SPECIAL REPORT: BIG DATA HELPS OPTIMISE REGIONAL OPERATIONS

Oil&Gas MIDDLE EAST

NEWS, DATA AND ANALYSIS FOR THE MIDDL LS

July 2016 • Vol. 12 • Issue 07

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pearl hunter

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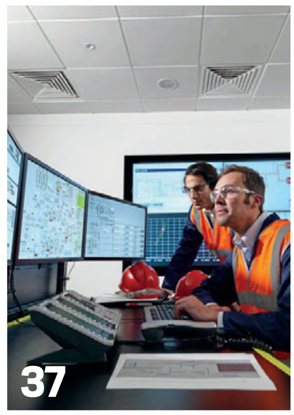

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A period of tranquility is upon us

As the GCC strives to bring in result-oriented leadership changes, the energy sector witnesses relative recovery

THIS ISSUE: Emerson Process Management's Middle East and Africa boss tells *O&GME* how the company is growing by leaps and bounds.

As the GCC tries to cope with new realities and takes bold, unprecedented measures to sustain itself in this subdued oil price era, the leadership seems keen to replace the old order with the new, placing more faith in adventurous youth than in the wisdom of the veterans.

Closely on the heels of Saudi Arabia replacing the time-tested Ali Al-Naimi with Khalid Al-Falih as the energy minister, neighbouring Bahrain has followed suit by relieving Abdulhussain bin Ali Mirza of his duties as energy minister, handing him the lesser portfolio of the Ministry of Water and Electricity.

The Kingdom's oil and gas affairs will now be managed by Sheikh Mohammed bin Khalifa bin Ahmed Al Khalifa, a member of the ruling family, who occupies a number of executive positions in energy firms including chief executive of Bahrain's nogaholding.

The change of guard in Saudi Arabia seems to be yielding results already, as demonstrated by Falih's relative success in avoiding a rancourous feud (something his predecessor was unable to in the Doha talks in April) at OPEC's June 2 meeting in Vienna and convincing the cartel's members that the strategy to pump hard and defend market share was indeed working.

Iran, meanwhile, is steadily charting its course to pre-sanctions-era glory. The Islamic Republic is currently producing about 3.82mn bpd and oil minister Bijan Zangeneh hopes to achieve an output of 4mn bpd by the end of this year. Moreover, in its quest for customers, Iran has been aggressively venturing out to Europe, signing deals to sell crude oil to its once-upon-a-time customers, besides strengthening business relations with its existing clientele in Asia.

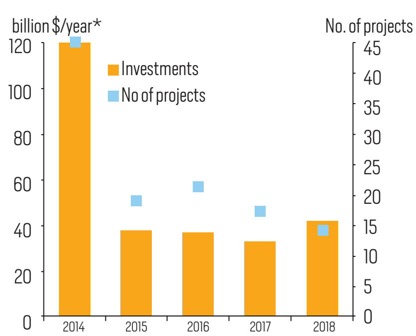
A few bright spots have appeared along the way – with non-OPEC supply declining further and OPEC oil producers agreeing to at least not inundate the world with more oil than it can consume. To the believer, the oil and gas industry has certainly sailed into calmer waters – the oil prices constantly trading around the $50 mark bearing proof.

A welcome transition is also being witnessed in the regional oil and gas sector. Low oil prices are beginning to have a ripple effect, coercing the industry to embrace cost-effective yet efficient technology both in the oilfield and off it.

A blessing in disguise, you might suppose!

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

OPEC upstream investnent plans



*These estimates are based on upstream project or field development requirements at field gate and do not include the infrastructure required beyond the field.

Oil&Gas MIDDLE EAST

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MENA power: Finance and reform

Regional governments are prioritising investments in the power sector in order to feed rapidly rising demand

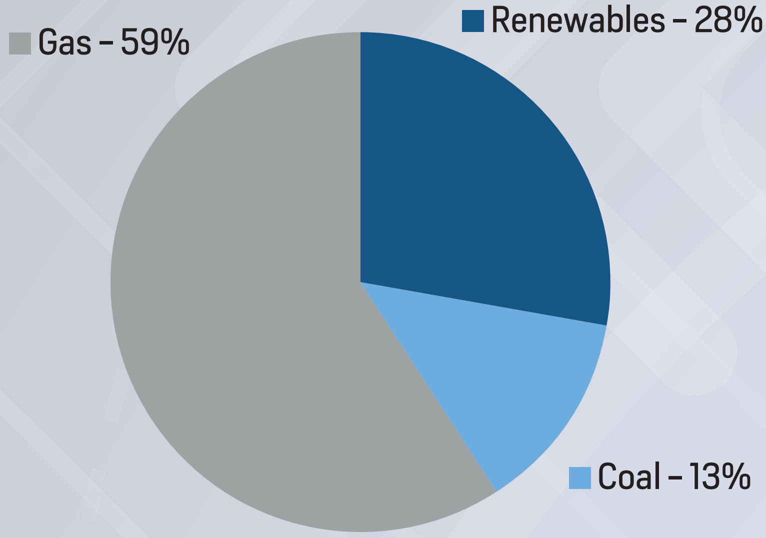
The Arab Petroleum Investments Corporation's (APICORP) Energy Research estimates that in the period 2016-20, the region will need to invest \$334bn in its power sector. Of this, \$198bn will be needed to add 147GW of generating capacity, with the rest to be invested in transmission and distribution (T&D). In the GCC, as well as adding capacity, some countries have introduced limited energy reform programmes. In the Mashreq region, inadequate investments and instability have weighed on the power sector; while in the Maghreb region, renewable-energy projects are at the forefront of long-term government plans to diversify power-generation capacity.

To meet rising demand for electricity in MENA, APICORP estimates that the region's power capacity will need to expand at an average annual pace of 8% between 2016 and 2020, which corresponds to additional capacity of 147GW. Its estimates show that 96GW of capacity additions are already in execution, with a combined investment of \$117bn.

The GCC represents 47%, or 148GW, of current MENA power-generating capacity. Despite this, the GCC will require \$85bn for the addition of 69GW of generating capacity and another \$51bn for T&D over the next five years. But below par oil revenues mean that GCC governments can no longer continue to support the provision of cheap power. Subsidy reforms announced earlier this year are part of a programme that aims to liberalise domestic energy prices over the medium term. Saudi Arabia increased electricity tariffs for specific consumption levels, and the UAE introduced electricity reforms, with non-nationals bearing the brunt, while Qatar also hiked electricity prices in October 2015.

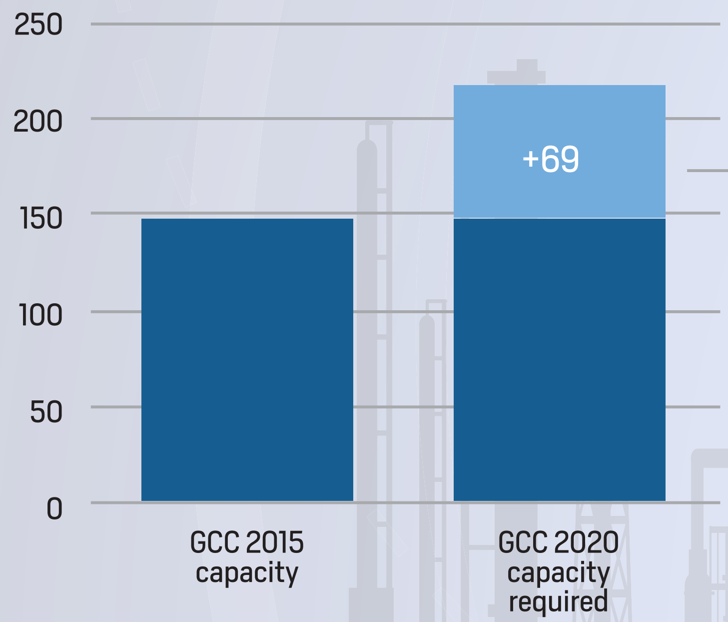
Source: APICORP Energy Research

Maghreb power investments underway



GCC capacity additions 2016–20 (GW)

	Required addition by 2020 GIGAWATT (GW)
Bahrain	1
Kuwait	7
Oman	5
Qatar	5
KSA	34
UAE	17



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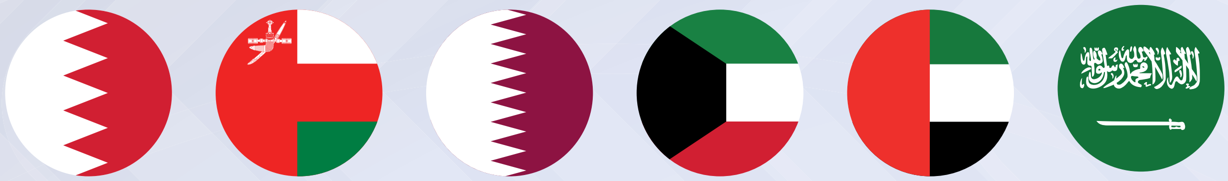
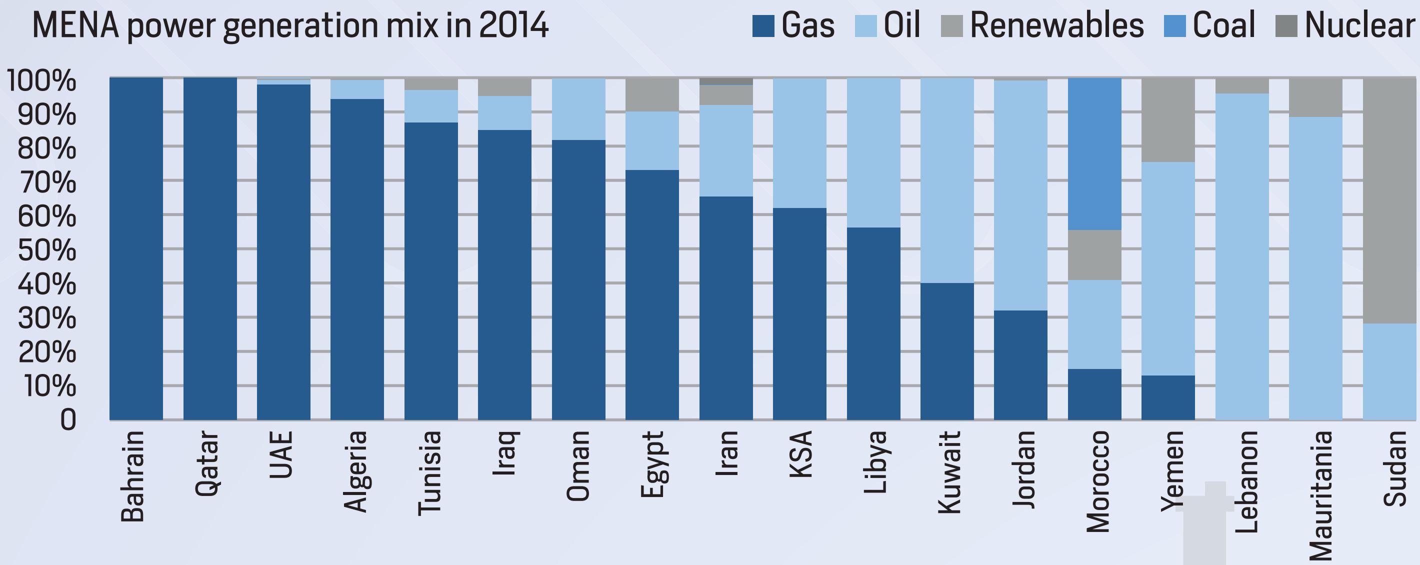
Required GCC invesment 2016–20 ($bn)

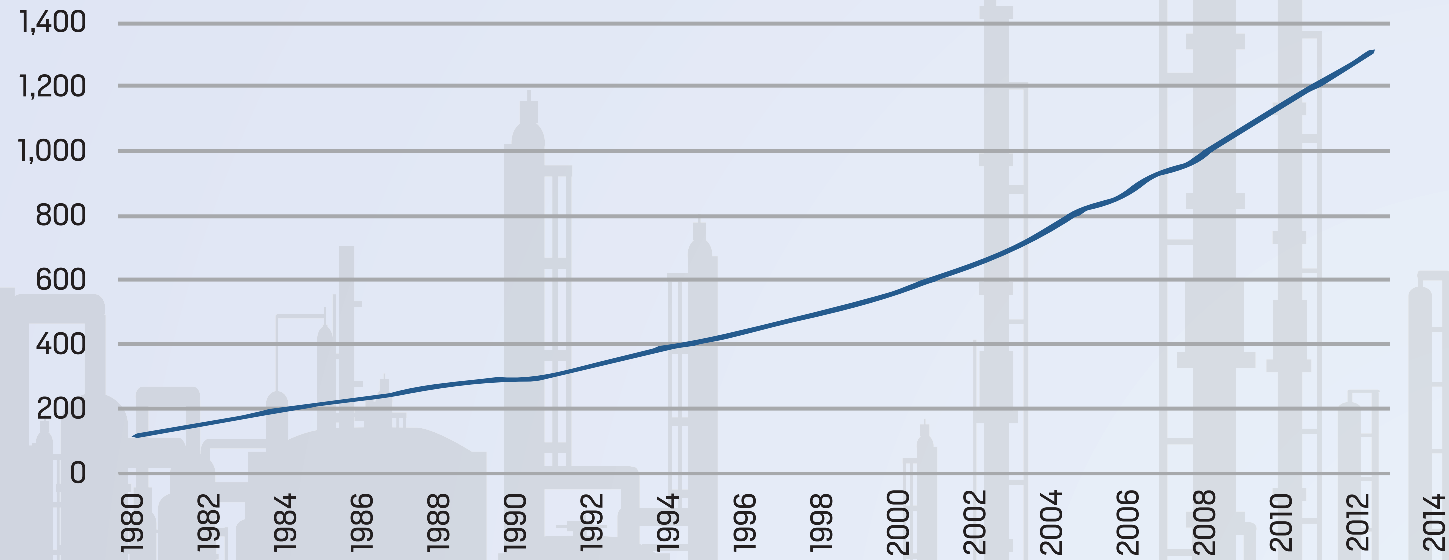


Generation ($bn)	2	6	6	8	20	43
T&D ($bn)	2	2	3	4	14	28
Total ($bn)	3	8	9	12	34	71

MENA power generation mix in 2014



MENA historical production (TWh)



IRANIAN OUTLOOK

Iran begins quest for allies

Tehran has adopted a fresh approach to blending, hoping to shrug off its lone-ranger profile and build collaborative partnerships with energy allies, writes ***Daniel Colover***

Iranians celebrate the removal of sanctions on the Islamic Republic, in Tehran in January.

Iran's new approach to building energy allies is being revealed as the former powerhouse staggers back onto the global stage. The lifting of Western-imposed sanctions on 17 January has given the country a new lease of life. Tehran's ability to adapt will prove vital, as today's market is more competitive than the one it reluctantly stepped back from more than a decade ago.

Tehran remains confident that the country can further boost its current 3.7mn barrels per day (bpd) of oil production, enabling it to export 2.2mn bpd by the end of the summer. The country's strategy to regain superiority has started well, but some of this spike in volume may be a case of Iran emptying its full storage capacity. Iran is also planning to introduce new oil contracts – widely known as Iran's Petroleum Contracts (IPCs) – and abandon the generally unpopular buyback contracts that were first introduced in the 1990s. The buybacks were introduced as an attempt to bridge the gap between the country's need to attract foreign oil and gas companies, and a ban on private foreign ownership of natural resources under the Islamic Republic's constitution.

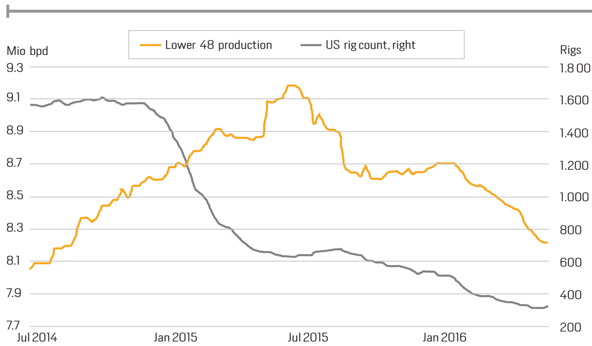
The market remains to be convinced. The new IPCs are essentially risk service contracts, where the contractor is paid back by being allocated a portion of the hydrocarbons produced. However, more clarity is required after a key presentation was cancelled in February.

Blending opportunity

Tehran has adopted a fresh approach to blending in an effort to shrug off its lone-ranger profile and seek collaborative partnerships with energy allies. Crude oil blending can raise the sale price of a lower grade of crude by blending it with a more valuable grade. This means producers can have a particular variety at the lowest possible cost, which has proved to be a useful trade-off.

In April, Iran joined fellow OPEC members Nigeria, Angola

2.2MN
barrels per day will be exported by Iran by the end of this summer, according to estimates.



Source: *Bloomberg*, Saxo Bank

Green shoots are emerging in the US energy sector

Green shoots are emerging in the US energy sector with the number of oil rigs on the rise and production showing the first signs of stabilising. After breaking above $50/barrel (b) for the first time since last October, WTI crude oil reached $51.67/b before hitting resistance. An increasingly overbought market condition, combined with poorer sentiment across other financial markets, helped offset support from reduced supply. The reversal led to a renewed attack on trend-line support at $49.90/b, with a move below raising the risk of a weakness extending to $47.75/b, the recent low.

About the author: Daniel Colover, strategic oil market development director at S&P Global Platts.

and Algeria in plans to blend its light oil with Venezuela's heavy crude to get a better crude price. Iran's Research Institute of Petroleum Industry (RIPI) signed an agreement with South Africa's state-run PetroSA to jointly pursue research and development (R&D) in crude blending technologies. Iran also signed a long-term cooperation agreement with South Korea at the start of May. This covers a number of areas, including gas and telecommunications, and serves as a springboard for raising Iranian crude supplies to the North Asian country.

Investment culture

Sanctions did not completely derail Iran's energy infrastructure, with Tehran funnelling cash into the country's major oil and gas sites – refineries, pipelines, drilling sites, roads, and so on – to prepare for the lifting of sanctions. The first phase of the Persian Gulf Star refinery, with capacity to produce 360,000 bpd, will be completed by next March, with the remaining two units also scheduled to go online in 2017.

While the Persian Gulf Star, when finished, will add 16mn litres/day of gasoline production, the ongoing upgrade at the Bandar Abbas refinery will also add 4mn litres/day. Officials say gasoline imports of around 50,000 bpd will not be necessary once the plant is completed. Furthermore, officials have recently said that Iran could be exporting as much as 10mn Continued on page 12>>

NEWS ANALYSIS

THREE THINGS YOU NEED TO KNOW...

1 Tehran remains confident that the country can further boost its current 3.7mn barrels per day (bpd) of oil production. This would enable the country to be able to export 2.2mn bpd by the end of this summer.

2 Iran is currently planning to introduce new oil contracts – widely known as Iran's Petroleum Contracts (IPCs) – and abandon the generally unpopular buyback contracts that were first introduced in the 1990s.

3 The movement of Iranian Oil to potential consumers is not helped by the remaining US sanctions, which prevent Tehran from doing business in dollars, or with US companies; oil and tanker trade is priced in dollars.

Total's Arnaud Breuillac (seated, right) and the National Iranian Oil Company's Roknoddin Javadi (seated, left), sign an MoU in Paris on 28 January, 2016, as Iranian President Hassan Rouhani (standing, left) and French President Francois Hollande look on.

Continued from page 11>> litres/day of gasoline after the full start-up of the Persian Gulf Star refinery.

Iran's ability to reduce inflation from 45% in 2013 to below 10% in late-2015 and introduce subsidy cuts, illustrates Tehran's financial acumen, which will bolster the country's ability to cope with today's lower oil prices. The International Monetary Fund (IMF) expects Iran to deliver 4% growth at a time when others in the Middle East grapple with credit rating cuts and urgently slash energy subsidies in a bid to cushion their strained coffers.

Challenges remain

Still, Iran is not free of economic and logistical hurdles. A limited number of ships are curbing Iran's oil exports. In mid-April, the International Group of P&I raised the reinsurance level to a maximum of $830mn per tanker for shipping Iranian crude, from $580mn previously.

Although this does not fully make up for the missing US reinsurance cover as a result of the ongoing US sanctions against Iran, it could be seen as sufficient for Asian buyers such as India and South Korea, or some European importers, for their shipping of Iranian oil, according to industry sources. However, the increased reinsurance is still below a full P&I insurance cover of $7.8bn.

The movement of Iranian Oil to potential consumers is not helped by the remaining US sanctions, which prevent Tehran from doing business in dollars, or with US companies; oil and tanker trade is priced in dollars.

The freight shortage will likely ease later this year, as ships being used for storage are emptied and Iran repairs unused ships to enlarge its fleet, but the delay will inevitably hamper the speed of Iran's re-launch into European and Asian markets.

Iran's seemingly more flexible approach is helping accelerate the country's return to the global energy market. The international appetite to deal in Iranian business will deepen every time the country reaches one of its goals, such as the 4mn bpd oil production target. While there is no way to set an exact date, one development is clear: the new Iran has a high chance of regaining its former glory.

Opportunities for the oil and gas industry ought to abound in a global economy that is desperately looking for value and growth in new markets. There is a marked lack of expertise in the long reach of global sanctions enforcement, however, as well as a worrying dilemma facing firms that hope to deal with a country that has effectively been isolated from the global economy for the best part of 35 years. As a result, this market is best approached with caution, foresight, and guarded optimism.

UPDATE

Coming up:

Bahrain replaces veteran Mirza as energy minister

In a partial reshuffle, the kingdom has named Sheikh Mohammed as Mirza's replacement, and appointed Mirza as Minister of Electricity and Water Affairs

Abdulhussain bin Ali Mirza.

MAN FOR THE JOB
His experience of senior management roles and high-level politics, and background in petroleum, minerals, STEM and electronics, make Sheikh Mohammed the perfect example of Bahrain's new generation of royal technocrats.

Bahrain has replaced its long-serving Energy Minister Abdulhussain bin Ali Mirza and appointed him Minister of Electricity and Water Affairs, state news agency *BNA* has reported.

The change took place as part of a minor Cabinet reshuffle in June, which affected two Cabinet portfolios, the report said.

As energy minister, Mirza's oversight included the kingdom's Water and Electricity Authority, along with the Ministry of Oil and Gas. He will now focus exclusively on utilities, however, while all petroleum affairs will be handled by Sheikh Mohammed bin Khalifa bin Ahmed Al Khalifa.

Mirza has been a minister of state, the minister of state for cabinet affairs, and also the chairman of the Tender Board. In 2006, he was awarded the ministerial portfolio of oil and gas affairs. He was appointed Minister of Energy in January 2015.

A member of the ruling family and formerly Deputy Chairman of The Ruling Family Council, Sheikh Mohammed occupies a number of executive positions in energy firms, including chief executive of the Oil and Gas Holding Company.

He has also been a board member of several companies, including the National Oil and Gas Authority (NOGA), the Bahrain Petroleum Company, the Central Bank of Bahrain (CBB), Aluminium Bahrain (Alba) and the Lulu Tourism Company.

With experience of senior management roles and high-level politics, Sheikh Mohammed's background in petroleum and minerals, as well as STEM and electronics, makes him the perfect example of Bahrain's new generation of royal technocrats entrusted with taking care of the country's crucially important oil resources.

