Construction	Q1 2016
ADMA-OPCO – SARB Offshore Oil Field Development – Package 4	UAE	Abu Dhabi	Gas Processing	500,000,000	Construction	Q3 2017
ADMA-OPCO – Umm Al Lulu Field Development – (Overview)	UAE	Umm Al Lulu	Oil Field Development	2,500,000,000	Construction	Q1 2018
ADMA-OPCO – Umm Al Lulu Field Development – Package 1	UAE	Abu Dhabi	Oil Field Development	2,500,000,000	Construction	Q1 2018
ADMA-OPCO – Umm Al Lulu Field Development – Package 2	UAE	Abu Dhabi	Oil Field Development	2,500,000,000	Construction	Q4 2015
ADMA-OPCO – Umm Shaif Infield Pipelines Replacement	UAE	Umm Shaif	Oil Field Development	500,000,000	EPC ITB	Q4 2015
ADMA-OPCO – Zakum Facilities for 4 Gas Injectors	UAE	Abu Dhabi	Gas Production	100,000,000	Construction	Q1 2016
ADMA-OPCO– Lower Zakum – Oil Lines Replacement (Phase 1)	UAE	Zakum	Pipeline	950,000,000	Construction	Q4 2016
ADNOC & EMARAT – Fujairah Terminal Expansion Phase 3	UAE	Fujairah	Oil Storage Tanks	40,000,000	Feasibility Study	Q4 2018
ADOC – Hail Offshore Oilfield	UAE	Abu Dhabi	Oil Field Development	500,000,000	Engineering & Procurement	Q3 2018
ADOC – Mubaraz Field Expansion	UAE	Abu Dhabi	Oil Field Development	500,000,000	FEED ITB	Q4 2017
Al Hosn Gas – Dalma Field	UAE	Abu Dhabi	Oil Field Development	800,000,000	FEED ITB	Q4 2020
BAC – Bahrain International Airport Modernization Program – New Aviation Fuel Farm & Fuel Hydrant	Bahrain	Muharraq	Oil Storage Tanks	200,000,000	EPC ITB	Q4 2017
Bapco – Offshore Blocks	Bahrain	Various	Exploration	80,000,000	EPC ITB	Q2 2020
BPGIC – Fujairah Oil Terminal (Phase 1 & 2)	UAE	Fujairah	Oil Storage Tanks	200,000,000	Construction	Q1 2017
Duqm Petroleum Terminal Company – Duqm Liquid Jetty	Oman	Duqm	Oil Storage Terminal	1,000,000,000	EPC ITB	Q4 2018
Duqm Petroleum Terminal Company – Duqm Liquid Jetty – Topside Facilities	Oman	Duqm	Oil Storage Terminal	250,000,000	EPC ITB	Q4 2018
Fujairah Port – Port Facilities Expansion	UAE	Fujairah	Oil Storage Tanks	100,000,000	Construction	Q4 2015
GASCO – Integrated Gas Development (IGD) – Expansion (Onshore Pipeline)	UAE	Abu Dhabi	Gas Production	12,000,000,000	Construction	Q4 2016
GASCO – Yas – Mina Zayed Gas Pipeline	UAE	Abu Dhabi	Gas Processing	45,000,000	Construction	Q1 2015
GASCO– Integrated Gas Development – Expansion (42 Inch Pipeline)	UAE	Abu Dhabi	Oil Field Development	450,000,000	Construction	Q4 2018
Gulf Petrochem – Oil Storage Terminal Facility at Fujairah – Phase 2	UAE	Fujairah	Oil Storage Tanks	300,000,000	EPC ITB	Q4 2016
Hydrocarbon Finder – Block 7 Onshore Exploration and Production	Oman	Al Wusta	Exploration	50,000,000	Engineering & Procurement	Q1 2019
IPIC – Fujairah Refinery (EPC 1 & 2)	UAE	Fujairah	Refinery	3,500,000,000	EPC ITB	Q4 2018
KNPC – Kuwait Discharge of Treated Effluent	Kuwait	Various	Pipeline	100,000,000	Feasibility Study	Q4 2018
KNPC – Matlaa New Depot	Kuwait	Northern Kuwait	Oil Storage Tanks	500,000,000	EPC ITB	Q4 2019
KNPC – Mutla Ridge Project	Kuwait	Mutla Ridge	Oil Storage Tanks	1,000,000,000	Feasibility Study	Q4 2019
KOC – Wara Pressure Facilities Operation and Maintenance	Kuwait	Southeast Kuwait	Oil Field Development	500,000,000	EPC ITB	Q3 2017
KOC – Exxon Mobil Corporation – Ratqa Lower Fars Heavy Oil Handling Facilities – Drilling Package	Kuwait	Jahra	Oil Field Development	500,000,000	Construction	Q2 2018
KOC – Kuwait Bay and Divided Zone Offshore Exploration	Kuwait	Various	Oil Field Development	900,000,000	Engineering & Procurement	Q2 2017
KOC – Kuwait Environmental Remediation Program (KERP) – North Package	Kuwait	Northern Kuwait	Oil & Gas Field	100,000,000	Construction	Q4 2021
KOC – Kuwait Environmental Remediation Program (KERP) – Overview	Kuwait	Kuwait	Oil & Gas Field	3,000,000,000	Construction	Q4 2021

