REVIEW: ADIPEC 2016 LIFTS THE INDUSTRY'S SAGGING SPIRIT

Oil&Gas MIDDLE EAST

NEWS, DATA AND ANALYSIS FOR T

December 2016 • Vol. 12 • Issue 12

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INTERVIEW

INDUSTRIAL INTEGRATION

Lisa Davis, member of the managing board of Siemens, describes how the German energy services behemoth is providing its digitalisation expertise across multiple channels to enhance its offering to the oil and gas industry


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Litho Scanner
HIGH-DEFINITION SPECTROSCOPY SERVICE

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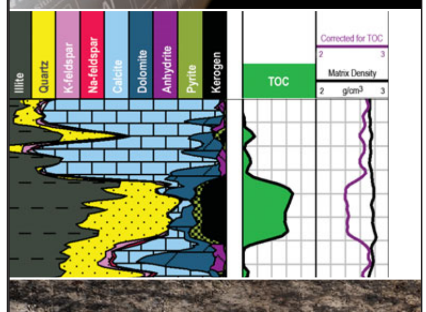

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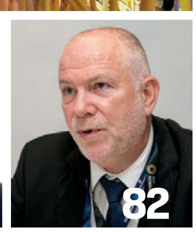

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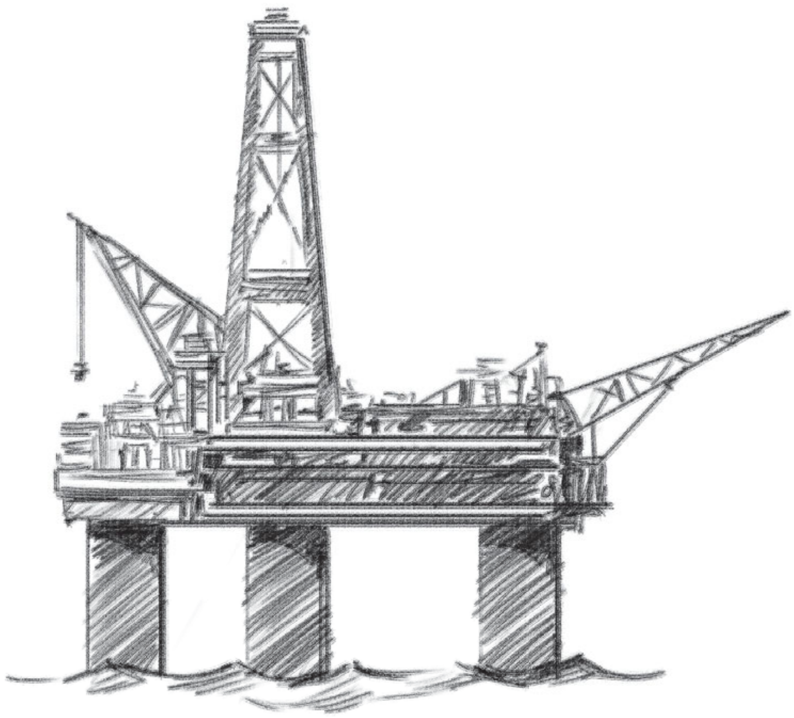

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An eventful year draws to a tranquil close

2016 shall go down in history as the year when the oil and gas industry learnt to become resilient and accept realities

THIS ISSUE: We bring to you an in-depth coverage of ADIPEC 2016 and present interviews with key companies exhibting at the mega event this year.

The global oil and gas industry stood by as the year 2016 began on a sombre mood. Dark clouds hovered above the energy sector as crude oil prices continued to nosedive freely. Predicting the Brent crude movement became anybody's game as prices hitting new lows became headlines each day – dropping to a worrying depth of $24 a barrel on a sunny day in February.

But amidst this hue and cry over the free fall of crude prices, it was as if a silent revolution had started – that of the industry coming to terms with the 'new normal'. The region began giving up its addiction to artificially high oil prices of around $100 a barrel. A journey towards a future of sustainable energy consumption commenced, as governments in the GCC set out on a path laid by the UAE in removing cushiony fuel subsidies.

More importantly, Gulf leaderships announced a slew of rational measures aimed at transforming their economies through diversification and to wean off dependence on fossil fuel revenues. Although oil prices eventually recovered to above $40 as the year wore on – at one point even breaching the $50 mark, thanks to a concerted effort by OPEC and Russia to agree to freeze output late in September – the regional industry had made considerable adjustments by then.