Bahrain is one of the GCC states that suffered the most as a result of the oil price collapse. A non-OPEC member and a modest exporter, the small Arab kingdom announced serious austerity steps to cut its budget deficit at the beginning of the year, in line with recommendations from the International Monetary Fund.

QUOTE: IN A STATEMENT ON ITS WEBSITE, THE NATIONAL OIL AND GAS AUTHORITY (NOGA) HAS WISHED SHEIKH MOHAMMED SUCCESS IN "ACHIEVING THE ASPIRATIONS OF PROGRESS AND PROSPERITY FOR [THE] KINGDOM".

Aramco keen to invest in global upstream following IPO

International gas is of particular interest according to Aramco's chairman

UPSTREAM Saudi Aramco is interested in investing in international upstream as it prepares for a partial privatisation through a stock market listing, the kingdom's Energy Minister has recently said.

Aramco is working on options for floating less than 5% of its value, which includes a single domestic stock exchange listing and a dual listing with a foreign market.

The company's initial public offering (IPO) is a centrepiece of Saudi Arabia's efforts to overhaul its economy.

"We have a lot of global investments in downstream. Post-IPO, and even as we prepare for the IPO, you will find Aramco quite interested in going into international upstream," the minister, and Aramco's chairman, Khalid Al-Falih, told reporters in Vienna.

International gas was of particular interest, he said, as Saudi Arabia strives to meet rising domestic demand for power.

Khalid Al-Falih.

5%

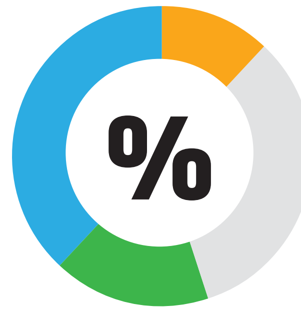
Aramco is working on options to float less that 5% of its value.

23BN

standard cubic feet of gas to be produced per day in the kingdom.

SPOT POLLS

WHAT WILL BE THE IMPACT OF AFRICAN OIL PRODUCERS SEARCHING FOR NEW MARKETS?



12%	Create Africa–Middle East partnerships
33%	Create competition in Asia between Africa and GCC
17%	India and China will be key
38%	African producers will find markets locally

Source: *Gulf Intelligence*

The energy industry's lifetime achievers

Winners of lifetime achievement awards, most notable of whom was Saudi Arabia's recently retired veteran oil minister, Ali Al-Naimi (fourth from right), pose for a group photo at the fourth Abdullah Bin Hamad Al-Attiyah International Energy Awards, which was held at the Museum of Islamic Art in Qatari capital Doha on May 24.

REGION

AROUND THE GCC

Latest developments across the region

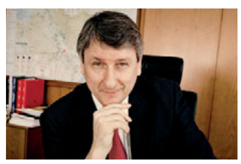
1. BAHRAIN

Mubadala Petroleum, together with partner Occidental, has reached an agreement with the Bahraini authorities to exit Tatweer Petroleum, the joint operating company that has managed Bahrain Field operations since 2009. A spokesperson for Mubadala said that significant advances in production, and in the efficiency of operations at the field, had been made.

2. KUWAIT

The Kuwait Oil Company (KOC) has said it is in discussions with companies to use solar energy to extract oil, as the OPEC member country looks for alternative methods to maximise production at a cheaper price. Gas-constrained Kuwait is exploring renewable energy-EOR techniques to slash import bills and meet the government's 15% renewable energy target.

3. OMAN



Petroleum Development Oman (PDO) is in the process of securing a $3.4bn loan from an international finance house to fund its operations. PDO's managing director Raoul Restucci said the move was "in response to the current low oil price environment". PDO is due to sign the deal soon, with the money expected to support the company's government-funded activities over the next nine to 12 months.

4. QATAR

Qatar is set to reduce its condensate exports by a third in January 2017 when a new splitter comes online at its Ras Laffan refinery, according to a Qatar Gas official. "Qatar is exporting around 30 cargoes (of condensate) a month. This will be reduced by 10 cargoes a month," the official told *Reuters*. The splitter's completion date will depend on tests presently underway on new equipment.

5. SAUDI ARABIA

Russia's oil major Lukoil is quitting a project in Saudi Arabia due to financial pressures, Vagit Alekperov, the company's president, has said. The Luksar project, which was 80% owned by Lukoil and 20% by Saudi Aramco, was set up to explore and develop Block A gas fields in Saudi. In March 2003, Lukoil launched operations and was the first Russian company to get access to develop Saudi assets.

6. UAE

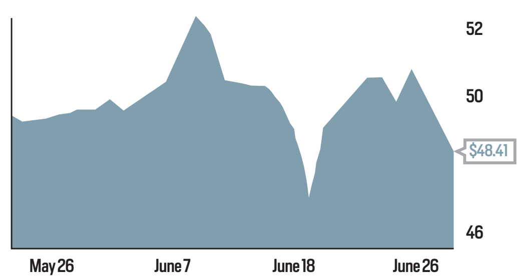
The Emirates National Oil Company (ENOC) has secured a $230mn unsecured loan from the state-owned Industrial and Commercial Bank of China (ICBC). The five-year loan is part of ENOC's sustainable funding strategy. It will help ENOC fund its new projects, and support the company's expansion strategy and business operations, in the shadow of the challenges faced by the global oil and gas industry.

India, Qatar to explore energy assets

CO-OPERATION The Indian government has entered into an agreement with Qatar for joint exploration of new oil and gas fields, as well development of discovered assets in the Gulf nation. India has also invited Qatar to invest in its exploration and production sector by bidding for blocks under India's new Hydrocarbon Exploration and Licensing Policy, and to take part in the disinvestment in Indian public sector undertakings. The two nations also signed a memorandum of understanding for the Qatar Investment Authority to invest around $6bn in India's National Investment and Infrastructure Fund. In June, Indian Prime Minister, Narendra Modi, held wide-ranging talks with the Emir of Qatar, Sheikh Tamim bin Hamad Al-Thani, and Qatari leaders, in Doha. Qatar is the largest supplier of liquefied natural gas and liquefied petroleum gas to India.

DATA SNAPSHOT

BRENT CRUDE OIL PRICE



Brent prices reached a high of $52.30 during the month, but later fell to around $48 towards the end of it. *Source: oil-price.net*

Shell to withdraw from 10 countries

CEO says the group anticipated savings of upto $4.5 billion over two years

SAVINGS Energy giant Royal Dutch Shell has recently said it could exit up to 10 countries under a previously announced plan to sell oil and gas assets over two years. Following its recent takeover of rival BG Group, the expanded company also expects to make higher cost savings than previously announced, Shell said in a statement.

The Anglo-Dutch group said it anticipated savings of $4.5bn in two years' time, $1bn more than previously forecast. In another update, Shell said it had "earmarked up to 10% of [...] oil and gas production, including five to 10 country exits, for disposal".

While planned asset sales remained unchanged at $30bn, Shell trimmed 2016 planned investment to $29bn, as energy companies worldwide battle low oil prices. Shell also plans to cut at least 12,500 jobs by the end of this year.


Shell CEO Ben van Beurden.

SHELL'S Q1 2016 BUSINESS

Shell announced an 89% drop in net profits for the first quarter of 2016, blaming the slump in the price of crude oil.

IN BRIEF

Algerian President Abdelaziz Bouteflika has recently named new Energy and Finance Ministers in a cabinet reshuffle, as the OPEC member tries to cope with a sharp fall in oil and gas earnings. Nouredine Bouterfa, the head of state power firm Sonelgaz, was named as the new Energy Minister, while junior budget minister Hadji Baba Ammi was appointed to the Finance Ministry.

China and Iran have signed a $550mn contract to jointly build an oil terminal in the Gulf. After completion of the first stage, the Qeshm Island project will be able to store 10mn barrels of crude oil produced in Iran's West Karoun region.

IN QUOTES

"We have to take further difficult decisions to ensure Shell remains competitive through the [...] downturn."
Mounir Bouaziz, Shell's VP of commercial and business development in MENA and South Asia.

"What we're trying to do is make sure our customers realise that it sometimes takes much more than a simple product or system fix."
Dave Tredinnick, president – MEA at Emerson Process Management.

"Bidding activity remains high, with outstanding and targeted projects valued at more than $6bn."
Linh Austin, VP – Middle East and Caspian, McDermott.

Iran signs deals to sell crude to multiple European firms

Deals signed with Italian, Spainish, Greek, French, Swiss and Russian firms

IPCS Iran has signed deals to sell crude oil to seven European companies, an Iranian oil official told the *Mehr* news agency last month. Long-term deals for the sale of nearly 700,000 barrels per day (bpd) have been signed with Saras SpA and Eni of Italy, Spain's Repsol, Hellenic Petroleum SA of Greece, France's Total, Switzerland's Vitol Group, and Lukoil of Russia, executive director for international affairs at National Iranian Oil Company (NIOC), Mohsen Qamsari, said.

700,000
bpd will be sold to various European companies under the long-term deals.

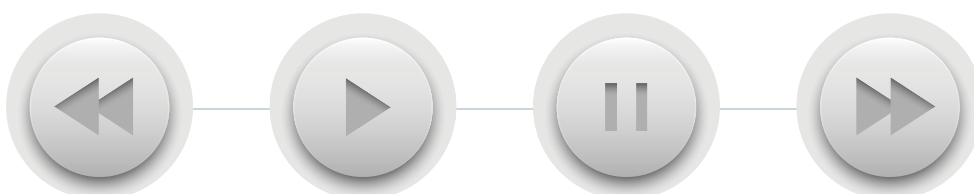
$185BN
in investments in Iran's oil and gas sector is targeted over the next five years.

The newly developed Iran Petroleum Contract (IPC) is one of the strategies Tehran has adopted to attract investment in the country's oil industry, Iranian Deputy Oil Minister for International Affairs, Amir Hossein Zamaninia, said earlier last month. The country hopes to draw $185bn of investment in all sectors of the oil industry within a five-year period, Zamaninia said, adding that $85bn of the investment would go to the upstream sector.

Iran's IPC, if implemented, would replace traditional Iranian buy-back contracts, which are no longer attractive to foreign companies. Under the contracts, NIOC will set up joint ventures for crude oil production with international companies that will be paid with a share of the output.

PLAY/PAUSE:

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



Saudi Arabia has lost its position as the world's leading oil and natural gas exporter to Russia. The country has overtaken Saudi Arabia in crude exports, and retained the top spot in exports of natural gas.

BP Oman's chairman, Yousef bin Mohammed al-Ojaili, has announced that the completion rate of the works to develop Khazzan gas field reservoir and infrastructure project exceeded 70% by the end of May.

S&P Global Ratings has affirmed its BB/B long- and short-term foreign and local currency sovereign credit ratings on Bahrain, and also affirmed its issuer credit ratings on the Central Bank of Bahrain.

Saudi Aramco is planning to expand the capacity of its 1,200km-long, east-west crude pipeline to 7mn barrels per day (bpd) by the end of 2018, from the current 5mn bpd level, the company stated on Twitter.

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

Geo-financial risk for GCC industry leaders

Geo-political concerns are rapidly becoming a geo-financial issue for the GCC's oil and gas industry, according to **Iain Stewart-Linnhe**

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

The GCC economies are exposed to the fluctuations in the US dollar-denominated oil price.

The geo-political concerns of the GCC oil and gas industry leaders have surely never been more heightened. In terms of risk, this is becoming a geo-financial issue. In a world where the power nexus is inevitably correlated to the availability of petrochemical resources, the major global power in terms of policy and influence, the United States, is still pre-eminent in terms of capital market volume and development. In terms of tradeable currency, the US dollar stands head and shoulders above other global currencies in terms of scope and influence – with no evident currency hedge available for the current petrochemical currency of choice.

The systematic failure of the Euro over the past decade or so to establish a meaningful footprint in global currency terms has left major oil and gas sovereign states in the highly oil revenue-dependent economies of the GCC very exposed to fluctuations in the US dollar-denominated oil price. When this US pre-eminence is combined with the overriding and extra-territorial enforcement – particularly in the post 9/11 era – oil and gas industry leaders and sovereign state policy-makers need to focus very clearly on the ramifications, as well as other market participants or global bodies that can have influence on a cross-border basis.

The fundamental question for policy-makers and industry leaders alike is how to hedge the impending risk of major policy impact. There is, sadly, very little evidence to support an empirical valuation model that would factor in, or discount, the impact of major policy moves that have extra-territorial impact. The non-nuclear sanctions impact of extra-territorial policy from US OFAC, as it affects the oil and gas industry, cannot be easily extrapolated into meaningful models. This is not least because the very nature of sanctions enforcement means that it is becoming a moving target in valuation terms, due to the highly sensitive nature of policy moves, changes to governments, political bias, and so on.

This has been largely exposed on the US cross-border policy front, which remains a major issue for financial services and commercial initiatives wishing to provide financial support for business initiatives in Iran post the JCPOA, or Iran Nuclear Deal. State-level actors, such as US Secretary of State John Kerry, comment on the accessibility of the Iranian market to European financial institutions (assuming such an entity of any size even exists in the globalised economy, given the broad definition of how non-US firms are impacted by US sanctions). But this is necessarily contradicted by the practical, non-nuclear sanctions guidance provided by US OFAC, which effectively encompasses all commercial activity.

If secondary US sanctions are imposed, a commercial entity designated by the US faces the prospect of being cut off from the entire US financial system. This could occur, for example, as a result of being inadvertently embroiled in a business deal involving a front company acting for the US-designated IRGC.

So what to make of this from an oil and gas perspective? Clearly, the geo-political/geo-financial risk is now very evident for the oil and gas industry with the re-entry of Iran. Already it is clear that OPEC meetings are being interpreted and conducted in a different way due to the re-emergence of a major oil and gas supplier. The industry, for so long well-versed in a necessarily globalised approach to business, needs to refocus on the very clear and present potential danger of major extra-territorial policy shifts in this context.

With so much potential uncertainty on the horizon, as major global powers elect new executive heads at the top of the policy-making tree, and a US presidential election on the horizon in November 2016, it is inevitable that the scope of oil and gas activity will be inherently shaped by those who control the major enforcement agencies in places like the US, which is not afraid to impose sanctions with considerable extra-territorial impact. The role of the Department of Justice in the massive penalties imposed on BP in the aftermath of Deepwater Horizon should leave market participants in no doubt as to their motivations.


The scope of oil and gas activity will be shaped by those controlling major enforcement agencies in countries such as the US.

It is clear that the Ukraine-related sanctions on Russia have been devastating in economic terms for that country, and coupled with the US dollar restrictions imposed on its financial institutions, the impact on its oil and gas revenue-generating capability, as a result of its inability to trade in US dollars, has been significant.

With Iran embarking on a new role as an increasingly welcome member of the globalised commercial transaction community, there has never been a more important time for industry leaders and policy-makers to pay close attention to the impact of major (non-nuclear) sanctions policies.

Therein lies the rub: in terms of extra-territorial advisory, there are no existing precedents, no existing hierarchy of enforcement or adjudication, and little predictable policy to work from. This means that those advisors who are commonly able to draw from existing, predictable and set standards have little information to go on.

The solution for GCC oil and gas policy-makers and industry leaders is to keep a very close watch on evolving policy moves, and this will require far more than simply following the views of OPEC on an intermittent basis. Inevitably, the oil and gas industry is a major funder of commercial activity, and requires significant funding to conduct its daily business. This brings in the crucial role of the financial institutions – already heavily implicated in the global (US) sanctions regime and, for the major players, highly dependent on the ability to trade globally in US dollars.

Given the current standoff on policy and enforcement on the sanctions front, a great deal of care will need to be taken of exactly how enforcement bodies function and where their priorities lie. Since 9/11, the extra-territorial powers of the US, and the apparent supremacy of international enforcement by the US, have been undeniable. There has never been a more critical moment to come up with the right, smarter response.

Have your say:
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Investment strategies in these uncertain times

The fall in crude oil prices has had consequences even for the strong and thriving economies of China and India, according to **Colin Chapman**

About the author:
Colin Chapman is the president of Euro Petroleum Consultants.

The fall in crude prices has even affected thriving economies.

Predicting the prospects for crude oil price in the short- and long-term has been one of the major issues for national and private oil and gas companies, investors, governments and financial analysts for almost two years now – since the slump in the price in 2014. As a wise man once said, "It's always difficult to make predictions, especially about the future."

No-one has been fortunate enough yet to predict the future price for oil. Opinions vary from \$20 in 2017 to return to \$60 (more optimistic forecasts of \$80 to \$100 in a year do not seem to appear in reports anymore). Therefore, oil companies have been struggling to plan their budgets to minimise the losses that are inevitable when operating in unstable conditions. Pricing of \$20 for crude in strategic plans creates a need to substantially cut the costs and produce more, whereas \$40 to \$50 suggests a greater profit within the same preconditions, but creates the threat of not meeting budget targets if the oil price turns out to be lower.

Factors contributing to crude price should be taken into account. Most of the crude oil trade contracts are transacted in US dollars, and appreciation of the currency negatively impacts the oil price worldwide. It is important, therefore, to take measures that may impact the strength of the dollar into account.

Initially, oil prices started their downward trend due to the increasing supply from the US, increased productivity of drilling, geopolitics, easier access to funds for E&P companies, and so on.

The fall in crude prices has even had consequences for such thriving economies as China and India. Many private companies in India, such as OIL, RIL, and Cairn, lost from 9% to 97% of net income in the first quarter of 2016 compared to the same period in 2015. The biggest loss was reported by RIL, from INR 10.4bn (\$2.8bn) to INR 320mn (\$87.1mn). Only ONGC managed to show some revival, with a 14% increase. Most of the decrease was due to subsidies reductions.

The six largest upstream oil operators registered a significant decrease of profits last year, which led to a drop in investor confidence, and their market capitalisation reportedly fell by more than \$200bn collectively. Even though these companies try to cover repayments and keep up with dividends, Chevron, Shell and ExxonMobil reduced the amount under a buy-back programme so that they will stay the course for 2016-2017 within the low-price environment.

Cutting production costs doesn't necessarily mean reducing production rates. Chevron reduced capital expenditure by 24% compared to 2015 and expects an increase in production of 13-15%, and ConocoPhillips will cut its investment programme by the same percentage, but expects a more modest increase in production of just 1-3%.

Companies that have integrated operations with the downstream sector, refining and petrochemicals, have seen a less significant impact from the lower crude prices than those that depend solely on crude production for revenues.

Surprisingly, average operating margins for US-based upstream companies increased by around 15-16%, although the EBITDA margin for smaller companies fell considerably in the third quarter of 2015 – by 31% for Pioneer Natural Resources, 51% for EQT, 75% for Devon Energy, and 250% for Apache.

Cashflow analysis showed an average decline of 25% in generated cash in the same period. As a result, analysts are already calling the trend a "cash crisis".

The market for mergers and acquisitions also plummeted last year by 22%. Some major prospective acquisitions were cancelled due to uncertainty and volatility of commodity stocks, as well as the inability of bidders to agree upon a fair price for assets. IHS predicts consolidation and integration trends in E&P to continue this year and next, despite the fact that the worldwide deal count in 2015 reached the lowest level in the current decade.

After OPEC's outlook for the future of the energy industry was announced at the end of last year, we saw diverse opinions about whether OPEC countries would reduce the amount of produced crude in order to prepare for substitution of oil in 2040 or would, on the contrary, raise production before demand for oil falls. Their strategy will affect other major producing countries, such as Brazil, Russia and the Middle East region, because it is neither profitable for them to continue to export oil if there are no consumers, nor to cut production when competitors increase their production levels.

The destiny of shale oil highly depends on the decision of the US to develop and invest in new, advanced technologies. At the moment, they require a very high price for oil, or a profit from other activities, such as refining, to cover costs for shale oil production and development, with the hope that these types of projects will become economically viable in a longer planning timeframe. The same applies to renewable energies – regions such as Africa, parts of Asia, South America, and Europe, which possess all the necessary resources for solar, wind, or tidal energy, or for the production of biofuels, have to make this choice right now, and this will influence crude prices in the longer term.

INTERVIEW

Emotional rollercoaster

Mike Allen, CEO of Reactive Downhole Tools talks about his Middle East experience, honesty and trust in the oilfield, and what it takes to build a business to become a well-known supplier of downhole technologies

I'm originally from the British Midlands but, when I was 10, my family moved to Kuwait. The heartland of blue-collar industrial Britain and the oil-rich Middle East are polar opposites but, after spending my formative years there, I fell in love with the region. It quickly became the place I called home. Of my 47 years, 30 of those have been spent in the GCC.

There have been many highlights throughout my career. Of course I'm particularly proud of the creation and subsequent success of Reactive Downhole Tools, which we've grown from a two-man show in Aberdeen into a global supplier of swellable isolation tools and lower-completion systems, with offices in almost every continent.

> "LOSING EXPERIENCED PEOPLE FROM OUR INDUSTRY, AS HAS BEEN HAPPENING IN ABUNDANCE LATELY, IS DANGEROUS TO ITS VERY FUTURE."

People often ask how working in a small company compares to being with one of the 'big guys' and my reply is not the easy answer everyone expects. Rewards are greater, for sure, but so are the risks. When you are building a small company, you ride a real emotional rollercoaster, rushing from 'wow what a great month' to 'how will we cover our bills this month?'

In bigger service companies there is always something or somebody to hide behind, but when you create your own business there aren't any hiding places; all of your weaknesses can be seen. But so too can your strengths. Some people thrive in a small company environment but equally some cannot survive without the safety net provided by being part of a huge multinational corporation.

Understanding your niche is vital in order to thrive. A huge part of our continued success is the relationships we have with our clients. I believe that connections are built on honesty and trust and this is what Reactive is built upon.

It's a key lesson I've taken from my time in the Middle East, where sincere relationships are paramount. It's because of this approach we're getting some real traction in the region; the Middle East is our biggest focus and we are working on some exciting future developments in this region.

In today's economic environment, the overriding factor is value for money, and we're all being challenged to do more with less. That really is the forte of swell packers when compared to mechanical open hole isolation, however.

Losing experienced people from our industry, as has been happening in abundance lately, is dangerous. Knowledge counts for little without the ability to call upon experience. We need to learn from each other, and lessons from the past have to be highlighted to help us move forwards.

Similarly, there is a real lack of new blood entering the sector. I hope we can turn this around before it's too late. There's still so much opportunity, and that needs to be communicated more.

Downturns in the oil business are cyclical and formulaic: the price of oil drops, and operators push the service industry for cost reductions. Service companies oblige, leaving all but the strongest struggling to keep their heads above water.

Think about this: when the price of oil rises again, how many operators will be as quick to allow the service sector to increase its prices too? We already know the answer, therefore maintaining the efficiencies we're currently implementing – regardless of the oil price – is a lesson that should have been learned by now.

WHAT ELSE DO YOU NEED TO KNOW ABOUT MIKE?

He joined Halliburton as a trainee cementer when he was 19 and has never looked back.

He believes that, regardless of the negativity in the oilfield at the moment, it's a work environment like no other.

In an exclusive interview, *Mounir Bouaziz*, Shell's vice president of commercial and business development in MENA and South Asia, talks about the company's regional ambitions

ROOTED IN THE REGION

WORDS: INDRAJIT SEN

Shell's business is going pretty strongly in Qatar, and it has been reported that the company recently awarded contracts to six SMEs as part of its localisation strategy. What do these contracts entail, and what can you tell us about your wider operations in Qatar?