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Ray Shaw, Regional Director – EMEA, Ariel Corporation

FIVE MINUTES WITH...

Oil & Gas Middle East delves below the corporate strategy to understand what really makes the industry's leaders tick

ABOUT THE INTERVIEWEE:
Ray Shaw is the regional director for Ariel Corporation's operations in the Europe, Middle East and Africa (EMEA) region.

0.00

How has business been for Ariel Corporation during the first quarter of this year?
The industry that we serve has seen a significant slowdown in terms of business levels around the world, and Ariel Corporation is no exception. However, both Ariel and its distribution personnel have been very successful in securing numerous Middle East projects – in Saudi Arabia, Kuwait, and in the UAE.

1.05

Could you describe some of your clients in the region and your scope of work with them?
Ariel Corporation works through a global network of packaging distributors, many of which are very active in the Middle East market. These packagers provide gas compression and gas treatment solutions for many of the international, national and independent oil and gas companies operating in the region. The equipment is used in the production, processing, transport, and storage of natural gas, as well as in the myriad compressed gas applications that exist within the petrochemical, refining and industrial gas markets.

> "WE BELIEVE THAT THE MIDDLE EAST IS A GROWING MARKET, AS CHANGING TECHNOLOGY AND FIELD CONDITIONS WILL REQUIRE MORE AND MORE COMPRESSION."

2.55

What new gas compressor products has Ariel recently launched?
Ariel offers the most comprehensive selection of standard compressor frames and cylinders. The most recent compressor products offered are focused on improved efficiency, operational flexibility, reliability (maximum in-service), and minimised fugitive emissions, all while maintaining the most competitive cost of ownership in the marketplace.
We now offer cylinders with 10,000 PSI MAWP. There are more than 53,000 Ariel compressor frames, with more than 200,000 Ariel cylinders in operation throughout the world.

3.35

What is your opinion of the gas compression market in the region? Is there enough demand for your products?
Where there is natural gas and oil, there will always be a need for gas compression equipment. The region certainly meets those qualifications. While any manufacturer would like to see more demand, we believe that the Middle East is a growing market, as changing technology and field conditions will require more and more compression.

4.10

How do you intend to expand in the regional market in the years to come?
Over the last 15 or so years, Ariel's focus in the region has expanded. In addition to adding our own personnel in Dubai, our packaging distributors have added significant staff and physical facilities. We have seen our market grow with the acceptance of high-speed compressors, and certainly with the national oil and gas companies. With oil and gas sales prices currently affecting investment decisions in the region, the use of high speed packaged compressors has become more commonplace.