Commotion over below par oil prices and its harsh impact began settling down as the upstream industry showed clear signs of evolving from a crude price-dictated sector to a segment driven by technology. Observers hiding in caves came out to welcome this transformation, saying the $100 oil prices previously had choked necessary innovation in the industry.

Significant techniques and methodologies, the likes of digitalisation, enhanced oil recovery and automation gained momentum, as the industry started striving towards 'doing more with less'.

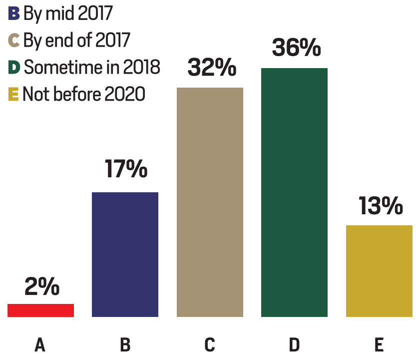
As a sign of maturity, the industry this year has resisted capital markets-style vulnerability to global events, as witnessed by the Brent crude benchmark hardly reacting to the two major political/economic episodes of 2016: Brexit and the election of Donald Trump as the next American president.

The *Oil & Gas Awards* and ADIPEC this year perhaps present true testimonials of the energy industry's resilience in the face of low crude oil prices and does bear good tidings that the sector is now surely charting a course of transformation.

All's well that ends well!

Indrajit Sen
Deputy Editor, *Oil & Gas Middle East*
indrajit.sen@itp.com

When do you expect oil output to reduce and prices to rise?



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PO Box 500024, Dubai, UAE
Tel: 00 971 4 444 3000, Fax: 00 971 4 444 3030
Web: www.itp.com
Offices in Dubai & London

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CEO: Walid Akawi
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Deputy Managing Director: Matthew Southwell
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Editorial
Deputy Editor: Indrajit Sen
Tel: +971 4444 3264 email: indrajit.sen@itp.com
Senior Reporter: Yasmin Helal
Tel: +971 4444 3659 email: yasmin.helal@itp.com
Freelance contributor: Sarah Massey
email: sarah.massey@itp.com

Advertising
Sales Manager: Kimberley Barnes
Tel: +971 4 444 3351 email: kimberley.barnes@itp.com
Sales Executive: Derrick Best
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Online Advertising
Advertising Director, B2B Digital: Riad Raad
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Sales Manager, B2B Digital: Jill D'silva
Tel: +9714 4443352 email: jill.dsilva@itp.com
Digital Sales Executive: Jihad Hallab
Tel: +971 4 444 3547 email: jihad.hallab@itp.com

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Director of Photography: Patrick Littlejohn
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Middle East tops risk/reward rating

BMI research shows that the Middle East outperforms every other region in its *Oil & Gas Risk/Reward Ratings*

The Middle East outperforms every other region in BMI's upstream risk/reward ratings. This is due to an exceptionally high Industry Rewards score, reflecting the region's vast resource base and strong growth potential.

According to data from the US Energy Information Administration, the Middle East holds more than 40% of the world's recoverable gas resources, and almost half of its recoverable oil. It also hosts several highly prospective resource plays. Large areas of the Middle East remain heavily underexplored, and there has been a growing interest in the region's unconventional resource potential.