We are proud to take part in in Qatar's nationwide strategy to support Qatari small and medium enterprises (SMEs). This year, in conjunction with the Qatar Development Bank (QDB) and Qatar Shell, we held our fourth annual SME Business Opportunities Workshop, which revealed six new specific business opportunities that will enable local SMEs to join Qatar Shell's supply chain. The opportunities were: Active and Healthy Lifestyle, CSR Program Delivery; Translation Services; Compressor Dry Gas Seals Refurbishment and Testing Services; Carbon Monoxide (CO) and Industrial Gases – Manufacturing; Plastic and Glass Sample Bottles – Manufacturing; and White Metal-Bearing Refurbishment – Services. The workshop briefed them on Qatar Shell's tendering process, and on the financial support provided by QDB. The successful SMEs will be awarded contracts by December 2016.

Pearl GTL encompasses offshore gas fields and onshore processing and refining.

Mounir Bouaziz, Shell's VP of commercial and business development, MENA and South Asia.

I fondly remember when I spent a night at Pearl Village, where 50,000 workers were on site. Qatar Pearl is another proud achievement of ours. Pearl GTL is located 80km north of Doha, in Ras Laffan Industrial City, Qatar. It is a fully integrated facility; it encompasses offshore gas fields and onshore processing and refining. Pearl GTL has the capacity to produce 1.6bn standard cubic feet per day (scf/d) of wellhead gas offshore, from the North Field, which is then processed onshore to generate 140,000 barrels of GTL products and 120,000 barrels of natural gas products per day. Total capacity is 260,000 bpd. Over its lifetime, Pearl will process about 3bn barrels of oil equivalent (boe) from the world's largest single non-associated gas field, the North Field, which contains more than 900tn cubic feet (tcf) of gas.

During Q1 2015, Pearl initiated its first turnaround after four years of successful operations of Train 1 of the plant, and the turnaround of the second train will take place this quarter. The plant comprises two identical 'trains'. Pearl GTL was able to supply all of its contractually committed volumes from Train 2 during the turnaround on Train 1, and was in contact with our partner Qatar Petroleum (QP), and all key customers and off-takers, in order to manage and ensure term commitment supplies during the turnaround.

Qatargas is the world's largest producer of liquid natural gas (LNG), shipping 42mn tonnes a year from its four major gas plants. Qatargas 4 is Shell's first entry to Qatar's LNG sector, sharing on- and off-shore facilities with Qatargas 3, which was developed jointly. After investing approximately $2bn in asset development, Shell owns a 30% equity share in Qatargas 4, while 70% is owned by Qatar Petroleum. Qatargas 4 combines Shell's global leadership in LNG with Qatar's status as the world's largest LNG supplier.

With Shell facing difficulties due to the low oil prices, why did the company decide to acquire BG Group? How will this acquisition benefit Shell?

260,000 BPD

THE TOTAL CAPACITY OF PEARL GTL, WHICH IS ABLE TO PRODUCE 140,000 BARRELS OF GTL PRODUCTS AND 120,000 BARRELS OF NATURAL GAS PRODUCTS PER DAY

On 8 April, 2015 Shell announced the recommended combination with BG Group. The combination of Shell and BG is one of the most exciting developments in our industry in a generation. We have the potential to create a truly exceptional organisation and one of the world's most exciting companies. Indeed, by combining BG's portfolio and skill set with Shell's capabilities, we have enhanced our integrated gas and deep-water portfolio. This is a springboard for change at Shell, moving us towards a more focused, simpler, and more profitable company – enabling us to 'grow to simplify', and to continue to compete in a low oil price environment. BG and Shell have long shared a deep mutual respect, and this combination allows us to build upon our respective capabilities and the strength of our combined portfolio.

Shell's profits slumped in the first quarter of 2016. Would you attribute this simply to the impact of low oil prices, or is it related to the strain of the BG acquisition?

Shell's integrated activities differentiate us, with our downstream and integrated gas businesses

delivering strong results and underpinning our financial performance, despite the continued low oil and gas prices.

We continue to reduce our spending levels, to capture cost opportunities, and manage the financial framework in today's lower oil price environment. The combination with BG is off to a strong start, as a result of detailed forward planning before the completion of the transaction. This results in accelerated delivery of the synergies from the acquisition, and at a lower cost than we originally set out. Putting all of this together, capital investment in 2016 is expected to be around $29bn, which will be some 35% lower than combined Shell and BG investment in 2014.

Annual operating expenses, excluding identified items, are trending towards a run rate of $40bn compared with the 2014 combined spend of around $53bn. In practice, we expect to absorb BG's capital investment and operating expenses during 2016, with no net increase overall, compared with Shell stand-alone in 2015.

We will continue to manage spend through dynamic decision-making across the organisation, taking advantage of opportunities from both the deflating market and the two companies coming together. The completion of the BG deal has reinforced our strategy and strength against the backdrop of hugely challenging times for our industry. For Shell and our shareholders, this is a unique opportunity to reshape and simplify the company.

It has been reported that Shell has reduced its spending plans by a further 10 to 20% this year due to the merger cost. How will this reduced spending plan be implemented?

We have delivered major reductions in operating costs already, with more to come. Shell's stand-alone costs were reduced by $4bn, or around 10%, from 2014 to 2015, and we are expecting a 20% reduction between 2014 and the end of 2016 on a combined basis. This is from a combination of the synergies from BG and a 'lower forever' mentality within Shell. Some 40% of our operating costs are direct staff costs and there are significant reduction programmes underway there. Our capital investment will be managed in the range of $25bn to $30bn per year to 2020 as we improve capital efficiency and develop more predictable new projects.

Shell has announced increased job cuts worldwide this year as it seeks to navigate

Bouaziz says Shell's job cuts are necessary to ensure the energy giant remains competitive.

through the low oil price era. In which particular countries or regions will these lay-offs be executed and how will they be managed?
The reductions we've announced are part of a global programme of job reductions at Shell. Last year, in response to the oil price downturn, we made the tough but necessary decision to remove 7,500 Shell staff and direct contractor roles, and this has now been completed. Separately, as previously announced, a further 2,800 global staff reductions were initially identified as part of the BG integration, which is now well underway.

These are tough times for our industry and we have to take difficult decisions to ensure Shell remains competitive through the current, prolonged downturn. In 2016, the number of job reductions – in response to low prices and as a result of the BG integration – is expected to total at least 5,000 globally. This number includes the 2,800 integration-related roles previously announced.

In January this year, Shell announced it would be pulling out of the Bab Sour Gas Project in Abu Dhabi. How did Shell initially get involved with ADNOC, and what drove the company to quit the project?
In April 2013, ADNOC awarded the Bab Sour Gas Project to Shell. The project envisioned the construction of a new 1bn scf/d sour gas processing plant that would produce gas for the domestic market in Abu Dhabi and sulphur for export. The development and operation would have been as a stand-alone ADNOC-Shell joint venture (60% ADNOC, 40% Shell).

In January of this year, Shell decided to exit the joint development of the Bab sour gas reservoirs and to stop further joint work on the project. Following a careful and thorough evaluation of technical challenges and costs, Shell decided to exit the joint development of the Bab sour gas reservoirs with ADNOC in the emirate of Abu Dhabi, and to stop further joint work on the project. The evaluation concluded that, for Shell, the development of the project did not fit with the company's strategy, particularly in the economic climate prevailing in the energy industry.

> "FOR SHELL, THE DEVELOPMENT OF THE [BAB SOUR GAS] PROJECT DID NOT FIT WITH THE COMPANY'S STRATEGY."

What other partnerships does Shell have with ADNOC, and how do you wish to strengthen your operations in the UAE?
Shell has been present in Abu Dhabi since 1939 and remains committed to Abu Dhabi and the UAE. We see our involvement continuing in the long-term and look forward to continuing to work with our partners in ADNOC and its subsidiary companies. At present, ADNOC and Shell's business in Abu Dhabi consists of a 15% interest in Abu Dhabi Gas Industries Limited (GASCO).

Moving on to Shell's operations in Saudi Arabia, how you wish to expand in the kingdom? Is Shell eyeing any specific joint venture projects with Saudi Aramco?
This year, Royal Dutch Shell celebrated its 75th anniversary in the Kingdom of Saudi Arabia, a journey that began with the refuelling of the late King Abdulaziz's first airplane.

We are active in refining, in the manufacture of petrochemicals, in the blending and marketing of lubricants, and in aviation refuelling. We are part of the following businesses: SASREF, SADAF, JOSLOC and PASCO.

Saudi Arabia has been at the forefront of the global energy industry since the late 1930s, and it is our long-term intention to remain a partner in the kingdom's energy future. We employ more than 2,000 staff, the vast majority of whom are Saudi nationals (over 80%). We actively contribute to the society at large, and we continue to look for new business opportunities with Saudi partners.

What can you tell us about Shell's gas production capabilities? Does the company have plans to boost its gas portfolio, or would you rather focus on the upstream oil E&P business?
Our LNG expertise goes beyond liquefaction plants. We're involved in every stage of the LNG value

In 2016, Shell's job cuts are expected to total at least 5,000 globally.

chain: from the upstream (finding the fields and extracting the gas), to the downstream (liquefying the gas), to shipping, and to turning the LNG back into gas and distributing it to customers. We also have the necessary logistical, contractual, financing and marketing skills to put together a complex LNG mega-project and make it happen. That breadth of expertise is essential in creating confidence with key stakeholders: the investment banks, contractors and partners, as well as the resource-holding nations.

We believe that floating liquefied natural gas (FLNG) will write the next chapter in the history of the industry. Our Prelude FLNG builds on our existing capability and LNG leadership. LNG makes it increasingly easy to transport natural gas from expanding supply hubs, like Qatar and Australia, to demand-centres across Asia. Today, Shell is one of the world's largest LNG shipping operators. We manage and operate 44 of the world's LNG carriers, around 11% of the global fleet.

We expect to see global gas demand growing at approximately 2% per year until 2030. This is expected to be driven by the growing gas import needs of China, the Middle East and Europe, but also by new importers such as India, Malaysia, the Philippines, Singapore, Thailand and Vietnam. Other countries are also expanding their import capacity, including South Korea, Thailand, China and India. By 2050, Shell's scenario planners expect global energy consumption to double from its level at the start of this century.

How aggressively is Shell pursuing its ambitions in Iran?

It is premature to discuss any projects in which Shell may or may not be involved. We review our growth portfolio on a regular basis and do not exclude any countries that are open to foreign investment. Iran has significant oil and gas resources.

Shell reportedly paid nearly $2bn in dues to Iran earlier this year. Assuming all dues are settled now, would Shell bid for the new Iranian Petroleum Contracts that the Islamic Republic is set to tender soon?

We review our growth portfolio on a regular basis and do not exclude any countries that are open to foreign investment. Iran has significant oil and gas resources. As in any other case, we would explore potential business opportunities aligned with our long-term strategy.

OGME and RPME Awards 2016 unveil three new categories

New categories ‘Plastics Innovation of the Year’, ‘Sustainability Initiative of the Year’, and ‘EPC Team of the Year’ aim to highlight and recognise achievement across the upstream and downstream hydrocarbons sector in the region

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

Oil & Gas Middle East and *Refining and Petrochemicals Middle East* have announced three new categories targeting entries in both the upstream and downstream end of the hydrocarbon sector in the region. Plastics Innovation of the Year, Sustainability Initiative of the Year, and EPC Team of the Year have been specifically introduced to recognise achievement and reward the hard work of those involved in shaping the future of our industries.

The total number of categories has now been raised to 17, from 14 previously, following the introduction of the Downstream Project of the Year category, dedicated exclusively to the refining and petrochemical sector.

Naser AlDousari, director of corporate strategy for MEGlobal, who also sits on the judging panel for this year's awards, commented: “I believe this category will have very interesting entries. Credit should be given where credit is deserved, and let us not forget that the success of our colleagues inspires everyone around them to work harder.”

When asked what piece of advice he would give to those hoping to secure an award, and what makes for a winning entry, he said: “Looking at the entries in the last few years, I think it is safe to say that the only thing we cannot do is generalise when it comes to the winning formula. The spectrum of winning entries has been impressive in previous years, to say the least, and I expect the same this year. In the end, it comes down to having to agree on one entry that stands out a little bit more than the others.”

In recent years, the GCC has made significant strides in increasing its capabilities to become a leading regional player, able to compete on a global scale. Home to the first Innovation Centre, launched in November last year by top UAE polymer producer Borouge, and the world's largest single site, fully integrated polyolefins complex, Borouge 2, Abu Dhabi is poised to become a global hub for plastics innovations.

Across the border in Saudi Arabia, Sabic, the world's largest petrochemical producer, is breaking new ground in plastics manufacturing. The company recently broadened its portfolio to include a new type of fibre-reinforced thermoplastic tape. It also provided the materials used to build the world's first fully functioning 3D-printed car, which debuted in the US in 2014.

“Our industry is often misunderstood or unfairly judged, but it is indeed a cornerstone in the world's existence and should subsequently be celebrated for its innovations and progress. Everyone

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

in this industry is working towards improvement and innovations that in the end benefit society at large," said AlDousari.

Alongside innovation, sustainability has become an integral part of every operator's business strategy. The Sustainability Initiative Award will recognise excellence in the field of sustainability in both upstream and downstream oil and gas.

AlDousari commented: "In my opinion, the Oil & Gas Awards serve two vital functions. One is to identify and highlight innovative projects or upcoming talents in the industry. The second is to showcase initiatives from industry leaders and, by doing so, create an incentive to push boundaries and raise the bar generally in the entire industry."

Plastics Innovation

The companies of tomorrow will be those that make innovation their long-term strategy. This award recognises innovation in new product development in the rapidly-growing plastics and plastics-conversion sectors in the region.

Entries for the Plastics Innovation of the Year should answer the following questions in a total of no more than 500 words:

- Why do you deserve to win this award?
- What makes your particular product or application innovative?
- In what way has it enhanced/ is poised to enhance the development of the plastics industry in the region and globally?

Sustainability Initiative

From improving energy efficiency and water management, to reducing their environmental footprint and CO_2 emissions, companies are becoming increasingly committed to making their business sustainable, realising the benefits both for their bottom line and the society in which they operate.

Entries for the Sustainability Initiative of the Year should answer the following questions in a total of no more than 500 words:

- What makes your sustainability initiative stand out from others in the industry?
- How does this initiative benefit the company, its employees, the community, and the environment?
- How do you ensure that this initiative can be sustained long term?

EPC Team of the Year

EPC Team of the Year will aim to select the oil and gas professionals that exhibited teamworking skills that contributed significantly to the successful execution of a specific project. Tell us, in no more than 500 words:

- How did the team contribute to the successful execution of the project?
- What were some of the obstacles faced during the engineering, design and construction phases and how were these overcome?
- Why does this team deserve to win?

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And the existing categories are...

HSE Product/Application of the Year

A new category, this award will recognise the best oil and gas product that has aided companies in their efforts to improve health and safety. The winner could be a highly advanced computer programme or a simple winch – what's important is its positive impact on health and safety.

HSE Initiative of the Year

Health, safety and environment is the cornerstone of the oil and gas industry. This award will recognise a specific initiative that has helped to reduce accidents and problems in the workplace. Entries should be supported by data that demonstrates the success of the initiative.

CSR Initiative of the Year

Corporate social responsibility initiatives have become a priority for most companies in the oil and gas industry. This award will recognise a CSR programme that has provided demonstrable and lasting benefits to its targeted beneficiaries.

In-Country Value (ICV) Strategy of the Year

Localisation is now at the top of the agenda of the region's NOCs. This award will recognise a successful localisation strategy, how it has been implemented, what benefits it offers the company and the employees, and how successful the strategy has been.

Training Initiative/Programme of the Year

Billions of dollars are being invested to train the next generation of oil and gas professionals, as well as enhancing the skills of the existing workforce. This award will go to the training programme or initiative that has made a real difference in the upstream or downstream sector. Entries from both individual companies and training organisations will be accepted.

Operational Excellence Strategy of the Year

With the region's operators looking to squeeze every last drop of profit out of their valuable hydrocarbon reserves, operational excellence is becoming more important than ever. Operational excellence means doing the right thing, each and every time. This award recognises the most innovative and ambitious operational excellence project in the region.

Technical Innovation of the Year

IT and technology are becoming the backbone of the modern upstream operation, from digital oilfields to 3D modelling and pipeline sensors. This project-based award will recognise a project that demonstrates a successful and innovative technical solution to an upstream oil and gas problem.

Enhanced Oil Recovery Project of the Year

Much of the GCC's energy reserves are located in challenging locations, sometimes in rock formations that have developed over millions of years. As a result, companies are increasingly investing in enhanced oil recovery techniques to boost production. This award will go to the most successful and innovative project that has used EOR technology.

EPC Project of the Year

The Middle East is a hotbed for highly experienced, skilled and proficient EPC contracting firms. The work of EPC firms is vital to determining the success of any exploration project. Outstanding EPC work can be the difference between a project coming in on time and on budget – both of which are hugely important on oil and gas projects. This award will go to the most accomplished example of an EPC project in the region over the last 18 months.

Young Oil & Gas Professional of the Year

Concerns about young, emerging talent in the oil and gas industry are not new. However, companies in the region are investing heavily to bring through skilled engineers and executives. The award is open to employees aged 30 and younger, and will go to the candidate whose work has had an overwhelmingly positive impact on his or her company over the past 18 months.

Oil & Gas Woman of the Year

This award will recognise an outstanding female achiever who has a successful track record and has made a telling contribution to the hydrocarbons industry. The GCC boasts a wealth of female talent in oil and gas, with thousands more highly talented engineering graduates helping to make the region a hotspot for industry excellence.

Oil Field Services Company of the Year

Oil field service companies drive the entire upstream sector, providing every conceivable type of service, from hiring out

moveable accommodation, to rope access, to seismic exploration and deep water oil exploration. This award will look for the most successful and innovative completed oil field services company in the Middle East region over the last 18 months. It is open to small, medium and large companies that have showcased interesting solutions or innovations for an upstream partner, or that demonstrate a project that has been completed exactly to specification, on time and on budget.

Downstream Project of the Year

Some of the region's long awaited refining and petrochemical projects are coming on stream by the end of this year, bringing to the fore scores of new products to the GCC. It is projects like these that will help diversify GCC economies, make them more competitive on a global scale, and create more jobs for their young and growing populations. Downstream Project of the Year will aim to select the most outstanding, ambitious and game-changing project in the GCC's refining and petrochemical sector.

THHE JUDGES CONFIRMED SO FAR...

Colin Chapman

Abhay Bhargava

Naser AlDousari

Oil & Gas Middle East and *RPME* are delighted to announce the first three judges to have been confirmed for the 2016 awards ceremony. Colin Chapman, president of Euro Petroleum Consultants; Abhay Bhargava, associate director and regional head – Middle East, Energy & Environment Practice, Frost & Sullivan; and Naser AlDousari, director of corporate strategy for MEGlobal, have all confirmed their participation in this year's event. "I think if you are having awards at different levels – and it doesn't have to be the CEO or managing director – then you are recognising those contributions from people right across the spectrum," said Chapman, who was also a judge last year.

We've streamlined our nomination process this year to make it even easier to nominate your colleagues. All entries must be submitted online and can be made by the nominees themselves, a customer, supplier or partner.

The final deadline for submissions is 21 August, 2016, after which, all nominations will be collated and sent to our panel of judges for review.

To nominate, please visit: www.arabianoilandgas.com/oil-gas-awards/ and follow these simple steps:

1. Go to the Awards website, which can be found at: www.arabianoilandgas.com/oil-gas-awards/
2. Click 'submit nominations' on the Awards homepage.
3. Click on 'choose categories' and pick the category for which you would like to make a nomination.
4. Enter nomination details, including the name of the company or person that you are nominating.
5. A sample entry is provided on the website for your reference.
6. Describe, in 500 words or fewer, why you think this nominee deserves to win.
7. Attach supporting files, or E-mail larger files to **oagawards@itp.com**.

2016 Middle East Oil&Gas & Refining & Middle East Petrochemicals AWARDS

Oil&Gas MIDDLE EAST

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

Oil & Gas Middle East analyses how Big Data is changing the course of the industry and opening a world of opportunities for ICT companies

MARKET FOCUS

An overview of the commercial magnitude of Big Data/***p40***

KNOWLEDGE PARTNER

Schneider Electric is impressing upon the regional market the need for adopting Big Data / ***p42***

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TECH FOCUS

BIG DATA IS HELPING OPTIMISE BUSINESSES/P44


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EDITOR'S LETTER

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

Big is beautiful and booming

Big Data holds big promise for the oil and gas sector, delivering solutions to help the industry more effectively manage its vast quantities of data and optimise operations

Last year, a senior industry figure at ADIPEC said to me, "Mark my words, son: Big Data is going to be the future of this industry!" It was just my second month as a reporter for this magazine and his words made little sense to me. Oil and gas was mostly about companies sending men out into testing terrains to operate drilling machinery and offshore rigs to extract fossil fuels, or so I thought.

But it seems that I was wrong. Big Data is indeed rapidly becoming the next big thing in the regional energy sector, as the amount of data generated by oil and gas operations is starting to explode. The speed of this data-gathering is pushing the size of oil and gas Big Data into the exabyte range and beyond as companies handle more data sets, opening up a world of opportunities for information and communications technology (ICT) companies to explore and exploit.

Regional NOCs and oilfield services companies alike are resorting to Big Data to manage – and put to good use – the tremendous volumes of data they produce every minute, and are also using this IT concept as a means to achieve operational excellence in this low oil price era.

The numbers are jaw-dropping: a recent survey on digital trends by Accenture and Microsoft found that 80% of upstream oil and gas companies plan to increase spending on digital technologies, while the International Data Corporation (IDC) predicts that IT spending in the oil and gas sector will increase to nearly $50bn this year.

It is worth noting, however, that while Big Data and analytics may be new to some industries, the oil and gas industry has long been dealing with mammoth quantities of data in order to make technical decisions. In their quest to learn what lies below the surface, and how to draw it out, energy companies have, for many years, invested in seismic software, visualisation tools and other digital technologies.

Now, the rise of pervasive computing devices such as affordable sensors that collect and transmit data, as well as new analytics tools and advanced storage capabilities, is opening up new possibilities. For example, real-time downhole drilling data can now be paired with production data from nearby wells to help adapt a company's drilling strategy, which is especially helpful in unconventional fields.

In this age of driverless cars, is it any wonder that data from oilfields can be managed remotely for better performance?

Industry invests for 'Big' returns

As testament to the fact that the energy sector is investing heavily in order to achieve optimisation through IT, a recent survey has found that 80% of upstream oil and gas companies plan to increase their spending on digital technologies in order to drive leaner and smarter organisations

WORDS: KERI ALLAN

Fawwaz Qadan, head of Platforms and Innovations at SAP MENA.

The continued turbulence in the oil and gas industry has put the breaks on investment and continues to delay major capital projects. However, there is one area that has captured the sector's attention: Big Data.

According to the *2016 Upstream Oil and Gas Digital Trends Survey* by Accenture and Microsoft, 80% of upstream oil and gas companies plan to increase spending on digital technologies in order to help them drive leaner and smarter organisations. Analysts at global market intelligence firm IDC predict that IT spending in the oil and gas industry will increase to nearly $50bn this year.

Increasingly, the region's oil and gas sector is looking for ways to gain a competitive edge and operational efficiencies. For some businesses, optimisation is key to survival.

Many organisations believe that now is the time for them to embrace Big Data. According to Fawwaz Qadan, head of Platforms and Innovations at SAP MENA, this sort of approach will form "the foundation for more agile business plans", in readiness for when prices rebound.

The rise of affordable sensors, new analytical tools, advanced storage capabilities and cloud computing is creating commercial possibilities for data owners. "The oil and gas industry has vast amounts of data that accumulated over decades. Think of the petabytes of seismic data, well logs, maps, real-time data flowing in from SCADA systems and sensors, ERP systems, and so on," says Microsoft's Omar Saleh, director – Oil and Gas, Middle East and Africa.

"All this information presents a wealth of opportunity – in today's world, the accuracy of predictive analysis and decision recommendations directly relates to the integrity of the data being analysed and the mix of data sources and systems incorporated and correlated."

Indeed, technology experts are seeing an increasing demand from oil and gas companies for the adoption of Big Data solutions. This is because they can provide real-time information on business-wide operations, leading to actionable insights that can reduce costs and enhance the supply chain.

"Big Data adoption is prevalent among all regional clients, and many are investing heavily to ensure the right capabilities are available to make the most of these assets," says Tony Milan, executive partner – Natural Resources, IBM Middle East and Africa.

Even so, the sector still has a way to go. Analyst firm Gartner reports that the oil and gas sector's use of Big Data technology lags behind other industries, so there are sector specific challenges currently being worked out.

"This is related to organisational silos and ownership of information and data," says Morgan Eldred, research director for Gartner's Upstream Oil and Gas Industry Advisory Services. "This forces companies to work on information management and integration, and putting in projects for data visualisation, reporting, and high-level analytical solutions."

As for the technologies being embraced, organisations such as SAP note increased uptake of cloud-based data analytics, and Gartner reports that the sector's spending has been focused on Big Data for field strategies.

Eldred also notes that investment is still split between business units, as well as within IT departments. He expects to see more consolidation of Big Data projects, moving towards programmes that focus more on integration than providing niche capability within a specific function.

↑ **Tech experts are seeing increasing demand for Big Data solutions from the oil and gas sector.**

Morgan Eldred, research director for Gartner's Upstream Oil and Gas Industry Advisory Services. ↓

ICT companies are providing technological offerings covering everything from user-friendly predictive modelling and advanced analytics, through to cloud-based solutions. However, organisations are also looking to spend their money on the right staff. "Successful individuals bring a balance between industry knowledge, analytical skills focussed on solving specific problems, and technical acumen, enabling them to leverage open-source models, cloud technologies, iterative methodologies and ubiquitous computing," says IBM's Milan.

Big Data enables the oil and gas sector to extract extra value from existing information, offering real and tangible returns on investment, although a shortage of expertise could still hamper its full potential. It is important, therefore, that companies run their Big Data projects with sufficient investment to yield the best possible returns.

A 'BIG' LEAP FOR GCC OIL AND GAS

Access to data ultimately affects and determines project economics, and plays a crucial role in the application and operation of technologies such as EOR in oilfields

INTERVIEWEE: GHASSAN BARGHOUTH, VP OIL & GAS AND INDUSTRIAL SEGMENTS - MENA, SCHNEIDER ELECTRIC

Today, oil producers are in a position to capture more detailed data in real time than ever before, at lower costs and from previously inaccessible areas. Oilfields, for example, are essentially connected from end-to-end, enabling companies to harvest and analyse the ever-larger amounts of data generated by people and assets along the oil value chain at ever-higher frequencies. As oil and gas firms venture into harder-to-reach and more challenging environments, while at the same time connecting more and more hardware to the internet, these data volumes will continue to grow and become more complex.

Big data is a term for data sets – structured, non-structured, relational, non-relational – that are so large or complex that traditional data processing applications are inadequate. Such data is usually generated from sensors and machine-to-machine (M2M) technologies within a facility.

The number of M2M technologies in use in the oil and gas sector could rise from the 423,000 in late-2013 to 1.12mn by 2018, according to analyst Berg Insights. Each 'dialogue' between the machines feeds into the wider Internet of Things (IoT). The greatest value of this data gathering lies in the compounding impact; building an organised portal of useful data today places a company at the forefront of innovation in five or 10 years. These systems have evolved and matured to operate alongside today's IT systems and standards.

Ghassan Barghouth of Schneider Electric.

These are impressive numbers by any standard. The ability to produce and harvest growing amounts of big data with the intention of finding correlations and trends, presents a unique opportunity for companies across the globe to optimise operations and drive efficiencies to unprecedented levels, thus producing major cost savings. This is also true for the global oil and gas industry, particularly in the Middle East.

For oil and gas companies, the key will be to develop strategies and systems that integrate and manage these increased data volumes to use them in smarter, faster ways. If they don't manage to make this data work for them, they risk becoming less competitive. The reason is simple: access

The ability to produce big data presents an opportunity for companies worldwide to optimise operations.

to data ultimately affects and determines project economics, and plays a crucial role in the application and operation of technologies, such as enhanced oil recovery (EOR) in oilfields.

This is of particular relevance at a time when oil prices have fallen by about half over the past three years – from levels of above $100 a barrel – undermining the economics of many projects currently under implementation, and putting new ones into doubt. With oil prices likely to remain in the $50- to $60-a-barrel range for some time, companies will seek to boost efficiencies and optimise operations to get maximum value out of their investments.

Putting in place the technology infrastructure needed to harvest big data is one thing; making sense out of this data quite another, even for the largest of businesses. While gathering, storing, and processing data has become increasingly sophisticated over the past few years, arguably the greatest challenge today is turning the massive amounts of raw data into insightful information. Yes, technology is critical to handling these streams of data but, by itself, it isn't a silver bullet. What big data needs is robust analysis that is relevant to a particular business, in this case, the oil industry.

Analysing the volumes of big data being generated presents a unique set of challenges for the oil and gas sector.

> "FOR OIL AND GAS COMPANIES, THE KEY WILL BE TO DEVELOP STRATEGIES AND SYSTEMS THAT INTEGRATE AND MANAGE THE INCREASED DATA VOLUMES TO USE THEM IN SMARTER, FASTER WAYS."

And even though data analysis itself isn't anything new for companies — it has, for example, always played an important role in decision-making processes in the oil industry —analysing the vast volumes of information being generated in today's world of big data, on a daily basis, brings about a different set of challenges. People with the appropriate skills are critical today for companies seeking to exploit big data. This includes everything from specific expertise in big data and being able to understand, collect and preserve it, to knowledge of statistics, maths and data visualisation techniques.

Meeting these requirements won't be easy, however. McKinsey Global Institute has estimated that, by 2018, the US alone will be facing a shortage of 140,000 to 190,000 people with deep analytical skills across various industries, as well as 1.5mn managers and analysts to analyse big data and make decisions based on the findings. This skills shortage means that, according to consultancy Gartner, more than 85% of Fortune 500 organisations won't be able to effectively exploit big data this year.

One important way of addressing this issue is for oil companies to place more emphasis on developing analytical, big data, and other relevant skills, internally. For the national oil companies (NOCs) in particular, such as the ones operating in the GCC region, the benefits would be twofold: they would potentially develop their national workforce on the one hand; on the other, they would reduce their outsourcing requirements to third parties and build up their capabilities to analyse the data that sits at the core of their operations.

This latter point is of particular importance because, ultimately, it's the people who work in a company – and who understand how the oil and gas supply chain integrates, and what impact any actions along it may have – that are best placed to use the knowledge they gain from analysing big data to identify potential optimisations and efficiencies. The more people from within an NOC are engaged in this process, the more the company at large can potentially benefit.

Educating employees on the value of the data they are using, and the need to handle it systematically and rigorously will, therefore, be seminal to reap the benefits that come with the application of new technologies. Beyond this, there has to be more involvement between industry and academia on a general level, while partnerships between solution providers and NOCs could lay the foundations for a long-term solution to the skills shortage in big data.

OILFIELDS IN THE CLOUD

A key technology trend that is having a major impact on the use of Big Data is the Internet of Things, which offers the opportunity for a massive amount of data to be collected from sensors deployed across entire oilfields, writes *Keri Allan*

The Middle East's oil and gas companies are on a journey to optimise their operations. The use of data to drive optimisation continues to grow in scope and sophistication, with companies analysing data to support areas such as strategic decision-making, asset utilisation, performance monitoring, demand prediction and risk mitigation.

Big Data technology is coming to the fore because it allows oil and gas businesses to capture detailed data in real time, and at low cost, opening up opportunities to help improve operating efficiency as well as to lower risk.

One of the biggest technology trends to be impacting the use of Big Data is the Internet of Things (IoT), which offers the opportunity to collect data from sensors deployed across entire oilfields.

"The integration of IoT in the oil and gas industry is resulting in increased access to information, making it possible for companies to save millions of dollars. As information becomes accessible 24/7 and in real-time, operators are able to streamline business efficiency," explains Ghassan Barghouth, vice president for Oil and Gas and Industrial Segments for the Middle East region at Schneider Electric.

The industry is already seeing a wide range of benefits from adopting Big Data solutions, as Tony Milan, executive partner – Natural Resources, IBM Middle East and Africa, highlights.

"Regional oil and gas companies continue to use big streams from sensor technology to assess and optimise their activities," he says. "Upstream clients leverage high performance computing to run cutting-edge specialised simulation software that allows them to interpret how oil and gas moves through porous rock under different conditions, in order to optimise their exploration and production activities."

Real-time, advanced data analysis is invaluable to an industry looking to streamline processes. It can do this by allowing oil and gas businesses to gain insights that empower improved planning for – and optimisiation of – assets such as drilling rigs, wells and oilfields.

Gartner research has found that many of the top analytics initiatives within this sector have been implemented to incorporate and leverage operational data from digitally monitored oil fields. The analyst also found that digital oilfield analytical solutions are playing an increasingly important role in upstream companies, and the ability to combine operational data with asset, transactional, financial and reservoir data is optimising business performance.

Another area of interest has been user-friendly predictive modelling, as tech-savvy management is keen to drill down deep into the data they have gathered. And, as Fawwaz Qadan, head of Platforms and Innovations at SAP MENA, highlights, with companies facing tough business challenges, fast and user-friendly automated analysis is key.

"Predictive modelling is essential for oil and gas companies facing volatile prices. SAP recently proposed an Energy Independence Simulator, with a real-time dashboard that could allow Middle East oil and gas companies to simulate and predict scenarios, and decide on rational energy strategies."

Megha Kumar, senior research manager – software for IDC Middle East, Turkey & Africa, agrees: "Using user-friendly predictive modelling allows business users to run their own analytics by improving process and time taken to run analyses and speed up decision making," she says.

"Access to this level of automation is critical when companies are plagued with cost and resource optimisation goals."

In response to this growing interest, IBM's Milan notes that a variety of easy-to-use predictive modelling tools are coming onto the market.

"Many of the equipment manufacturers are either providing their own predictive solutions or collaborating with ICTs to provide such platforms," he explains.

Then there is cloud computing – a substantial enabler when it comes to Big Data, providing a foundation that gives companies the ability to further leverage the power of these analytics.

Microsoft's director of Oil and Gas, Middle East and Africa, Omar Saleh, believes that the "cloud conversation" is fundamentally one of business value.

Fady Younes, acting managing director, Cisco UAE.

IBM Middle East and Africa's Tony Milan.

He notes that most national and international oil companies are looking at cloud-based systems as they strive to address productivity and mobility, and look for business capabilities that build on the agility and scalability that are offered by the cloud applications.

"Cloud computing is significantly changing the way the oil and gas industry is using IT," says Fady Younes, acting managing director, Cisco UAE. "It is reducing operational costs, non-productive time, business risk, and uncertainty for companies. By relieving them of the cost and burden of managing large data, the cloud is helping companies to have greater focus on their core competency."

Looking forward, technology experts are expecting more of the region's oil and gas businesses to embrace cloud computing because it provides them with "low upfront costs, speed and agility in delivery, and enhanced security," says Milan. "On-premise public, hybrid or private cloud models will provide perfect environments to support Big Data analytics and the benefits they bring," he adds.

"By enabling a hybrid cloud, oil and gas companies can securely and selectively allow their technology partners – including equipment manufacturers and services companies – to assist them in their Big Data analytics journey," he continues. "This is accomplished in two ways: companies' resources can focus on the value and impact of the analyses, rather than the underlying hardware that supports them, and they can pull in the deep expertise their partners can contribute," he explains.

Next-generation analytics and cloud-based applications are reshaping the way companies collect, sort and disseminate data. A new business model is evolving, which promises a greater level of integration and data usage than ever before. It is no longer a matter of if companies should invest in these types of applications, but when that should be done. And that, it would seem, is right now.

HOW BIG DATA CAN MAKE A BIG IMPACT

WORDS: FADI KANAFANI, REGIONAL DIRECTOR MIDDLE EAST & AFRICA, NETAPP

Oil has been one of the most important commodities for decades. Today, the oil and gas industry is facing major challenges as the price of oil is exhibiting a downward trend and the costs of extraction are rising. This is coupled with the turbulent state of international politics, which affects the performance of many organisations.

Additionally, oil and gas companies across the globe also deal with large quantities of data, on a daily basis. Over the past few years, we have seen a significant increase in the number of energy companies that are investing in seismic software, visualisation and data management tools, and other digital technologies to improve production and efficiency.

Current estimates place the Middle East's conventional oil at about 800bn barrels or, quite simply, nearly half of the world's proven recoverable crude. The region also houses 40% of the world's conventional gas reserves.

As oil and gas are two of the most important natural resources in the region, and the global prices are unstable, most organisations are looking inwards to reduce costs and drive business gains. One way to do so is by adopting better data management strategies.

Oil and gas companies have the potential to tap into different forms of data and use it to generate insights that can empower decision-makers. The data can come from various sources, including equipment monitoring, maintenance records, seismic inputs, weather patterns, and production information.

↑ Fadi Kanafani of NetApp.

As advancements in instrumentation, process automation, and collaboration rapidly increase data volumes, some industry observers expect these volumes to grow by a factor of five each year. IDC predicts that usable data generated in the oil and gas industry will grow from a total of 52 exabytes today to 888 exabytes in 2020. Due to the vast amounts of data that companies have at their disposal, it becomes essential to plan how this 'big data' will be stored.

Using data can yield multiple advantages, not only for companies, but also for their workforces. For instance, weather data can be used to analyse environmental conditions before creating schedules for workers, to mitigate risk and ensure safety.

On a business level, big data and advanced analytics can assist companies to explore new resources. They enable the identification of unnoticed, yet potentially productive, seismic trace signatures, which can then be explored. The data makes it a lot easier to locate new hydrocarbon deposits. By leveraging big data, the usual process for finding these deposits, which normally requires a lot of materials, personnel, and logistics, can become streamlined. This leads to cost savings and better workforce planning.

Big data is also useful for daily production and operational activities. If a company is equipped with the information to predict future performance based on historical results, or to identify sub-par production zones, it can reallocate its resources and increase productivity.

Data services have also opened doors to activities that were not possible in the past. For instance, remote visualisation via the cloud enables rapid collaboration between a well site and remotely located experts, improving the safety, speed, and accuracy of reservoir decisions. This enables the experts to analyse the subsurface data and use datasets to make better informed decisions about drilling and exploration. According to McKinsey Global Institute, in 2015, an estimated $168bn was spent on enterprise mobility solutions, with $8bn spent on oil and gas mobile apps. The investment has been positive for oil and gas companies, as they saw a 63% increase in cost savings and a 51% increase in productivity.

Big data, if utilised well, can generate numerous advantages for oil and gas businesses, including a reduction in costs, more streamlined operations, and increasingly effective manpower planning. These benefits ultimately lead to long-term business growth, and help companies to retain their competitive advantage.

EMERSON'S ENERGETIC EMERGENCE

From being one of the initial Western technology service providers to the regional oil and gas industry, to opening a solutions and education centre in Dubai, Emerson Process Management's Middle East growth has been driven by innovation and localisation

WORDS: INDRAJIT SEN

Emerson Process Management is synonymous with energy. The organisation has been present in the Middle East since the 1970s and its growth has mirrored that of the region as a whole. Having been one of the few Western companies to start out in Saudi Arabia during the oil boom years, the company set up its regional base in Dubai in 1992, and is now one of the biggest technology services providers serving the oil and gas industry.

The American company's emissary in the Middle East and Africa is convinced that Emerson possesses two strengths that separate it from its multitude of competitors: a decades-long presence enhanced by a strong localisation strategy, and a focus on providing effective technological solutions through innovation.

"The number one factor that makes Emerson different from the industry is our presence here. Emerson really prides itself on local manufacturing and local organisation," Dave Tredinnick, president – MEA at Emerson Process Management, explains during an exclusive interview. "Wherever we operate, we try to localise quite aggressively, whether that's in Nigeria or in Saudi Arabia."

> “EMERSON IS A REAL LEADER IN TECHNOLOGY. TECHNOLOGY NOT FOR TECHNOLOGY’S SAKE, BUT TECHNOLOGY TO ADDRESS REAL CUSTOMER PAINS. WE TRY TO UNDERSTAND THE CHALLENGES THAT THE INDUSTRY IS FACING TODAY.”

← Dave Tredinnick, president – MEA at Emerson Process Management.

↑ Emerson has opened a new Solutions and Education Centre at its regional headquarters in JAFZA, Dubai.

“I think the second real difference is that Emerson is a real leader in technology. Technology not for technology’s sake, but technology to really address customer pains,” the experienced executive says. “We really try to understand the challenges that the industry is facing today. And today’s environment is a perfect example of that, with low oil prices and the various other challenges being faced in the MEA area.”

Having been entrenched in the region for longer than most of its industry peers, Emerson boasts of providing “end-to-end solutions” to an impressive list of oil and gas clientele that includes the likes of Saudi Aramco, ADNOC, the Kuwait Oil Company, PDO and Qatargas.

Tredinnick, who claims that Emerson Process Management is “the world’s leader in pipeline management and fiscal measurement”, goes on to explain precisely how, at every stage of upstream operations, Emerson serves its customers: “If we look at the oil and gas segment, we deliver everything for downhole – that would come around, for example, modelling of the reservoir itself, or downhole gauges. When we get to the surface area, around the wellheads, we do things like choke valve control. These telemetry units sit around the wellhead and allow operators, thousands of kilometres away, to control the flow out of the reservoir. And we can do real-time, multi-phase measurement at the wellhead.”

He continues: “If you think about a reservoir where, in certain areas, you’ve got a high flow and you’ve got water breakthrough, you need to be able to see that in near real-time. You need to feed that back into the model, that you have water breakthrough, and reduce flow out of those specific wells, because when you’re processing oil with water, it takes more energy to separate it out. And then, typically, you’ve got to treat that water.

“All of that just adds costs without much value for the oil producer. It’s that kind of solution delivery that we’re able to bring to our customers, which our competitors can’t attain.”

Emerson’s trademarked products, catering to the oil and gas sector, have been taking the market by storm, and the company strives to make significant investments to continue developing cutting-edge products and technologies. Moreover, according to Tredinnick, the company’s growth strategy also hinges on making acquisitions – inducting firms that add value to the company’s oil and gas offering. Emerson Process Management made the most recent addition to its portfolio at the beginning of the year, when it acquired a US-based pipeline management company called ESI.

‘Pervasive sensing’

‘Innovation’ is a word that is used frivolously these days, but Tredinnick stresses that it lies at the very heart of Emerson’s oil and gas business. The company’s MEA chief talks about an ICT-driven concept that Emerson has mastered – an automation technique that he claims is transforming the operations of the company’s upstream customers.

He explains: “‘Pervasive sensing’ is a term that

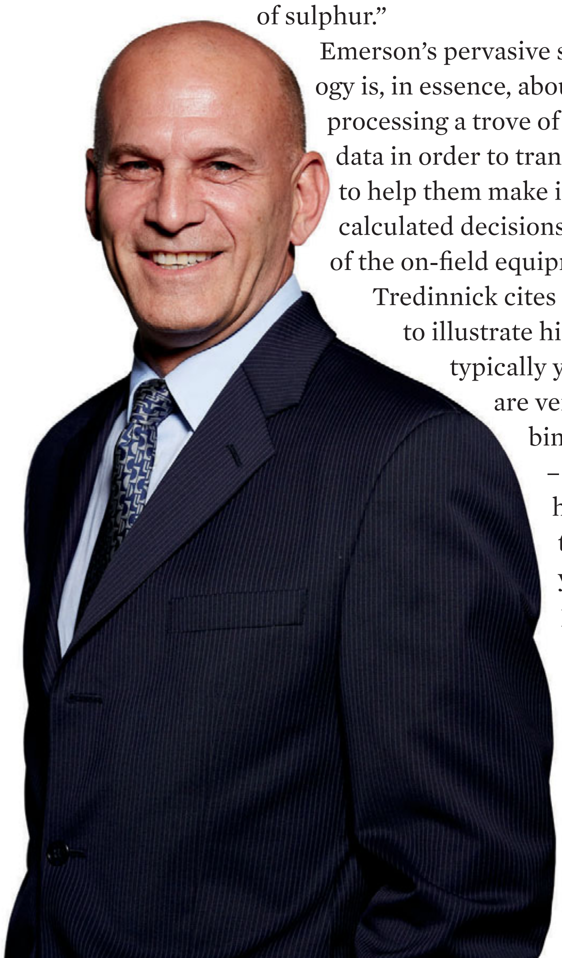
Tredinnick explains that Emerson's pervasive sensing technology can deliver genuine savings in installation costs. ↓

Emerson has really developed. We hear a lot about the Internet of Things (IoT), or the Industrial IoT, or Big Data. The information originates somewhere, and pervasive sensing is really all about that. It's looking at, for example, wireless technologies that we've delivered over the last five, six, seven or eight years, for managing pressure and temperature levels for discreet input and output. These are low-cost devices, with very low installation costs."

Trednnick further elaborates: "Typically, if you install an instrument, 80% of the cost is incurred in the installation, the cabling, the junction boxes, the marshalling area, and all the work that goes into that. This technology, [pervasive sensing] really reduces installation costs by 80%.

"It lets you get at things that, in the past, were prohibitively expensive – being able to measure, for example, steam traps; being able to see when a steam trap has failed and you're wasting energy; being able to measure an alarm when they release through a pressure relief valve," he continues.

"In a liquid application, you may be dumping product into the environment. Think about if you're in a gas plant and there's a high pressure situation. If the valve blows, in some of the gas plants in this region, it could be deadly because of the amount of sulphur."



Emerson's pervasive sensing technology is, in essence, about gathering and processing a trove of information and data in order to transmit it to operators to help them make informed and well-calculated decisions based on the health of the on-field equipment.

Tredinnick cites another example to illustrate his point: "In a plant, typically you have assets that are very critical – turbines, compressors – and for years there have been devices on those that will alert you when there is a potential problem. You're measuring vibration, you're measuring temperature. And yet, if you go down below that class,

to class II or III devices like less critical pumps, fans, rotating equipment, maybe associated with conveyors, it's been very difficult to justify instrumenting those.

"Today, with wireless technology, we can get to those devices quickly and provide that information back to operators for the maintenance of those resources, so they can take action before there are catastrophic failures."

Emerson Process Management has been actively trading in pervasive sensing technology for the last five years, helping clients accurately monitor and manage the health of their assets. To date, multiple operators have implemented this innovative concept in their oilfields, and numerous wells have been automated through this technology.

One of the prime benefits of this technology is

Emerson broke ground on the site for its new technology development, customer training and project support facility in Dhahran Techno Valley in Saudi Arabia on January 11.

that it promises to accelerate operations, offering users significant time savings of between 70% and 80%.

"In the past, to automate a well you had to bring electricity to it, you had to bring cable to it, or you had to put in a solar panel. With a wireless well, you can automate it in less than a day. If you talk about speed, it's very, very fast – to go into a field and to be able to collect near real-time data wirelessly, versus the traditional RTU (Remote Thermal Unit) method," Tredinnick says.

Spreading its wings

Emerson Process Management has quite recently strengthened its roots in the region, and considerably elevated its stature as a major technological services provider to the oil and gas industry, with the opening of a new facility in Dubai that houses

80%

THE REDUCTION THAT TREDINNICK CLAIMS EMERSON'S PERVASIVE SENSING TECHNOLOGY CAN DELIVER IN INSTALLATION COSTS.

a Solutions and Education Centre. Located within Emerson's regional headquarters in the Jebel Ali Freezone (JAFZA), the 5,000 square foot facility is Emerson's attempt to engage with its customers on a far deeper level, by providing valuable, case-by-case solutions and imparting vital knowledge that will enable its clients to operate more effectively.

The Solutions Centre, which Emerson claims is

Emerson's CSI 6500 provides insight into the health of critical assets with both protection and prediction in a single chassis.

Tredinnick says Emerson's strategy has become more customer-centric in recent years.

"the first facility of its kind in the region", provides customers with a hands-on experience of the latest technology for operations management. Equipped with concepts such as augmented reality and 3D imaging, and installed with Emerson's latest automation technologies, the centre provides an integrated, fully collaborative platform that enables users to experience a holistic view of their operations and, consequently, achieve optimisation.

At the Solutions Centre, customers can interact with Emerson's local and remotely-based experts, as well as with their own executives and operations staff, to discuss challenges, develop application solutions, manage projects, and troubleshoot problems, regardless of location. The facility can connect to Emerson's other facilities around the world, and to customers' production sites, to enable data exchange and remote collaboration.

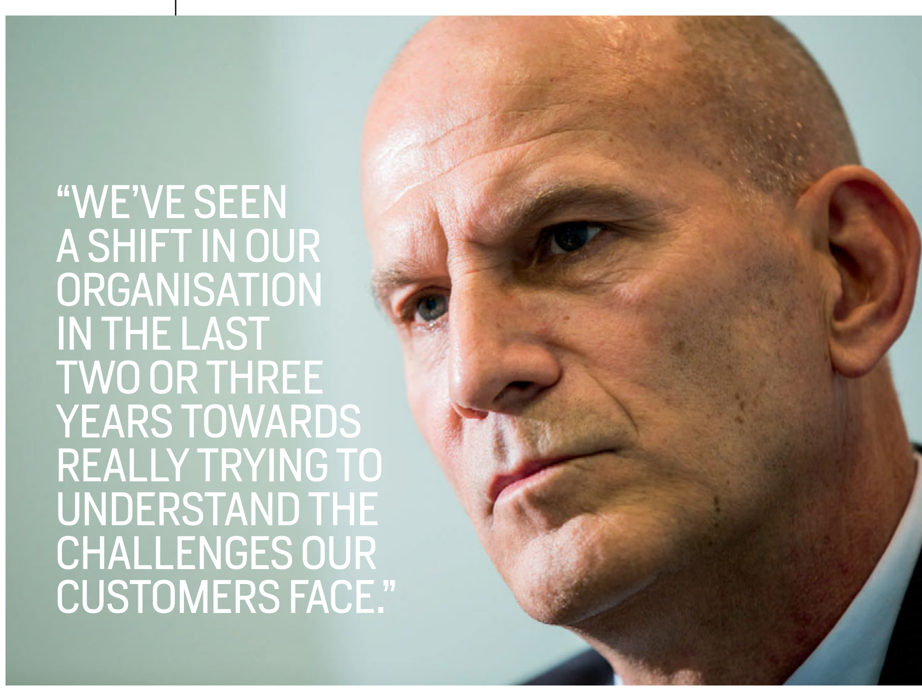
The Education Centre strengthens Emerson's capability in helping customers to train their new recruits, improve the skills of the current workforce, and adapt to new technologies. Delivering courses on the entire spectrum of automation disciplines, the facility maximises learning through live demonstrations and training on actual technologies and systems. Each student is provided with dedicated resources such as field instruments, I/Os, control and safety system simulators, and wireless technologies, allowing them to apply what they have learned in real-life operations environments faster and more efficiently.

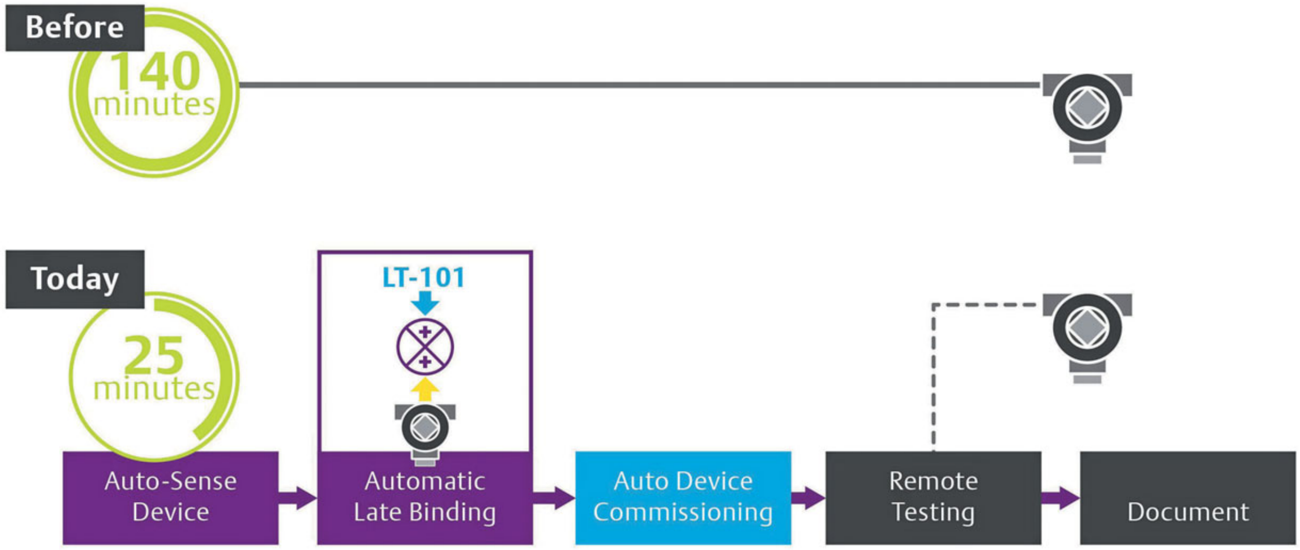
The Education Centre can host virtual classrooms, where certified instructors deliver training live and online, and customise training programmes through a blended learning approach that combines both classroom and online instruction. The facility is connected to the network of Emerson training centres around the world, which helps bring students and experts together.

It is easy to believe that expanding its regional base in Dubai is part of Emerson's conscious drive to spread its reach to even more oil and gas players in the region, as well as to be perceived as more of an end-to-end solutions provider, which will help the company rapidly distinguish itself from its competition.

"I think it has to do with Emerson's shift [in strategy]," Tredinnick explains. "We've always been well-known for products and systems, and services, but we've seen a shift in our organisation in the last two or three years towards really trying to understand the challenges our customers face, uncovering the pain that they're facing, making sure they recognise what that pain is and how they can address it, and what the end game looks like. In these centres, we're able to do that with a blend of technology," he continues.

"We can pull in experts from around the world. We can work in an almost virtual environment within the customer's plant and identify the fac-





EMERSON'S SMART COMMISSIONING HELPS REDUCE AUTOMATION COMMISSIONING TIME AND EFFORT

Emerson Process Management has introduced Smart Commissioning, a technology-enabled process that significantly reduces automation commissioning time and effort. Smart Commissioning helps automation projects meet strict and shifting deadlines by reducing trips to the field, eliminating tasks, and accommodating late project changes. Smart Automation Commissioning builds on advances made possible by the combination of the DeltaV distributed control system (DCS) Electronic Marshalling with CHARMs and AMS Device Manager software to remove automation from the critical path of projects.

With the release of version 13 software for the DeltaV DCS and AMS Suite, Smart Commissioning brings ease to automation project implementation. From the initial device connections to final system testing, users save money as they shave weeks off the project schedule by reducing time spent on automation commissioning activities.

Upon arrival at a project site, pre-tagged smart devices can be connected immediately to any channel in a nearby junction box – eliminating the need to wait for wiring designs to be completed. Smart Commissioning also removes potential errors by automatically finding and identifying all smart devices, then binding them to the configuration. To further accelerate implementation, the device configuration is pushed to all devices based on pre-configured templates. Testing is easily and safely done from the control room by using digital communication, requiring no personnel in the field for confirmation.

"With Smart Commissioning, members of the project team can more easily meet tight project timelines and are not hampered by late design changes," Mark Howard, vice president of project execution for Emerson Process Management, says. "Developed based on industry experience, this solution is another step from Emerson toward attaining project certainty for users."

↑ Emerson's Smart Commissioning helps reduce automation commissioning time and effort.

tors that are causing their problems. So we bring our experts, they bring theirs, and we all work on a solution collaboratively."

Emerson's Solutions and Education Centres are just the first of this type of facility for the company; it has more similar projects in the pipeline. As part of its policy to support Saudi Arabia's localisation drive – known as the In-Country Value (ICV) programme – Emerson Process Management is on course to launch a centre in Ruwais in October, Tredinnick reveals, focussed on addressing issues related to the asset lifecycle of both the upstream and downstream sectors.

Emerson has made an even greater stride in the kingdom by collaborating with the King Fahd University of Petroleum and Minerals to announce a bigger Technology and Innovation Centre – along the same lines as the Dubai facility – that is set to be launched in mid-2017. Aside from aggressively pursuing its localisation target in Saudi Arabia – which currently accounts for 55% of its workforce – Emerson intends to be closer to, and better serve, customers such as Aramco.

To sum up Emerson's motivation for setting up these technical centres, Tredinnick says: "What we're trying to do is make sure our customers realise that it sometimes takes much more than a simple product or system fix. It often takes knowledge and expertise from both sides to address those very critical issues."

KUWAIT PETROLEUM COMPANY'S GOAL

To reach 4 million barrels of oil per day production capacity by 2020, giving it less than four years to increase production by around a third.

Kuwait's three-day strike by oil workers in April triggered a 3% spike in oil prices.

ANALYSING KUWAIT

Ambitious Kuwait treads carefully

Can Kuwait's long history of strained oil production targets, a frequently striking workforce and political unease be transformed by robust economics, a well-crafted upstream strategy and a flourishing downstream business?

WORDS: MICHELLE MEINEKE

The turbulent narrative of Kuwait's oil sector is underpinned by candid and transparent disagreements. The OPEC member's oil production nearly halved when thousands of local oil workers refused to put on their hardhats. The three-day strike ended on April 20 after triggering a 3% spike in oil prices, with the country's output falling by 46%, from the usual 2.8mn barrels per day (bpd) to 1.5mn bpd.

Putting out such fires is business as usual in Kuwait as the country's freer political environment – unusual amongst Gulf countries – means the Ministry of Oil, state-owned oil company Kuwait Petroleum Company (KPC), and field workers, often voice their agendas. Simple economics

"LIKE ALL OIL PRODUCING COUNTRIES WORLDWIDE, KUWAIT HAS ITS CHALLENGES. BUT DO NOT FORGET THAT WE HAVE OVER HALF A CENTURY OF EXPERIENCE."

MOHAMMED AL-SHATTI, MANAGER OF KPC'S CEO'S OFFICE.

→ A file photo of Kuwait's acting Oil Minister, Anas al-Saleh, speaking to the media ahead of the OPEC-non-OPEC meeting on April 17 in Doha, Qatar.

↘ Kuwait is making significant inroads with its downstream operations.

mean the country can ill-afford the frequent disruptions that curtail its operational efficiency, however. Oil production accounts for 60% of Kuwait's GDP and 95% of export revenues.

Kuwait posted its first budget deficit since 1999 in the 2014-15 fiscal year, as low oil prices took a toll on the country's economy; a statistic that is both concerning and impressive. Kuwait's Emir, Sheikh Sabah Al-Ahmed Al-Sabah, has called for stricter economic management, which mirrors the austerity measures being implemented by local governments and national oil companies throughout the Gulf.

"We are required to start with treatment and economic steps and programmes aimed at managing and reducing the budget articles, in order to deal with the shortages in the state financial revenues," Sheikh Al-Sabah says, according to state-owned news agency *Kuna*.

KPC's plan to reach 4mn barrels of oil production capacity by 2020 is subject to doubt among some energy stakeholders within – and outside – Kuwait. The target gives KPC less than four years to increase production by more than 33%, which is an ambitious target by any global standards. Rolling out the much-discussed enhanced technical service agreements (ETSAs) to incentivise international energy companies, which may include Total and Shell, to funnel cash into upstream oil projects, would support Kuwait's 2020 goal.

Kuwait has also confirmed a $114.5bn spending bill that is aimed at bolstering the effectiveness of the oil sector over the next five years. Just under two-thirds of the financing (63%) has been earmarked for upstream exploration and development, with the remaining portion (37%) to support the country's various refining and petrochemical projects.

"Like all oil producing countries worldwide, Kuwait has its challenges. But do not forget that we have well over half a century of experience – the country's first crude oil shipment was in 1946. Kuwait is on track to reach 4mn barrels a day of oil production, and our major refinery expansion is also on schedule. There are many bright spots on the horizon," Mohammed Al-Shatti, manager of KPC's CEO's office and Kuwait's representative to OPEC, told *Oil and Gas Middle East*.

Global investors clearly have an appetite for Kuwaiti business, with considerable interest in KPC's domestic downstream arm KNPC's plans to raise up to $10bn-worth of loans to support major refinery upgrades.

Kuwait's financial acumen was also highlighted by the government's decision to reduce diesel and kerosene subsidies in January 2015 – the second GCC member to do so at the time, following Yemen's cuts in mid-2014. Fuel-related subsidies are considered a national right in the Gulf states' psyche, which makes introducing cuts a delicate political operation for all local governments in the region. Kuwait's government raised the price of diesel to 0.170 dinar ($0.59) per litre from 0.055 dinar ($0.18), with kerosene prices also rising with monthly reviews. The move was forecast to save the government $1bn a year, with more cuts an-

ticipated this year. Kuwait's budget from 1 April, 2015, which assumed an oil price of $45 a barrel, forecast a $27bn deficit. Such data is expected to help the Kuwaiti government persuade the country's population of 4mn that further subsidy cuts are necessary.

Downstream potential

The ongoing major revamp of Kuwait's refining sector has the potential to be the stick that Kuwait needs to beat the dents out of its reputation for missing project deadlines. Disagreements within the Kuwaiti parliament over budgets means it has taken nearly a decade for KNPC to gain approval to build the 615,000 bpd Al Zour refinery, which will also incorporate a petrochemical complex. The $16bn refinery will raise the country's total refining capacity from today's 936,000 bpd to 1.4mn bpd, with completion likely by 2020.

The extensive grassroots construction project is part of the Clean Fuels Project (CFP), which includes upgrading the Mina Abdulla and Mina Al Ahmadi refineries by 2020. On completion, the refineries' combined capacity will increase by nearly 10% to 800,000 bpd, at 454,000 bpd and 346,000 bpd respectively. Kuwait's aged 200,000 bpd Al Shuaiba refinery will be transformed into storage from 2017.

"Kuwait is making significant inroads with its downstream operations, which are being realised on the ground after years on paper. KNPC's efforts today will help the country be more competitive as the Middle East and Asia's refining capacity soars over the next decade," Siamak Adibi, a senior consultant at Facts Global Energy (FGE), told this magazine.

Kuwait's foreign downstream arm, Kuwait Petroleum International (KPI), is expanding KPC's geographical footprint, especially in Europe and Asia. KPI and Japanese oil refiner, Idemitsu Kosan Co, have applied to set up a joint venture to sell oil products in Vietnam, with both companies involved in the construction of the country's 200,000 bpd Nghi Son refinery. The refinery is scheduled to start operations in 2017. KPI's downstream presence in Asia includes China and the Philippines. KPI, also known as Q8 in Europe, is focussing on storage plants following the sale of its Rotterdam refinery to global trading firm Gunvor. It has recently acquired assets in Italy, Luxembourg and Belgium, and is eyeing new business in the UK and Spain.

From 2020 to 2030, KPC hopes to produce 270,000 bpd of heavy oil from Kuwait's fields.

Navigating testy politics

Against a backdrop of dynamic politics, there has been ongoing support for Nizar Mohammed Al-Adsani's technical expertise and focused strategies since he was appointed KPC's chief executive officer in May 2013. KPC's CEO tends to be technically-minded, and has hands-on experience of the oil sector, while the oil minister is well-versed in politics and less focussed on how the micro cogs of the industry turn. Consequently, well-documented clashes ensue; Kuwait has appointed more than 10 oil ministers in the last two decades.

A disagreement between the top brass at KPC and then oil minister Ali Saleh Al-Omair in 2015 meant that the majority of KPC's board, and some of the CEOs of the company's subsidiaries, threatened to resign. The protracted argument culminated in a rare intervention from Emir Al-Sabah. Anas Al-Saleh, the current deputy prime minister and finance minister, also became the acting oil minister last November, while Al-Omair now leads the Ministry of Public Works and serves as a state minister for parliamentary affairs. Al-Omair's tenure as oil minister for nearly two years is notable for its relative longevity.

"Political disputes in the Kuwaiti parliament have not helped the country's oil industry reach its capacity targets. But a change in the oil industry's structure, including partial privatisation along the lines that are being proposed by Saudi Arabia, would help develop Kuwait's oil production capacity, by introducing new funding and greater efficiency," Dr Leo Drollas, an independent energy consultant and former director and chief economist for the Centre for Global Energy Studies (CGES), told *Oil and Gas Middle East*.

Kuwait is considering offering shares in service companies operating under KPC's vast umbrella, but not within KPC itself.

Meanwhile, a disagreement between Kuwait and Saudi Arabia over their shared Neutral Zone has escalated since late 2014. A political boundary was drawn to equally divide the Neutral Zone and subsequent oil reserves in 1969, with the majority of operations at the 200,000 bpd Wafra field and

"DEPLOYING SOLAR [POWER] TO RECOVER KUWAIT'S HEAVY OIL CAN [...] DEVELOP THESE FIELDS MORE ECONOMICALLY, SUSTAINABLY AND INDEPENDENTLY."

GLASSPOINT SOLAR'S CEO AND CO-FOUNDER, ROD MACGREGOR.

$27BN

THE DEFICIT FORECAST IN KUWAIT'S BUDGET FROM APRIL 2015, WHICH ASSUMED AN OIL PRICE OF $45 A BARREL

↑ Oil production accounts for 60% of Kuwait's GDP.

↗ Rod MacGregor, co-founder and CEO of Glasspoint Solar.

the 300,000 bpd Khafji field. Saudi Arabia turned off the taps at the Khafji field in October 2014, citing unexplained environmental causes, and the subsequent tension between the two oil producers led to production at the Wafra field being halted in May 2015.

Several rounds of high-level negotiations have failed to restart production at either field, which has hit Kuwait particularly hard, especially as the country's 2020 production capacity target nears. Kuwait has little spare capacity compared to Saudi Arabia's 1.5mn to 2mn bpd. A political handshake would not alleviate Kuwait's production challenges immediately as it could take more than six months before production at the fields reaches the same level of output that was recorded in 2014. However, the long-running uncertainty surrounding operations in the Neutral Zone has not spilled over into the two countries' united front during OPEC negotiations.

Innovative upstream strategies

KPC's strategy for oil production from 2020-2030 outlines the need to produce 270,000 bpd of heavy oil from Kuwait's fields, which means one thing: the wider use of enhanced oil recovery technologies (EOR). Kuwait is pushing for economic diversification as low oil prices have highlighted the Achilles' heel of energy-centric economies in the Gulf and beyond. Accordingly, KPC is increasingly focussed on using renewable energy resources to support EOR projects.

Harnessing solar-powered EOR could support Kuwait's pledge to have renewables represent 15% of its total energy mix by 2030. The momentum across the Gulf to increase the use of renewable resources as a stand-alone energy supply, and as part of oil producers' EOR portfolios, is gaining strength following the global climate change conference (Cop 21) in Paris in December 2015. GCC countries plan to allocate $100bn to support renewable energy projects over the next two decades, which will also leverage the region's 1,400 to 1,800 hours of sunshine a year, according to Dr Samira Ahmad Omar, the director general of Kuwait Institute for Scientific Research (KISR). Innovation has featured on Kuwait's strategic map for decades, with KISR designing and operating a pilot 100kW solar energy station in 1978.

"It really does make sense to utilise the abundant sunshine that Kuwait is blessed with, rather than importing expensive energy to produce oil," Rod MacGregor, co-founder and CEO of Glasspoint Solar, told this magazine. "Deploying solar [power] to recover Kuwait's heavy oil can reduce the country's reliance on diesel and imported gas and develop these fields more economically, sustainably and independently." ○

WORDS: INDRAJIT SEN

DETERMINED OPEC REGAINS DOMINANCE

Although hopes of an oil production-freeze deal were dashed again at OPEC's 169th general meeting in Vienna last month, the cartel's members were enthused by the fact that their strategy of defending market share was yielding results. The meeting – highlighted by a resolute Saudi Arabia and a calmer Iran returning to negotiations – thus generated optimism, which was evidenced by the bloc unanimously electing a new secretary-general.

↑ OPEC's 169th general meeting in Vienna saw the election of a new secretary-general.

After the fiasco at the OPEC-Russia talks in Doha in April, most observers presumed that it was a bit too soon to hope for a substantial agreement to be reached at the cartel's scheduled meeting on 2 June. Prevailing factors such as Saudi Arabia's bid to maintain its grip as the de facto leader of the Organization of Petroleum Exporting Countries, and Iran's resolve to regain its pre-sanctions oil output and export levels in particular, meant that member nations – gathered at the group's headquarters in Vienna – would be unable to strike an oil production-freeze deal.

And so the meeting's outcome was hardly surprising. OPEC member states' oil ministers and representatives appeared to be at odds over what the bloc's next move must be. The

"GIVEN THE CONSTRAINTS INSIDE OPEC OF ACHIEVING CO-ORDINATED ACTION, AN INCREASE IN OIL PRICES WILL MOST PROBABLY COME FROM A REBALANCING OF NON-OPEC SUPPLY AND DEMAND."

MCKINSEY ENERGY INSIGHTS' PAGKALOU AND NOLAN.

↑ Evelina Pagkalou (left) and Andres Nolan, senior analysts at McKinsey Energy Insights.

meeting did discuss a proposal by Saudi Arabia to implement an OPEC-wide production quota range, aimed at addressing the global oversupply situation – for which the cartel has been primarily blamed – resulting in the free fall of crude oil prices. The proposal, floated by Saudi Arabia's new Energy Minister, Khalid Al-Falih, would have attempted to limit OPEC oil output to a range of 31.8mn to 32.5mn barrels per day (bpd), down from the current production of 32.77mn bpd. OPEC members failed to agree on that proposal.

While some, such as Kuwait and Qatar, appeared to support Saudi Arabia's line – agreeing on the need for an output ceiling – others, such as Venezuela and Algeria, seemed to agree with Iran, which said an output ceiling must be accompanied by a country-specific quota system. Other oil ministers, such as Nigeria's, called for open-minded discussion and unity – something that members have been left wanting at previous meetings.

However, in spite of the disagreements, OPEC's June conclave was in no way a repeat of the bitter wrangling that took place at the group's April meeting with Russia. There was relative peace, despite the differences in outlook, leading analysts and experts to term the meeting as "positive". Silencing critics who had been loudly proclaiming since the Doha meeting that the 56-year-old bloc was "fractured and dying", member nations unanimously elected a new secretary-general after two and a half years – Nigeria's Mohammed Barkindo, who will take over from Abdalla Salem El-Badri for three years starting August 1 – in an apparent show of strength and unity.

Most importantly, OPEC seemed to convey the crucial message that the strategy it had adopted since late 2014, to allow members to keep pumping hard to defend global market share and eventually drive out high-cost, non-OPEC oil producers, was clearly working. Brent crude, the global benchmark, has been consistently trading around the $50 mark for the past two months or so – a remarkable recovery since plunging to a low of $25 in April.

"OPEC's policy is working fine and has led to the organisation maintaining its market share and driving markets towards stability and a smaller supply-demand gap," Suhail Mohamed Al Mazrouei, the UAE's Energy Minister said after the meeting.

In its post-meeting statement, OPEC said: "Having reviewed the oil market outlook for 2016, the conference observed that non-OPEC supply, in response to market dynamics, peaked during 2015 and started declining, with supply expected to further decline by 740,000 bpd in 2016. Today, crude oil [production] alone is lower by more than 1mn bpd from its peak at the beginning of 2015. Global demand is anticipated to expand by 1.2mn bpd after growing at 1.5mn bpd during 2015. This demand growth remains relatively healthy considering recent economic challenges and developments."

In a joint comment, Evelina Pagkalou and Andres Nolan, senior analysts at McKinsey Energy Insights, told this magazine: "Given the constraints inside OPEC in achieving co-ordinated action, an increase in oil prices will most probably come from a rebalancing of non-OPEC supply and demand. The underlying growth in demand for 2016 is expected to reach 1mn to 1.2mn bpd, and non-OPEC production is expected to decline by 1.1mn to 1.2mn bpd."

"McKinsey Energy Insights expects the market to balance on a fundamental level in early 2017. Forecasts by both OPEC and IEA support this picture, with the timing of the rebalancing varying by a few months," they added.

In comparison, OPEC's crude output decreased slightly, by 0.1mn bpd, to average 32.36mn bpd. As

↑ Saudi Arabia's Energy Minister, Khalid Al-Falih.

↗ Iranian Oil Minister, Bijan Zanganeh.

a result, preliminary data indicates that the global oil supply decreased by 0.73mn bpd in May to average 94.51mn bpd. OPEC also boosted exports by 1.7% in May, to 23.6mn bpd, maintaining its share of global markets, as Iraq increased output and Saudi Arabia pressed ahead with a policy to squeeze rivals.

Iran back at the table

Much of the relative success of the Vienna talks can be accredited to the participation of Iran, which had abstained from the failed April talks, insisting it had a right to hike oil production to regain export revenues, especially after years of crippling sanctions. The Islamic Republic has looked to reclaim market share since nuclear sanctions were lifted in mid-January, with Oil Minister, Bijan Zanganeh, stating that output is currently at 3.82mn bpd. He predicts Tehran will have around 5-6% of spare production capacity after reaching 4mn bpd by the end of the year.

Zangeneh echoed the sentiment that the outcome in Vienna was the best possible result, and hoped the recent trend of marginal improvements in prices continues, especially "as the gap between supply and demand is shrinking". He also believed it was a particularly good meeting for Iran, saying, "I think all [OPEC members] accepted [that] they cannot put pressure on others to change their ideas. And they accepted this reality in the market, and accepted the return of Iran to the market."

23.6MN

BARRELS PER DAY IN TOTAL OPEC EXPORTS IN MAY, SHOWING GROWTH OF 1.7% AND MAINTAINING ITS GLOBAL MARKET SHARE.

Zanganeh said that OPEC members should be more conservative about the level of production so as not to destabilise the market. "I believe all member countries are going to be more realistic," he added. "It means everything to all producers to stabilise the situation."

Saudi Arabia's charm offensive

A significant development that came to the fore during OPEC's Vienna meeting was how Saudi Arabia – with a new energy minister at the helm being directed by the ambitious Deputy Crown Prince Mohammed bin Salman – was seeking to lead the cartel into becoming the one that dominates the world's oil production and supply.

Intense diplomacy by the soft-spoken Falih at his first OPEC meeting – with his speech peppered by phrases such as "gentle approach", "no shocks" and "consensus" – even persuaded Vagit Alekperov, the billionaire chief executive of Russian energy giant Lukoil and a harsh OPEC critic, that the bloc is more alive than dead. "The fact that OPEC agreed on its new management shows they want to regain their co-ordinating role. The cartel will perform market management again," Alekperov, said following a separate meeting with Falih and Iran's Zanganeh in Vienna.

Falih, who in April succeeded veteran Ali Al-Naimi, was the first OPEC minister to arrive in Vienna. He met most of his colleagues on the sidelines, spent several hours with independent OPEC analysts, and held a long news conference with reporters. "If you want to call [OPEC] a talking shop, I have no problem with that. But I think it's going to do a lot more than talking. We are going to do co-ordination and co-operation [...] to achieve market objectives," Falih said.

Falih acknowledged that Riyadh realised it needs OPEC, after the debacle at the Doha talks, where

Antoine Rostand, senior advisor, AT Kearney's Global Energy Practice.

"ALTHOUGH OPEC FAILED TO REACH AN AGREEMENT ON PRODUCTION LEVELS, WE EXPECT THE MARKET TO REBALANCE ON ITS OWN, WITHOUT INTERVENTION. OIL PRICES MAY RECOVER MUCH SOONER THAN EXPECTED."

ROSTAND OF AT KEARNEY'S GLOBAL ENERGY PRACTICE.

the kingdom's then oil minister, Naimi, as per the directives of Prince Mohammed, insisted it would not agree to an output freeze deal without Iran at the table, jeopardising the future of the oil group.

"The markets can ultimately balance themselves but, as we have seen, when we rely on markets alone it is extremely painful for everybody," Falih said. "I think managing in the traditional way that we have tried in the past may never come again. We will not go with setting a price target for OPEC. But [we should be] co-ordinating strategies and trying to understand what each of us can and cannot do."

Despite the optimism generated at the Vienna meeting, tensions between OPEC member states – which began in November 2014 – remain. Back then, Saudi Arabia-coerced OPEC into deciding to keep on pumping oil at record levels, despite a drop in global oil prices. OPEC had an official production ceiling of 30mn bpd, but the target was effectively abandoned in December, allowing members to pump freely and adding to a global glut of oil.

The decision was seen as a strategy, led by Saudi Arabia, to retain market share in the face of rival non-OPEC producers. However, it has hurt the group's poorer members, the so-called 'fragile five' – Venezuela, Nigeria, Libya, Algeria and Iraq – which have pleaded before for an OPEC output cut, to no avail.

Oil prices have since started to recover as non-OPEC supply comes off the market. Whether OPEC has succeeded in rebuilding itself as a united organisation in this meeting remains to be seen, however.

"Although OPEC failed to reach an agreement on production levels, we expect the market to rebalance on its own, without intervention," an optimistic Antoine Rostand, senior advisor from AT Kearney's Global Energy Practice, told *Oil & Gas Middle East*. "Current market forces continue to lead to a reduction of supply from both shale and high-cost non-OPEC fields, and places the oil production of several OPEC countries — such as Nigeria, Libya, and Venezuela — under pressure. Even production increases in fast-growing OPEC countries are running out of steam. All of these signs are indications that the market will rebalance," he said.

"The market may rebalance and oil prices may recover much sooner than expected. Steep production declines, stemming from supply disruptions in Canada and Nigeria, as well as a lack of new projects in the pipeline globally, all point in this direction."

WORDS: INDRAJIT SEN

THE OFFSHORE ACE RIDES THE WAVE

Linh Austin, the man leading McDermott International in the region, talks about how long-standing relationships with major clients are helping the American EPC contractor to maintain a healthy order book in the Middle East, and discusses the company's resolve to work on – and win – even more key offshore upstream contracts

↑ McDermott has been operating out of its JAFZA headquarters for more than three decades.

McDermott International is one of the oldest Western engineering, procurement and construction (EPC) contractors to be operating in the region, and stands out from the multitude of industry competitors by virtue of its work for the regional oil and gas industry. The company bagged the number 11 spot in this magazine's annual rankings of the Top 30 EPC contractors (published in the June issue).

The Houston-based company, which has been operating in the Middle East out of its headquarters in JAFZA, Dubai, for more than 30 years, works on key offshore oil and gas projects for the regional giants. Recently, McDermott announced winning a large contract in the region from an unnamed upstream oil and gas operator for an offshore project. The scope of work includes engineering, procurement, fabrication, transportation and installation of offshore pipelines. Engineering and offshore mobilisation of McDermott's in-house vessels has commenced for this fast-track

Linh Austin, McDermott's VP of Middle East and Caspian operations.

assignment, with project completion expected by the end of 2016.

In an exclusive interview, Linh Austin, the vice president of Middle East and Caspian operations for McDermott, opens up about the company's expansion plans in Saudi Arabia, its projects in Qatar and Abu Dhabi, financial results, and the sort of oil and gas contracts the company is keen to secure in the future.

McDermott has shot up the list from number 18 to number 11 in *Oil & Gas Middle East* magazine's annual rankings of the Top 30 EPC contractors. As someone leading the company in the region, how does that make you feel?

The year 2015 proved to be a good one for us. McDermott began an aggressive turnaround phase before the market downturn, which played a pivotal role in our recent success. We booked significant backlog for our Middle East area through multiple contract awards in Saudi Arabia and Qatar. This includes a lump-sum award from Saudi Aramco under a new long term agreement (LTA), which was the largest award in McDermott's history in the Middle East.

Our longstanding relationships with clients in the Middle East, and intimate knowledge of field conditions and requirements, allows us to provide innovative solutions to execute offshore EPCI projects in the region. We were pleased with our performance in 2015 but have not relented in our efforts to make 2016 even more successful. We have secured a number of contracts this year and will continue to bid on upcoming tenders.

"WE ALWAYS STRIVE TO IMPROVE OUR PROJECT EXECUTION AND LOOK TO ACCELERATE DELIVERY WHEREVER POSSIBLE, IN ORDER TO SUPPORT OUR CLIENTS' PRODUCTION GOALS."

McDermott has been working on offshore projects for Aramco in Saudi Arabia for years now. Could you tell us about some of the other projects on which you have worked previously – and that you are currently working on – in KSA?

McDermott has been executing offshore EPCI

80%

THE AMOUNT OF NORTH FIELD GAS INFRASTRUCTURE MCDERMOTT HAS FABRICATED IN THE LAST 20 YEARS

projects for Saudi Arabia and the Neutral Zone for more than 50 years. During this time, we are proud to have achieved several industry and world records, such as for the installation of the world's longest 230kv subsea power cable, EPCI of Saudi Aramco's largest offshore platform using the float-over method, and installation of the longest and heaviest single-piece 115kv subsea cable in the Middle East.

We are making consistent progress on all of our current projects, with several projects ahead of schedule. For example, the lump-sum scope of the LTA award was able to commence fabrication activities ahead of schedule, and the 12-jackets project was fast-tracked, with 11 jackets now already installed, and the remaining one to be installed once we're given the window to do so.

We always strive to improve our project execution and look to accelerate delivery wherever possible, in order to support our clients' production goals.

McDermott recently completed the final installation of two oil production decks at the Zakum offshore project. ↓

McDermott recently opened its second fabrication facility in the Middle East in Dammam, Saudi Arabia. Tell us about this new offshore yard, and how it will help the company to meet its objectives in the kingdom.

We inaugurated the Dammam fabrication facility in February, which is one element of our overall strategy to increase our in-kingdom operations. We are also expanding our engineering capabilities in Saudi Arabia, and have opened a second office in Al Khobar as we continue to recruit and train more Saudi nationals.

McDermott supports Saudi Arabia's In-Kingdom Total Value Add (IKTVA) programme, and we have further expansions planned in the near future.

McDermott is pursuing major offshore projects in Qatar, for Qatar Petroleum and RasGas. What can you tell us about your work in Qatar and your contracts in the country?

Qatar continues to be a growth market for McDermott. Over the past 20 years, McDermott has fabricated more than 80% of North Field gas infrastructure. Presently we are nearing completion on the EPCI of a wellhead jacket in the North Field Alpha for Qatar Petroleum. Furthermore, we expect major EOR projects to be tendered out of Qatar in the near future, and we are confident of our prospects for upcoming work, based on our longstanding relationships with our clients, our ability to provide execution certainty, and our successful track record in offshore field developments for Qatar.

McDermott has been working with ADNOC subsidiary ADMA-OPCO for several years now, most notably on the Zakum offshore project. What plans do you have for further ADNOC projects in Abu Dhabi?

We recently completed the final installation of two oil production decks as part of the 4 Gas Injection project in ADMA-OPCO's Zakum West field. We anticipate that activity in Abu Dhabi will pick up in 2017-18, and believe we are well-positioned to take on multiple projects, including field life-extensions projects with significant brownfield modification scopes. With the right people, assets and technology, we are able to provide innovative solutions that work to minimise the downtime of production facilities, without compromising on our industry-leading performance in safety, and commitment to quality.

McDermott is making consistent progress on all of its current projects.

McDermott has a successful track record for offshore field developments in Qatar.

McDermott has registered a healthy financial result for Q1 2016, despite other construction companies catering to the oil and gas industry struggling to maintain profitability. What are your thoughts on the company's first quarter results, and to what would you attribute your insulation from the effects of low oil prices?
Our first quarter results reflect a positive start to the year, and it is clear that strong project execution across our entire portfolio has been a key driver in our operational profitability. McDermott began an aggressive turnaround phase in 2014, which included critical changes to our internal cost structure. Today, we believe we are more cost-competitive than ever, and will continue to scale our business to match customer demand, while maintaining our commitment to the highest standards in safety, quality and ethics.

How would you say McDermott's logistics and transportation capabilities in the Middle East are being boosted by its existing vessels? What new vessels are the company currently working on for this region?
In addition to McDermott-owned and -operated vessels, we currently charter over 65 vessels in the Gulf. Our Marine group has a strong talent pool from which to draw. They manage a versatile global fleet that stands ready to meet demands in the region and around the globe. We also have the capability to mobilise additional vessels to the Middle East from our global asset base, depending on future project requirements.

Is there anything else newsworthy that you would like to share with our readers?
The Middle East market is proving to be more resilient to the lower oil prices as bidding activity remains high, with outstanding and targeted projects valued at more than $6bn. However, as a consequence – and as expected – we are seeing more competition in the region, both in the form of aggressive pricing from our existing competitors, as well as from new entrants to the market. Despite this, we continue to build a healthy and robust backlog. Our discipline and project execution history has allowed us to maintain and grow our market leadership in both Saudi Arabia and Qatar.

National oil companies in the region are concentrating on maintaining production capacity, and we anticipate a large portion of projects in the foreseeable future to be brownfield, which we are well-positioned to execute. What our clients look for is certainty, which is something we are able to provide given our more than 50-year history of working in the region. In addition to our competitive offering, McDermott maintains a resolute commitment to safety, quality and ethics across all our operations. We recently celebrated 35mn man-hours of LTI-free operations in the Middle East, which is testament to our QHSES culture.

THE GULF'S SOVEREIGN DILEMMA

With oil prices still remaining subdued due to the oversupply, many GCC governments are drawing down assets from their once swelling sovereign wealth funds to plug budget deficits. Yet this is having a knock-on impact on global markets.

WORDS: SARAH TOWNSEND

"To withdraw or not to withdraw?" asks American University of Sharjah professor Dr Jorg Bley in a column for *Arabian Business* magazine about the present state of Gulf sovereign wealth funds (SWFs).

The multibillion-dollar funds have enjoyed strong growth in recent years but analysts now warn that growth is slowing as flat oil prices and low liquidity force governments to break into their investment vehicles.

Across the Gulf, evidence abounds of governments drawing down on SWF assets to plug budget deficits or otherwise stabilise national economies. The biggest oil-producing nations are under particular stress while commodity prices remain low — the International Monetary Fund (IMF) estimated that Gulf countries together lost more than $300bn of hydrocarbon revenues last year.

In particular, Saudi Arabia's foreign reserves fell to under $642bn in September from a high of around $731bn in August, ratings agency Moody's noted in a report last November. Around the same time the Saudi Arabian Monetary Agency (SAMA) reportedly withdrew between $50-$70bn from its SWF asset managers as it sought to liquefy assets. It also withdrew an estimated $1.3bn from European equities last year, according to analysts at Dubai's Nasdaq.

On April 1, Saudi Deputy Crown Prince Mohammed bin Salman outlined plans to create a $1 trillion mega-fund to help wean the kingdom off oil. It would include selling up to 5% of shares in Saudi Arabia's national oil company Aramco.

"IPOing Aramco and transferring its shares to [a] PIF [public investment fund] will technically make investments the source of Saudi government revenue, not oil," the prince was quoted as saying by *Bloomberg*. The share placement could happen as early as next year, he said.

Meanwhile, other SWFs have reportedly cashed in on some of their assets. Last October, Qatar Investment Agency (QIA) sold a 10% stake in German construction company Hochtief, valued at $615mn. It also announced stake sales in French construction giant Vinci and two London office buildings, and sold its stake in film production house Miramax to Qatari broadcaster BeIN Media Group in March.

The QIA is believed to have incurred losses of up to $12bn as a result of investments in Volkswagen, Glencore and Agricultural Bank of China — all of whose balance sheets were hit for a variety of reasons last year.

Saudi Arabia is planning to sell up to 5% shares of national oil giant Aramco .

The Kuwait Investment Authority (KIA) reportedly sold $30bn of assets in 2015. Abu Dhabi's Mubadala also made redemptions, however, it is understood that its decision last year to sell most of the assets of its commercial finance joint venture with General Electric (Mubadala GE Capital) to Wells Fargo was driven principally by GE's move to wind down its GE Capital business.

The Saudi Arabian Monetary Agency's (SAMA) net foreign assets — among the largest in the world — totalled $628bn in November.

UBS predicted last October that central bank and sovereign wealth fund assets would shrink by a total of $1.2tn by the end of the year. UBS Asset Management head of global strategy Massimiliano Castelli told Bloomberg at the time: "This is the beginning of a reversal in the trend we have seen of sovereign wealth funds and central banks accumulating assets."

> "THE PRIMARY PURPOSE BEHIND THE CREATION OF SWFS IN THE GCC WAS TO PROVIDE A SAFETY CUSHION FOR FUTURE GENERATIONS"

Moody's predicted sovereign outflows would be at least 25% higher in 2016 due to the decline in oil price. Its forecast has yet to be proven, however data provider eVestment published data in February showing that state funds pulled at least $46.5bn from asset managers in 2015 — greater than the sovereign outflows recorded at the height of the financial crisis.

"The fall in oil prices has affected the pace and volume of fresh fund inflows into GCC SWFs," says M R Raghu, senior vice-president of research at the Kuwait Financial Centre (Markaz).

"SWFs are typically long-term investors and are clear with the asset class exposures they require. However, the current environment, where liquidity is key, has forced them to re-evaluate their exposures to riskier asset classes such as private equity and long gestation vehicles such as infrastructure funds.

"GCC SWFs have either been liquidating their assets or re-orienting their portfolio towards liquid assets, [in part] to fund government deficits. This is especially true in the case of Saudi Arabia and Qatar."

A substantial portion of SWF assets is likely to be diverted into local investments, most likely through funds and external managers, says Fahd Iqbal, head of Middle East research at Credit Suisse. "The primary purpose behind the creation of SWFs in the GCC was to provide a safety cushion for future generations, given the heavy reliance the GCC economies have on oil. For instance, the bulk of ADIA's assets are in passive investments, with

Saudi Deputy Crown Prince Mohammed bin Salman says the Aramco share sale will greatly benefit the wider Saudi economy.

ADIA's assets will drop to $475bn at the end of this year, according to estimates by Fitch Ratings.

limited exposure to exotic and alternative investments," he says.

"As a result, most SWFs take a very conservative investment approach focussed on international diversification by region and asset class.

"SWFs are tasked with specific geographic mandates that determine where they are allowed to invest. There has historically been a tendency for those SWFs that can invest locally to increase allocations to local equity markets at times of deep distress.

"Such action serves two purposes: firstly, it allows long-term-focused SWFs to take advantage of short-term price dislocations, thus generating added growth for the fund itself. Second, it supports local markets by providing needed liquidity and acting as a signal of value to the broader market."

SWFs redeemed a significant amount of money from passive products in particular, the eVestment data shows. More than $7bn was withdrawn from passive funds offering global equity exposure in the Q4 2015, while SWFs increased their exposure to less liquid asset classes such as private equity and infrastructure.

This is reportedly having a knock-on impact on profitability at large investment houses, which include BlackRock, Aberdeen Asset Management

"IT IS YET TO BE SEEN HOW MUCH GCC SWFS WILL BE AFFECTED BY THE OIL PRICE DROP, SINCE COUNTRIES WORLD-WIDE, THE GCC INCLUDED, ARE ALREADY TAPPING INTO THEIR RESERVES."

and State Street, among others. The CEO of one large European asset manager told *The Financial Times* in February: "[State funds] have had a steep and very fast escape from the market. I am afraid it will continue."

Nasdaq's Advisory Services analyst Alexander Free tells *Arabian Business*: "SAMA was again among the top sellers across all European equities over the last quarter of 2015 [according to Nasdaq estimates], as QIA, KIA and the Abu Dhabi Investment Authority [ADIA] were also seen divesting their equity holdings across Europe.

"This selling impacts markets at a wider level as oil-dependent sovereign wealth funds play a major part in financial markets, providing both solid long-term positions in large corporations and supporting share prices via their demand.

"Therefore, selling could well contribute to higher volatility on equity markets, and may also affect the long-term shareholder stability of many European corporations as these investors typically have a very long-term investment horizon."

As long as the oil price remains at low levels, selling from oil-dependent SWFs should continue, he adds. Credit Suisse's Iqbal agrees: "When oil prices are high, GCC governments generate strong fiscal surpluses which are then channelled into SWFs.

"But when oil prices fall below the fiscal budget break-even oil price, governments will dip into their reserves to fund the deficit.

"The oil price drop over the past year has been significant enough to warrant potentially substantial redemptions by SWFs that have exacerbated market volatility and negatively affected currencies."

US bank Morgan Stanley predicted last year that if sovereign redemptions continue at the same pace in 2016, listed asset managers could suffer a 4.1 percent fall in earnings per share.

Nigel Sillitoe, CEO of Insight Discovery.

Kuwait's SWF manages assets of about $592bn.

However, Nigel Sillitoe, CEO of Dubai-based market intelligence firm Insight Discovery, says the very size, scale and breadth of SWF portfolios mean they will continue to be perceived as an important investor group.

"Given the deficit situation of [many GCC states] over the next few years, SWFs will be drawing down their reserves," he says. "Also, SWFs have been aggressive investors in the form of direct investments in emerging markets such as China, India, Africa and Latin America. These factors might lead to a significant slowdown, which in turn might hurt emerging markets.

"However, while it's been widely reported that last year was something of a blood bath for many global asset management companies, who lost some sizeable mandates, it mustn't be forgotten that SWFs in the GCC manage well in excess of $2 trillion.

"With assets of this magnitude, GCC SWFs will continue to be courted by asset management companies, perhaps even more so now that certain countries have announced plans to launch new SWFs."

Reuters reported in January that Saudi Arabia intends to create a new sovereign fund to manage part of its oil wealth and diversify investments, and has invited proposals from investment banks and consultancies.

James Dervin, managing director of Deloitte Corporate Finance, says: "In terms of trends, it can be misleading to lump together 'Middle Eastern SWFs'. The response of the respective SWFs to the current environment is influenced by many different factors, including their respective national fiscal positions and the particular SWF's maturity and degree of autonomy, which varies significantly even within the GCC.

"I'm not aware of any exit from certain markets by any one fund — on the contrary, there is evidence of new investment [such as entries into Brazil, China, France and Spain by Mubadala in the past four months].

"There was, however, some monetisation of highly liquid assets towards the end of 2015 and early 2016 by some, but my understanding is that these are fairly negligible in the context of the overall value of assets under management."

Most GCC funds provide little information on their investments or performance, but the latest data from the US-based Sovereign Wealth Fund Institute (SWFI) shows that the five largest SWFs

$25BN

SAUDI ARABIA'S TARGET REVENUE FROM NON-OIL INDUSTRIES THIS YEAR.

— in Norway, Saudi Arabia, China, the UAE and Kuwait — each hold between $500bn and $900bn and collectively manage at least three-quarters of total SWF assets.

GCC SWFs are estimated to manage about 37% of total assets. ADIA holds about $773bn, while Saudi Arabia's SAMA has about $632bn (down from an estimated $671bn in mid-2015), KIA has about $592bn and QIA holds about $256bn.

Dervin says any rebalancing by Gulf SWFs in the coming year will vary depending on the composition of the existing portfolio, maturity of the institution and each funds' mandates — "the trade-off between pure maximisation of returns versus a more traditional long-term investment approach".

GCC governments may be raiding their state funds at a faster rate than in the past, but, for now, there is plenty more where that came from.

INDUSTRY INNOVATIONS

New subsea connector

CONNECTOR GE Oil & Gas has completed the qualification of its upgraded 36kV high voltage Wet Mate connector. MECON WM 36/500 offers more reliability in subsea power system connections, and can be used with equipment such as transformers, switchgears, variable speed drives and motor loads. By improving the reliability of subsea power transmission and distribution, MECON WM 36/500 supports the ambitions of oil and gas operators to develop cost-efficient subsea production and processing facilities.

NEW LAUNCHES

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

DIGITAL CHARTING SYSTEM

Braeden Engineering and Consulting has announced the introduction of its new Digital Charting System 1200 series (DCS-1200). The DCS-1200 records and charts data from various types of sensors and performs tests based on parameters input by the user. While this technology has a multitude of uses, including measuring temperature, torque, pH and more, its primary function is performing pressure tests. The DCS-1200 package includes a 12.1" touch panel PC equipped with Windows 7 Professional OS and Braeden's customisable user-friendly charting software, capable of displaying multiple charts with multiple pens and simultaneously running tests based on parameters set by the user.

RETRIEVABLE BRIDGE PLUG

Australia's Peak Well Systems has announced that it has reached advanced stages in the development programme for its SIMULTRA range of retrievable bridge plugs with the successful ISO-14310 V0 gas testing of the 4.5" tool in 15.1lb API pipe at an industry-leading 10,000psi and 175ºC specification. The results of the testing were very impressive, showing zero bubble gas capability over a complete test cycle that exceeded 24 hours in total duration. The SIMULTRA range incorporates MetaPlex technology, a hybrid metal-elastomer seal that delivers both exceptional performance and improved recovery reliability.

INNOVATIVE FLOW METER

McCrometer's innovative V-Cone flow meter conforms to the new industry standard ISO 5167 Part 5: Cone Meters, which helps engineers make more informed decisions about cone flow meters. McCrometer's V-Cone meter conforms to the American Petroleum Institute's API 22.2 Testing Protocol for Differential Pressure Flow Devices. It also is certifiable to local or regional standards. The new ISO 5167-5 standard confirms that uncalibrated cone meters perform at no better than ±5% accuracy. Laboratory calibrated cone meters, such as the V-Cone meter, are accurate to ±0.5%, however, representing a significant difference in performance.

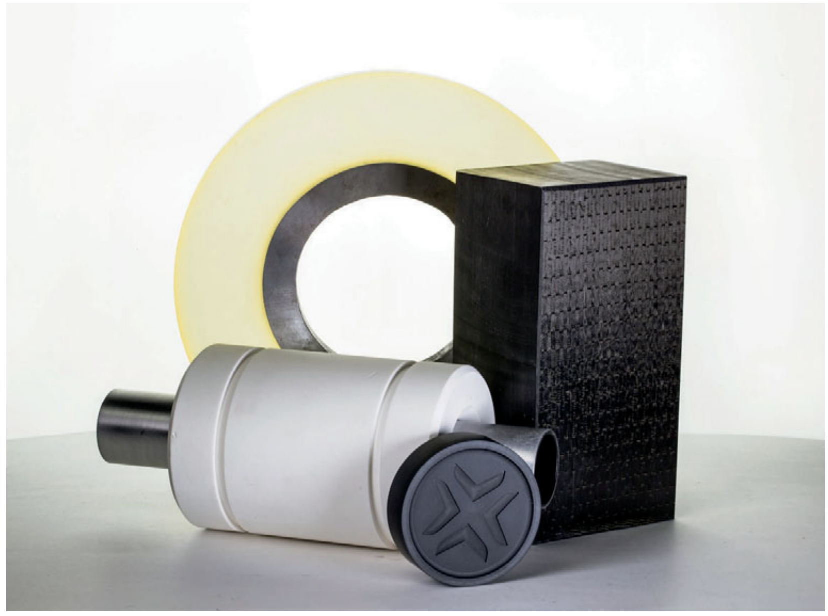
Specialist Services and RedGuard in JV

Two companies join forces to supply blast-resistant and ballistic modules

JOINT VENTURE Specialist Services Group has announced a joint venture with RedGuard to provide blast-resistant and ballistic modules to the oil and gas, petrochemical and defence industries in the Middle East, Europe and southeast Asia. The new joint venture – RedGuard Specialist Services – combines the best assets and talents of both parent companies. The US-based RedGuard has the world's largest fleet of ready-to-lease blast-resistant buildings, and extensive experience in the provision of field-tested, customised modules for blast and ballistic applications. Specialist Services, meanwhile, has the largest Zone 1 offshore and accommoda-tion modular fleet, headquartered in Dubai and with rental hubs in Europe and the far East, all supported by extensive design and engineering capabilities in its manufacturing facilities. RedGuard Specialist Services will be able to immediately address the need for blast-resistant, ballistic and zoned modules throughout the eastern hemisphere.

THREE REASONS TO BUY

Materia, Inc introduces new Proxima thermoset resin portfolio for the subsea sector



1 RELIABLE AND ECONOMICAL

Proxima resins provide reliable, and economical solutions that solve major technology challenges in subsea thermal insulation, subsea buoyancy and downhole tools. Proxima resins are easy to process due to their inherently low viscosity and controlled cure profile.

2 TEMPERATURE RESISTANT

Proxima HTI resins for high temperature subsea thermal insulation provide an effective thermal barrier between high temperature flowlines and seawater. Proxima polymers can be rapidly and safely applied in the factory or the field, and are ideal for use in extreme environments.

3 BUOYANCY APPLICATIONS

Proxima STR thermosets are designed for use in syntactic foams in subsea buoyancy applications. The lightweight materials withstand the hydrostatic pressures of deepwater and ultra-deepwater environments while providing buoyant support to subsea components.

SELLING POWER

AnTech's sales manager, Tim Mitchell, on the launch of wellhead outlets for low-cost operations

WHAT IS THIS NEW PRODUCT?
In response to customer feedback on AnTech's Type-C wellhead outlet, which has been in the market since 2013, the company has launched two further outlets, Types CB and CC. Each has been designed to suit various working environments, including pressures ranging from 10,000 to 15,000psi, and temperatures from -60°C to +160°C.

HOW IS IT COST-EFFECTIVE?
The Type CB and CC Wellhead Outlets fulfil the demand of high technical specifications and the rippling effect of the low oil price, whilst meeting tightening budget constraints. Driven by customer feedback from key clients, the company has designed, tested and manufactured both variations to high standards.

HAVE YOU DONE A FEASIBILITY STUDY?
AnTech has reviewed its current material costs and utilised new manufacturing processes. The new Type FC outlet incorporates a 3D-printed smart system for handling and storing up to four fibres. The unit is suitable for stringent wellsite environments, as it is certified to both API 6A and NACE standards. It can also hold pressures of up to 10,000 psi.

Rockwell collaborates with Cisco

The new alliance promises to bring IT best practices to the plant floor

TECHNOLOGY Cisco and Rockwell Automation have collaborated to develop a deep-packet inspection (DPI) technology for use in industrial security appliances. An industrial firewall with DPI technology extends visibility down to the plant floor, enables logging of traffic patterns, and provides the opportunity for informed decision-making. Users can log a range of data for any network connection or protocol. While IT managers previously had this visibility, now both plant and IT managers can use this technology to more securely manage network traffic from the plant to the enterprise. When used between industrial and cell/area zones in a converged plantwide ethernet (CPwE) architecture, a plant-floor application using DPI technology has the ability to instruct a firewall to deny firmware downloads to a controller. This guards against tampering with firmware, as only an authorised user would be able to conduct the download.

WHAT WILL EMERGE FROM THE DEAL:

- Cisco and Rockwell Automation have developed a deep-packet inspection (DPI) technology for use in industrial security.
- Users can log data for any network connection or protocol, including where the traffic is coming from, where it is going, and with which application it is associated.
- Both plant and IT managers can use this technology to more securely manage network traffic from the plant to the enterprise.
- Manufacturers can benefit from the sharing of proven security best practices from the IT space, which are now possible for the plant floor and industrial environments.
- DPI technology will be brought to market in industrial network devices from both Rockwell Automation and Cisco in 2016.

PRODUCT FOCUS

Siemens ships first gas turbine package to Abu Dhabi's Zirku Island oilfield

The Siemens Industrial Trent 60 is the most advanced aeroderivative gas turbine (AGT) available today.

It can generate up to 66MW of electric power in simple-cycle service.

It also offers operators fast delivery and installation times.

At 42% efficiency, the Industrial Trent 60 has established a new benchmark for fuel economy and fuel-burn cost savings.

AGTs are compact, lighter-weight designs that are ideally suited for power generation in the oil and gas industry.

WHERE CAN I BUY IT?

For more information visit: www.e-inst.com or e-mail: dkelly@e-inst.com.

ALSO IN STOCK

PURGEXTRA TUBE AND PIPE PURGING SYSTEM

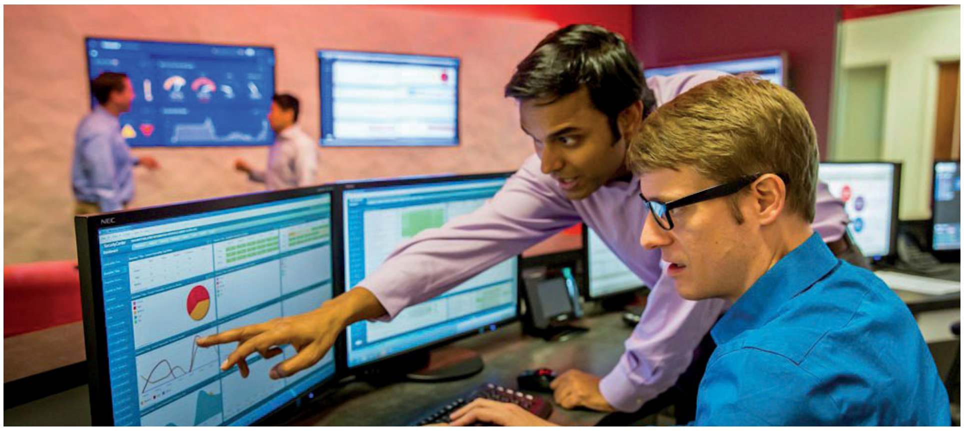
PurgExtra is the latest weld purging product released by Huntingdon Fusion Techniques (HFT) for the purging of tube and pipe joints. This range complements the PurgElite series, but has extra purge gas inlets and corresponding exhaust ports. When welding joints where interpass temperature control is necessary, PurgExtra allows extra argon gas into the welding zone, which helps with cooling, and with the removal of additional gases that are expelled by the outgassing that occurs as the metal is being heated.

INTERTEC'S CORROSION-RESISTANT ENCLOSURE

Intertec has developed a version of its Multibox outdoor enclosure with nuts, bolts, clasps, hinges and other accessories fabricated entirely from glass fibre reinforced polyester (GRP). Intertec's Multibox is a two-part enclosure that is available in nine standard sizes, from 25 to 277 litres (0.88 to 9.78 cubic feet). Intertec manufactures its enclosures using high-performance GRP, making them ideally suited to ultra-corrosive environments. The GRP sheet material used in the enclosure's construction has a very high thermal resistance compared to metal, with an efficiency more than 1,000 times greater.

Mideast IoT business unit for HPS

Honeywell Process Solutions aims to help customers benefit from the IIoT



WHAT IS HPS'S GOAL?

HPS seeks to help Middle Eastern manufacturers harness the Industrial Internet of Things (IIoT).

WHO IS HEADING THE NEW UNIT?

Andrew Hird has been named vice president and general manager of HPS's new Digital Transformation unit.

WHAT WILL THE NEW UNIT OFFER?

The offering includes DynAMo alarm, Industrial Cyber Security Risk Manager, Assurance 360, and Honeywell Pulse.

DIGITAL Honeywell Process Solutions (HPS) has established a new business unit to help Middle Eastern manufacturers harness the Industrial Internet of Things (IIoT) and more rapidly deploy technologies that will allow them to better manage and analyse data, making their operations safer, more reliable and more efficient. "Since HPS's introduction of the modern automation control system, we have helped plants and manufacturing sites in the Middle East and around the world use an increasing amount of data to solve customers' productivity and safety challenges," said Vimal Kapur, HPS president. Andrew Hird has been named vice president and general manager of HPS's new Digital Transformation unit and will report to Kapur. Among HPS's technologies that help operators prioritise and manage a growing amount of operational data are DynAMo alarm and operations management; Industrial Cyber Security Risk Manager, which proactively monitors and manages cyber risk for industrial environments; Assurance 360, a multi-year co-operative service arrangement to maintain, support and optimise the performance of Honeywell control systems; and Honeywell Pulse, a mobility app that allows plant managers to monitor real-time operations from a smartphone.

UKRAINE'S CENTRAVIS ENTERS ABU DHABI

Centravis pipes have been pre-qualified by ADCO

Centravis Production Ukraine has been pre-qualified by the Abu Dhabi Company for Onshore Petroleum Operations (ADCO) to supply seamless stainless pipes of all grades. ADCO also approved the company for instrumentation tubing last year. "Our strategy is to [offer] both high value-added products like instrumentation tubing, and high-volume products like piping," said a senior executive from the firm. "We are coming to the markets that have traditionally been dominated by our competitors. We must prove that our tubes and pipes are not only competitive commercially, but also meet the strict requirements of the leading local end-users. The latest approval by ADCO for piping is another significant step forward that Centravis has achieved within its strategy for the development of pipes for oil and gas applications."

Bibby Offshore grows business

Company announces a move into offshore wind cable installation

CABLING Bibby Offshore is moving into the offshore wind array cable installation market. The company has purchased a power cable lay carousel from Ecosse Subsea Systems (ESS), which will enable Bibby Offshore to lay power cables for offshore wind projects from its vessels. Bibby Offshore and ESS have also entered into a strategic alliance by way of a framework agreement, which will see Bibby Offshore provide commercial acumen and subsea project management and engineering experience, while ESS provides trenching expertise. The two companies will collaborate on technologies and working methods that will reduce risk and lower project costs for clients. Bibby Offshore's entry into this new market complements Bibby HydroMap's offshore survey capability, and Bibby Marine Services' recent investment in a new-build 'walk to work' service operation vessel, the Bibby WaveMaster 1. Fraser Moonie, chief operating officer of Bibby Offshore, said: "Our entry into the cable lay market [...] strengthens our renewables offering in the North Sea." Mike Wilson, managing director of ESS, added: "This will enable us to tackle much bigger projects and clients, with the opportunity to use a genuine UK-owned and -operated supply chain in this sector."

Fine Tubes wins major contract in Kuwait

The UK-based company has been awarded approved manufacturer status by Kuwait Oil Company (KOC)

TUBING Fine Tubes, a UK-based manufacturer and supplier of precision tubes for critical applications, has been selected as an approved manufacturer of impulse piping and tubing for the Kuwait Oil Company (KOC). The approval will help Fine Tubes expand its range of customer approvals in the Middle East and North African (MENA) region. The company has completed several oil and gas projects in the GCC, including tubing for the Barzan Gas Field in Qatar, Zakum Oil Field Development in the UAE, and specialist work for Shell Majnoon in Iraq.

PRODUCT FOCUS

Honeywell launches MicroRAE, a wireless, four-gas portable detector, to facilitate safer operations across regional industries

Monitors hydrogen sulfide, carbon monoxide, oxygen and combustible gases in its four-gas configuration, and also has a sensor configuration for hydrogen cyanide.

For customers without a wireless network, MicroRAE offers a way to start experiencing the benefits of real-time.

The unit can switch from Bluetooth to WiFi or mesh wireless communications as needed.

For customers with a WiFi or mesh network, MicroRAE will extend their capabilities by ensuring continuous wireless coverage.

Enables a man-down rescue or plant egress to be carried out with greater confidence and better outcomes.

WHERE CAN I BUY IT?

E-mail Honeywell Industrial Safety's Masoud Abdulla: Masoud.Abdulla@honeywell.com.

SELL IT TO ME

Emerson's vibration analyser has now been certified for use in explosive dust environments

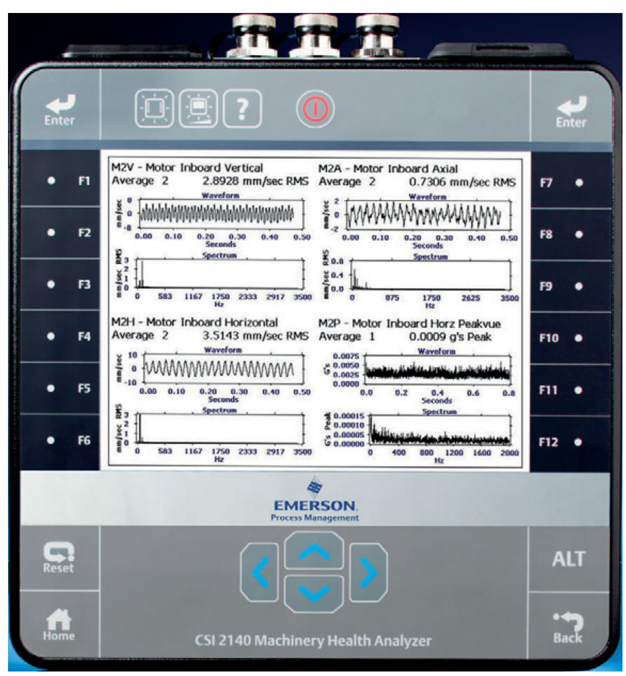
ACCREDITED
Emerson's CSI 2140 Machinery Health Analyzer has been certified for Class II, Division 2, Groups (F, G), making it the only portable vibration analyser on the market today that can be used in hazardous combustible dust environments.

SUITABLE FOR HAZARDOUS AREAS
Emerson's CSI 2140, which is already ATEX and IECEx Zone 2, and Class I, Division 2 Groups (A, B, C, D) certified, is approved for use in most hazardous industrial areas in the US and Canada. The CSI 2140 provides an early indication of bearing and gearbox defects before they can lead to machine outages. Its PeakVue signal processing methodology cuts through the complexity of machinery analysis to provide a simple, reliable indication of equipment health.

SAFETY ASSURANCE
"Emerson is committed to helping our customers with safety concerns," said Tom Nelson, Emerson's CSI 2140 senior technology manager. "With all of its safety certifications, customers can be confident using the CSI 2140 with most types of equipment in hazardous environments."

COVERS DIVERSE SECTORS
Class II, Division 2 certification covers a range of industries, from grain processing and food production to oil and gas, chemical manufacturing, recycling facilities, and coal-fired power plants.

CERTIFIED RANGE
Emerson Process Management's CSI range of Machinery Health Monitor products now has an IEC 61508:2010, Safety Integration Level (SIL) certification, Level 1, making them suitable for use in delivering reliable protection monitoring in environments such as steam and gas turbines in power plants, critical refinery assets, nuclear industry critical assets, and other safety-critical applications. The CSI range provides insight into the health of critical assets, with both protection and prediction in a single chassis.



ON THE MOVE

Anwar Assal
MENA region manager
Decom North Sea

AccessESP has appointed Anwar Assal as Middle East and North Africa region manager. Based in Dubai, Assal will be responsible for developing and enhancing AccessESP's relationships across the region. Assal has 20 years of well completions experience – 15 years with Schlumberger and five years with Baker Hughes – and experience working in Africa, Europe and Asia.

Alexander Horch
Head of development
HIMA

Alexander Horch is the new head of development at HIMA Paul Hildebrandt GmbH. Horch will help HIMA continue to develop its safety automation leadership. He also plans to optimise the development processes with regard to long-term product lifecycles, and to tap new application areas. Horch comes to HIMA from the energy and automation group ABB.

Stuart Broadley
Chief executive officer
Energy Industries Council (EIC)

The UK's Energy Industries Council (EIC) has announced the appointment of Stuart Broadley as its new CEO. Broadley boasts over 20 years of global energy services experience, and joined the EIC from Hoerbiger. His first event as CEO was EIC Connect Middle East, the EIC's supply chain exhibition and conference, held in Abu Dhabi in May.

Suresh Bollapragada
VP – Systems Engineering
DarkMatter

DarkMatter has appointed Suresh Bollapragada as vice president of systems engineering, where he will be responsible for the security of communication platforms. Bollapragada has over 20 years of experience in software and system engineering from a number of blue chip technology companies, with his expertise encompassing security technology and networking. He possesses credentials in system software, networking, ARM reduced instruction set computing and systems-on-chips architectures, as well as end-to-end products. Prior to joining DarkMatter, Bollapragada was senior director of engineering in Qualcomm's chipset division in San Diego, US.

Nouredine Bouterfa

Appointment of the Month

Algeria's new Energy Minister

As part of a cabinet reshuffle in June, Algerian President Abdelaziz Bouteflika named new energy and finance ministers, as the OPEC member tries to cope with a sharp fall in oil and gas earnings that have placed increasing pressure on its finances. Nouredine Bouterfa, the head of state power firm Sonelgaz, was named as the new Energy Minister, replacing Salah Khebri, said a statement carried by state media. No reason was cited for the changes, but the reshuffle comes as Algeria struggles to revive its economy and boost oil and gas production, with divergent views over how hard to push for foreign investment and for domestic economic reform. The North African state has taken some measures to adapt to falling income, including raising subsidised fuel and electricity prices, cutting back on infrastructure projects, and trimming budget spending. The oil and gas sector still accounts for 60% of Algeria's budget and nearly 95% of exports.

JOBS

NOTICE BOARD

The latest jobs available in the oil and gas industry

SAUDI ARAMCO, SAUDI ARABIA
Turnaround and Shutdown Engineer
The successful candidate will hold a bachelor's degree in mechanical engineering and should have 10-15 years of experience in the the oil and gas sector in the fields of plant maintenance, turnarounds, and commissioning.

PETROFAC, DUBAI, UAE
Operations Manager - Offshore Projects
Reporting to the projects director, the ideal candidate is an engineering graduate with experience in executing offshore projects from the contractor's side. Experience in fabrication of topsides and jackets will be considered a plus.

SAUDI ARAMCO, SAUDI ARABIA
Investment Advisor
Aramco is looking for a candidate with five to 10 years of experience in business development, mergers and acquisitions, and in specific venturing activities, such as commercialisation, spin-offs or joint venturing.

Iran promotes NIOC finance director to become new MD

CAREER NEWS

PROMOTION Iran has appointed Ali Kardor to lead the state-owned National Iranian Oil Company (NIOC), promoting him from the role of finance director, as the country boosts its crude output and seeks more than $100bn in investment to revive its energy industry.

Kardor replaces Roknoddin Javadi as managing director of NIOC, the oil ministry's *Shana* news service reported, citing a decree that was signed by the country's Oil Minister Bijan Namdar Zanganeh. *Shana* also reported that Kardor would gain a seat on the company's board, but gave no reason for the change in management.

As NIOC's managing director, Kardor will need to solicit bids and award contracts to various partners that will be able to provide finanicial and technological investments aimed at expanding Iran's crude production, and build advanced refineries and chemical plants.

STATE-OWNED NIOC HAS PROMOTED ALI KARDOR FROM THE POSITION OF FINANCIAL DIRECTOR TO BECOME ITS MD, REPLACING ROKNODDIN JAVADI.

Services provider AlMansoori announces three key appointments

MANAGEMENT The Abu Dhabi-based oil and gas services provider AlMansoori has strategically enhanced its senior management team with the appointment of three key personnel to its operations. The new additions to the team include Mousa Kiwan, who has been appointed as corporate supply chain manager for AlMansoori Specialized Engineering, as well as Erhan Saygi, who has been named as marketing and integrated service manager for AlMansoori Petroleum Services (AMPS), and Peter Henderson, who has been named general manager of the AlMansoori Petroleum Industries (AMPI) subsidiary, Global Chemical Company.

Global Maritime appoints a new regional manager for Asia Pacific

ASIA PACIFIC Global Maritime Consultancy & Engineering, a provider of marine warranty, dynamic positioning and engineering services to the offshore sector, has appointed Anna Keen as regional manager for Asia Pacific. Keen, who previously held a management role at Global Maritime Mooring Group, will be responsible for bringing increased cohesion to Global Maritime's Asia Pacific operations and driving new business in the region. Keen's 13-year career includes holding the position of HR manager, APAC, for Viking SeaTech, and finance and project administration roles at Programmed International and Frontier Drilling USA.

OPINION

A timely step in the right direction

The aim of the UAE government's new companies law is to boost the country's development as a centre for international commerce, according to Mojahed Al Sebae

"SHOULD ANY COMPANY FAIL TO COMPLY WITH THE PROVISIONS OF THE NEW LAW, THAT COMPANY WOULD BE CONSIDERED AS DISSOLVED."

About the author
Mojahed Al Sebae is a partner at Galadari Advocates & Legal Consultants. He has extensive experience in commercial, corporate, real estate, employment and litigation matters.

Following several years of discussions, considerations and preparations, the UAE's new Commercial Companies Law No. 2 of 2015 (the New Law – all the articles referred to hereinafter are of the New Law) was issued on 25 March, 2015 and came into effect three months later (the effective date), repealing the old UAE's Commercial Companies Law No. 8 of 1984 (the Old Law).

The UAE government intends that the New Law will help the UAE to develop into a leading centre for international commerce, by positioning it as an eminent proponent of shareholder protection, good corporate governance, and high levels of corporate and social responsibility. It aims to provide up-to-date regulations for the corporate landscape and the investment community, which will stimulate investments and protect investors.

Although the New Law maintains the cornerstones of the Old Law, it introduces some fundamental provisions that must be observed carefully by existing companies and investors, as well as by those considering setting up companies or investing in the UAE. According to Article 374, all commercial companies operating in the

UAE are required to adjust their positions in compliance with the provisions of the New Law within a maximum period of one year from the effective date.

The legislator has exempted companies that are fully owned by the government, and companies operating in the oil and energy field in which the government's share is not less than 25% of its share capital, from the provisions of the New Law. This aims to offer more flexibility to companies owned (either entirely or partially) by the UAE federal government or the local government of any of the emirates.

The New Law is also unlikely to have any major negative impact on existing joint venture arrangements, because the majority of the incorporated joint ventures are incorporated as limited liability companies.

Other updates include imprisonment penalties in certain cases, such as providing misleading information to the competent authorities, breaching confidentiality, overvaluing shares in kind, distributing profit in violation of the New Law, or concealing the true financial position of the company.

There are several new financial penalties that companies and their management need to observe. These include:

- the failure to disclose to any shareholder or partner any of the minutes of the shareholders' meetings, the company's records or documents;
- a chairman of a listed company failing to call for an annual general meeting within the period stipulated under the law;
- the chairman of a listed or limited liability company failing to convene a general meeting if the losses of such companies reach half of its share capital;
- a daily penalty for a business that does not amend its memorandum of association and articles of association in compliance with the provisions of the New Law within the one year period from the effective date (Article 357);
- a penalty imposed on any person who may, in bad faith, assess the value of the in-kind shares provided by the founders or the shareholders in excess of their actual value. This covers not only a possible fine but also a possible custodial sentence.

Mojahed Al Sebae.

There are only a few months left before the expiry of the period granted for companies incorporated and operating under the Old Law to comply with the provisions of the New Law. The period will expire at the end of June 2016, although it could be extended if a resolution is issued by the Cabinet based on a recommendation from the UAE Minister of Economy.

Should any company fail to comply with the provisions of the New Law, that company would be considered as dissolved, in accordance with the provisions of Article 374(2).

The significant amendments made by the New Law, and the new provisions introduced relating to the legal framework governing commercial companies in the UAE, are likely to assist the New Law to achieve its objectives. However, some provisions of the New Law will not achieve their objective until all the relevant regulations, rules and resolutions required to implement the new provisions are issued by the other relevant authorities, such as the Ministry of Economy and the Authority.

In the meantime, it is extremely important for all existing companies and their shareholders and managers in the UAE to carefully review the provisions of the New Law and familiarise themselves with the various obligations it imposes, and to take all the necessary steps required to amend their memorandum of associations and articles of associations appropriately within the stipulated timeframe.

KOC – North Kuwait Jurassic Oil and Gas Field Development

Since the shutdown of operations in the Divided Zone in early 2015, the Kuwait Oil Company (KOC) has been seeking alternative solutions to increase the country's oil output and meet the four million barrels per day (bpd) target by 2020. With this initiative, KOC decides to develop four oil and gas fields in the country's northern and western regions: West Raudhatain, East Raudhatain, Sabriyah and Umm Niqa.

CONTRACTORS

Contract Type	Pre-Qualified	Bidders	Awarded
EPC	• Al-Rashed Group • Processes Unlimited International Inc. • Al Khorayef Commercial Company • Consolidated Contractors International Company (CCIC) • Saipem • SNC Lavalin • Gulf Drilling and Maintenance Company • Schlumberger • China Petroleum Engineering & Construction Corporation • Daewoo Engineering & Construction • GS Engineering & Construction • JGC Corporation • Samsung Engineering Company • ABB • Technip • Tecnicas Reunidas • SK Engineering & Construction • Spetco International Petroleum Company	• Al Khorayef Commercial Company • Schlumberger • Spetco International Petroleum Company	• Schlumberger
FEED	–	–	Fluor Corporation

FAST FACTS

Name of Client
KOC – Kuwait Oil Company
Estimated Budget ($ US)
1,300,000,000
Facility Type
Oil & Gas Field
Sector
Oil
Status
EPC ITB
Location
Northern Kuwait
Project Start
Q1 2012
End Date
Q2 2018
Last Updated
8 June, 2016
FEED CONTRACT
Fluor Corporation
Main Contractor
Schlumberger
Award Date
Q3 2016

PROJECT SCOPE

The project will be divided into three packages; by the end of development, each package will produce 40,000 bpd and 300 million cubic feet a day (cf/d) of sour gas. Each package will also include the following:

Package 1 – West Raudhatain field includes:
- Crude export and off-spec crude systems,
- Effluent water treatment,
- Inlet and gas-oil separation systems,
- Oil treatment,
- Process gas compression,
- Sour gas treatment and export,
- Vapour gas recovery compression systems,
- Common utility as well as supporting systems for the crude section.

Package 2 – East Raudhatain field includes:
- Molten sulfur transportation and associated systems,
- Sulfur recovery unit,
- Associated facilities.

Package 3 – West Sabriya and Umm Niqa field:
- Gas production capacity for 425 million cubic feet of gas
- Associated facilities.

PROJECT STATUS

Date	Status
Sep 2014	Flour is awarded the FEED contract.
Aug 2015	After exploration KOC discovers four new oil fields in the northern and western region of Kuwait. KOC plans to develop these oil fields to greatly expand oil production output.
Aug 2015	-Schlumberger Oilfield Eastern ltd -China Petroleum Engineering & Construction Corporation -Daewoo Engineering and Construction -GS Engineering & Construction -JGC Corporation -Samsung Engineering Co -ABB -Technip - Spetco International Petroleum
Aug 2015	Prequalified companies include: -Saipem -SNC Lavalin -Al Khorayef Commercial Company -Al-Rashed Group -Consolidated Contractors Company (CCC), TAV and Arabtec -Processes Unlimited International Inc -Gulf Drilling and Maintenance Co
Aug 2015	KOC tenders invitations to bid for the following packages: West Raudhatain, East Raudhatain, and Sabriyah & Umm Niqa. Bidding companies may only be awarded one contract. Bidding closes at the end of September 2015.
Sep 2015	KOC is adding Tecnicas Reunidas and SK Engineering & Construction to the prequalified bidders list.
Nov 2015	Schlumberger, Al Khorayef and Spetco are the three lowest bidders on all three packages; Schlumberger bid: -$1.4bn for Package 1 (West Rawdatain) -$1.4bn for Package 2 (East Rawdatain) -$1.5 bn for Package 3 (West Sabriya & Umm Niq)
Jan 2016	KOC is re-issuing the Invitations to bid for Package 1 (West Rawdatain) and Package 2 (East Rawdatain) in order to achieve a higher number of bidders for this project.
Feb 2016	This will allow Schlumberger to bid on Package 1 (West Rawdatain) and Package 2 (East Rawdatain) after they were awarded contract Package 3 (West Sabriya & Umm Niq).
Jun 2016	The bids for Package 1 and Package 2 are still being evaluated. KOC is still expected to award the remaining EPC contract packages in August 2016.

Ongoing and upcoming projects

Information is supplied by DMS Projects

GCC GAS – JUNE 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	Abu Dhabi	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	Abu Dhabi	Gas Processing	50,000,000	Construction	Q2 2015
ADMA-OPCO – Nasr Full Field Development – (Overview)	UAE	Abu Dhabi	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
BP – Block 61 – Khazzan Gas Fields Development – Phase 2	Oman	Al Dahirah	Gas Field Development	5,000,000,000	Design	Q4 2020
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

Project	Country	City	Facility	Budget	Status	Completion Date
KGOC – Wafra Central Gas Utilization Project	Kuwait	Wafra	Gas Processing	1,000,000,000	FEED	Q1 2018
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

Project	Country	City	Facility	Budget	Status	Completion Date
Saudi Aramco – Duba-1 Gas field	Saudi Arabia	Red Sea	Gas Field	25,000,000,000	Feasibility Study	Q3 2016
Saudi Aramco – Fadhili Gas Plant – Main Processing Facilities (Package 1)	Saudi Arabia	Eastern Region	Gas Treatment Plant	2,500,000,000	Engineering & Procurement	Q! 2021
Saudi Aramco – Fadhili Gas Plant – Offsites & Utilities (Package 3)	Saudi Arabia	Eastern Region	Gas Field	2,000,000,000	Engineering & Procurement	Q1 2021
Saudi Aramco – Fadhili Gas Plant – Sulphur Recovery Unit SRU (Package 2)	Saudi Arabia	Eastern Region	Gas Treatment Plant	2,500,000,000	Engineering & Procurement	Q2 2021
Saudi Aramco – Fadhili Plant (Overview)	Saudi Arabia	Eastern Region	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	Engineering & Procurement	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	Ad-Dahirah	Natural Gas Liquefaction (NGL)	20,000,000,000	Construction	Q3 2019
Takreer- Hamriya Jetty and Pipeline Network Project – Marine Works 2	UAE	Sharjah	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	Abu Dhabi	Oil Field Development	1,300,000,000	Construction	Q4 2017
ZADCO – Upper Zakum Full Field Development – 750 Project – Surface Facilities – EPC 2	UAE	Abu Dhabi	Oil Production	4,200,000,000	Construction	Q4 2017
ZADCO- 750 West Region- Capacity Expansion & Sulphate Reduction Plant- EPC 3	UAE	Abu Dhabi	Oil & Gas Field	300,000,000	EPC ITB	Q1 2019

GCC OIL – JUNE 2016

Project	Country	City/Region	Facility	Budget	Status	Completion Date
ADCO – Bab Far North CO2 Injection Pilot Project	UAE	Abu Dhabi	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	Abu Dhabi	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

Project	Country	City	Facility	Budget	Status	Completion Date
ADMA OPCO – Nasr Full Field Development – Phase 2 (Package 3)	UAE	Abu Dhabi	Oil Field Development	200,000,000	Construction	Q4 2018
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	Abu Dhabi	Gas Processing	50,000,000	Construction	Q2 2015
ADMA-OPCO – Nasr Full Field Development – (Overview)	UAE	Abu Dhabi	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	Abu Dhabi	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	Abu Dhabi	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	Abu Dhabi	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 – 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 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
KOC – North Kuwait Jurassic Early Production Facility (EPF) – Phase 2	Kuwait	Northern Kuwait	Oil Production	100,000,000	EPC ITB	Q3 2017
KOC – North Kuwait Jurassic Oil and Gas Field Development	Kuwait	Northern Kuwait	Oil & Gas Field	1,300,000,000	EPC ITB	Q2 2018
KOC – Ratqa Lower Fars Heavy Oil Development – Phase 1	Kuwait	Northern Kuwait	Steam Injection	4,500,000,000	Construction	Q2 2019
KOC – Soil Remediation Services – Lot A	Kuwait	Kuwait	Oil & Gas Field	100,000,000	Construction	Q3 2017

Project	Country	City	Facility	Budget	Status	Completion Date
KOC – Southern Kuwait Maintenance of Oil Production Facilities	Kuwait	Kuwait South	Oil Production	150,000,000	EPC ITB	Q3 2017
KPC – Northern Oil Field Development	Kuwait	Northern Kuwait	Oil Field Development	900,000,000	EPC ITB	Q1 2017
Masirah Oil Ltd – Block 50 (Masirah Bay Offshore) – Exploration	Oman	Masirah Basin	Exploration	25,000,000	Construction	Q1 2020
Medco Arabia – Block 56 Onshore Exploration and Production	Oman	Adam Ad Dakhliya	Exploration	20,000,000	Engineering & Procurement	Q4 2020
MOG – Block 54 Onshore Exploration and Production	Oman	Al Wusta	Exploration	50,000,000	Engineering & Procurement	Q3 2020
MOG – Block 55 Onshore Exploration and Production	Oman	Al Wusta	Exploration	45,000,000	Engineering & Procurement	Q1 2019
National Shipping Company of Saudi Arabia (Bahri) – VLCC Construction	Saudi Arabia	Various	Very Large Crude Carriers (VLCCs)	1,000,000,000	Construction	Q4 2017
OOCEP – Block 60 Concession – Onshore	Oman	Oman	Oil & Gas Field	1,100,000,000	Engineering & Procurement	Q4 2020
OTTCO – Ras Markaz Crude Oil Park	Oman	Duqm	Oil Storage Terminal	400,000,000	EPC ITB	Q4 2019
PDO – Amal Steam Phase 1C Surface Facilities	Oman	Amal Oilfield	Enhanced Oil Recovery (EOR)	80,000,000	Construction	Q1 2018
PDO – Amal Steam Phase 1C-2	Oman	Amal Oilfield	Oil Field Development	300,000,000	EPC ITB	Q1 2019
PDO – Yibal Khuff Sudair Field Development	Oman	Northern Oman	Oil Field Development	3,000,000,000	Construction	Q1 2019
Qatar Petroleum (QP) – Bul Hanine Redevelopment (Offshore)	Qatar	Bul Hanine	Oil Field Development	11,000,000,000	EPC ITB	Q1 2028
Qatar Petroleum (QP) – Wellhead Scada & Cathodic Protection (Dukhan Field)	Qatar	Dukhan	Oil Production	200,000,000	Construction	Q4 2016
Qatar Petroleum – Al Shaheen Offshore Field Development Plan	Qatar	Qatar	Oil & Gas Field	500,000,000	Construction	Q4 2016
Sabic – Oil-to-Chemicals Plant	Saudi Arabia	Yanbu	Oil Production	30,000,000,000	Feasibility Study	Q4 2020
Sadara Chemical Company – Jubail Petrochemicals Complex – Refinery Tank Farm Package	Saudi Arabia	Jubail	Oil Storage Tanks	500,000,000	Construction	Q4 2016
Saudi Aramco – Al Muajjiz Crude Oil Terminal Rehabilitation (Tank Farm)	Saudi Arabia	Yanbu	Oil Storage Terminal	200,000,000	Construction	Q4 2016
Saudi Aramco – Annual Onshore Maintain Potential Program (MPP)	Saudi Arabia	Red Sea	Maintenance	5,000,000,000	Construction	Q2 2021
Saudi Aramco – Expansion of Khurais Oilfield	Saudi Arabia	Eastern Region	Oil & Gas Field	3,000,000,000	Construction	Q4 2018
Saudi Aramco – Safaniyah Oil Field (Phase 2)	Saudi Arabia	Safaniyah	Oil & Gas Field	500,000,000	Feasibility Study	Q3 2016
Saudi Aramco – Shaybah Arabian Light Crude Increment Program	Saudi Arabia	Shaybah	Oil Field Development	50,000,000,000	Construction	Q3 2016
Saudi Aramco – Southern Area Oil Operations (SAOO)	Saudi Arabia	Southern Region	Oil Field Development	55,000,000	Engineering & Procurement	Q1 2017
Sharafco – Hamriyah Free Zone – Storage Terminal	UAE	Sharjah	Oil Storage Tanks	100,000,000	EPC ITB	Q1 2016
Takreer – Abu Dhabi International Airport Expansion – Aviation Fuel Depot	UAE	Abu Dhabi	Oil Storage Tanks	200,000,000	Construction	Q3 2016
Takreer – Ruwais Refinery Expansion (Overview)	UAE	Ruwais	Refinery	10,000,000,000	Construction	Q3 2015
Takreer– Ruwais– LPG Recovery	UAE	Ruwais	Refinery	40,000,000	FEED ITB	Q3 2019
VOPAK HORIZON – Fujairah Oil Terminal Expansion (Phase 7)	UAE	Fujairah	Gas Storage Tanks	200,000,000	Engineering & Procurement	Q2 2015
VTTI – Fujairah Terminal	UAE	Fujairah	Oil Storage Tanks	120,000,000	Construction	Q2 2016
ZADCO – Umm Al Dalkh ESP Installation – Package 2 (Phases 3, 4 and 5)	UAE	Umm al Dalkh	Sub Sea Cable	650,000,000	Construction	Q4 2016
ZADCO – Umm Al Dalkh Full Field Development (Overview)	UAE	Umm al Dalkh	Oil Field Development	650,000,000	Construction	Q2 2017
ZADCO – Upper Zakum Full Field Development – 750 Project (Overview)	UAE	Abu Dhabi	Oil Field Development	15,600,000,000	Construction	Q4 2017
ZADCO – Upper Zakum Full Field Development – 750 Project – Surface Facilities – EPC 1	UAE	Abu Dhabi	Oil Field Development	1,300,000,000	Construction	Q4 2017
ZADCO – Upper Zakum Full Field Development – 750 Project – Surface Facilities – EPC 2	UAE	Abu Dhabi	Oil Production	4,200,000,000	Construction	Q4 2017
ZADCO – Zirku 7th Crude Oil Storage Tanks	UAE	Abu Dhabi	Oil Storage Tanks	30,000,000	Construction	Q1 2016
ZADCO – Zirku Facilities Capacity Enhancement	UAE	Abu Dhabi	Oil Field Development	400,000,000	EPC ITB	Q3 2017
ZADCO– 750 West Region– Capacity Expansion & Sulphate Reduction Plant– EPC 3	UAE	Abu Dhabi	Oil & Gas Field	300,000,000	EPC ITB	Q1 2019
ZADCO– 750 West Region– CapaCity/Region Expansion & Sulphate Reduction Plant– EPC 3	UAE	Zirku	Oil & Gas Field	300,000,000	EPC ITB	Q1 2019

Note : The above information is the sole property of DMS Projects. Budget figures are shown as $ US values. Source: dmsprojects.net

ABOUT THE INTERVIEWEE:
Yvan Druez is Magnetrol International's export manager for the Middle East and India.

Magnetrol International's Yvan Druez

FIVE MINUTES WITH...

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

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How has business been for Magnetrol in the first quarter of 2016?
We have had a very good Q1 of 2016. Kuwait, especially, has been a very productive region for us in terms of projects. We continue to experience a high number of instrumentation project quotations throughout the GCC area, and forecast further growth for Magnetrol International's business.

1.05

What customers do you have in this region?
Magnetrol's main business is conducted predominantly in the upstream business, but also in downstream sector. Magnetrol also has a very strong presence in the petrochemical market, as well as in the power industry. All the major IOCs are among our most prominent customers in the region. We have been supplying level control instruments to the major IOCs for over 80 years. Traditionally, Middle East customers are always looking to increase production and safety through advanced control and automation systems, and they have made this the primary focus for instrumentation solutions.

"THE MIDDLE EAST IS STILL A GROWING MARKET AND OUR STRATEGY IS TO FOCUS ON THE END-USERS AND TO ADDRESS THEIR INCREASINGLY COMPLEX APPLICATIONS."

2.55

What new products has Magnetrol launched in the region recently?
We launched the Jupiter Model JM4 magnetostrictive level transmitter, with unique advancements like Smart Probe technology, removable head, and enhanced diagnostics. We have responded to market demands for next-generation magnetostrictive transmitters that are safer, simpler, and smarter. Our Pulsar Model R96 is a new 6GHz free space radar transmitter built on the Eclipse Model 706 guided wave radar platform. Along with a graphic LCD display and advanced diagnostics, the new R96 offers advanced performance.

3.35

Tell us about your newly launched Steam Generation Cycle and Condensate Recovery Process Optimization Kit?
The Optimization Kit includes a white paper, video and applications guide to provide an analysis of how a level and flow instrument's fundamental technology, when properly matched to its application, can reduce fuel and energy consumption, improve steam quality, recover valuable energy and resources, lower maintenance costs, and prevent production downtime.

4.10

How do you intend to expand in the regional market? What is your strategy?
End-users are focusing on improving productivity, quality and safety through advanced process automation systems. As a result, we continue to experience high demand for upgrading existing instrumentation. The Middle East is still a growing market and our main strategy is to focus on the end-users and to address their increasingly complex applications with new technologies and innovative services in order to design and deliver tailor-made solutions.