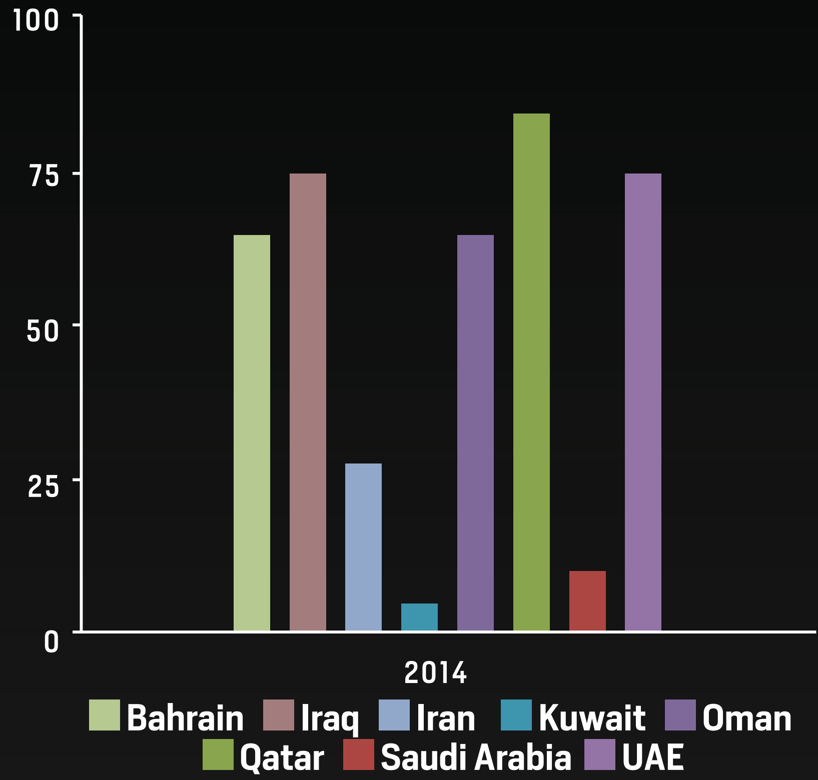
The region also has an impressive production profile. According to a report by GEO ExPro, in recent years global production averaged 30,515 barrels (bbl) per well. In the Middle East, the average was 452,459 bbl per well. The region's upstream sector continues to draw substantial investments internationally, and BMI forecasts strong output growth over a 10-year forecast period.

However, the countries at the top of BMI's upstream rankings are not those with the greatest reserves or the strongest production profiles, but those with the best above-ground environments. In particular the UAE, Qatar, and Iraq, received strong Country Reward scores due to the broad participation of non-state competitors, and the comparatively low level of state ownership of assets in these countries.

In contrast, those that fall to the bottom of the rankings, in particular Saudi Arabia and Kuwait, suffer from both low Country Rewards and Industry Risk ratings due to the closed nature of their upstream sectors, and the limited opportunities accruing to prospective investors. Poor licensing terms and opaque regulatory environments weigh on the countries' scores.

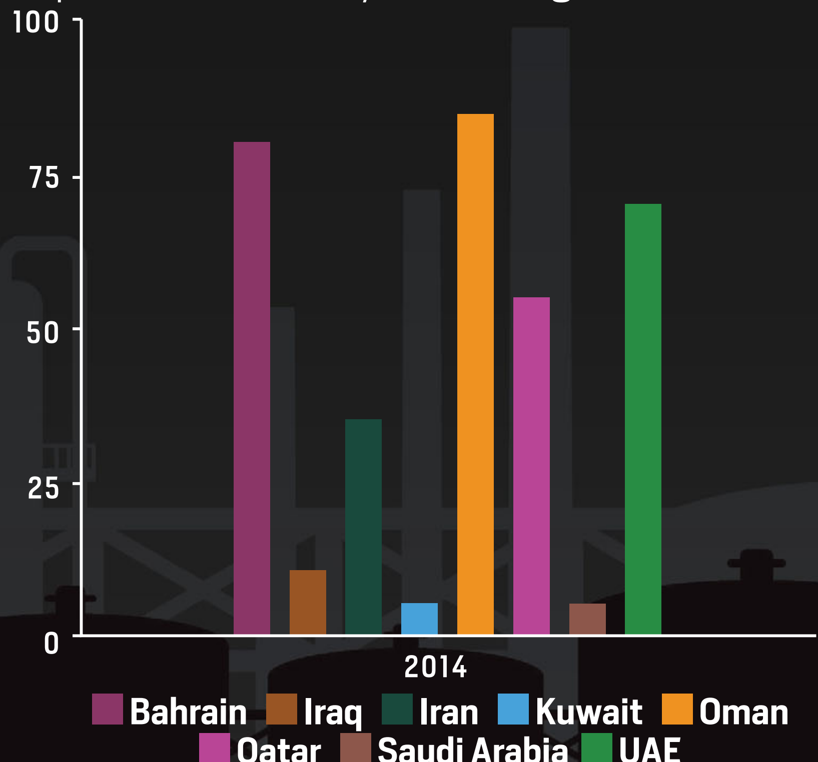
Open markets gaining advantage

Upstream country rewards ratings

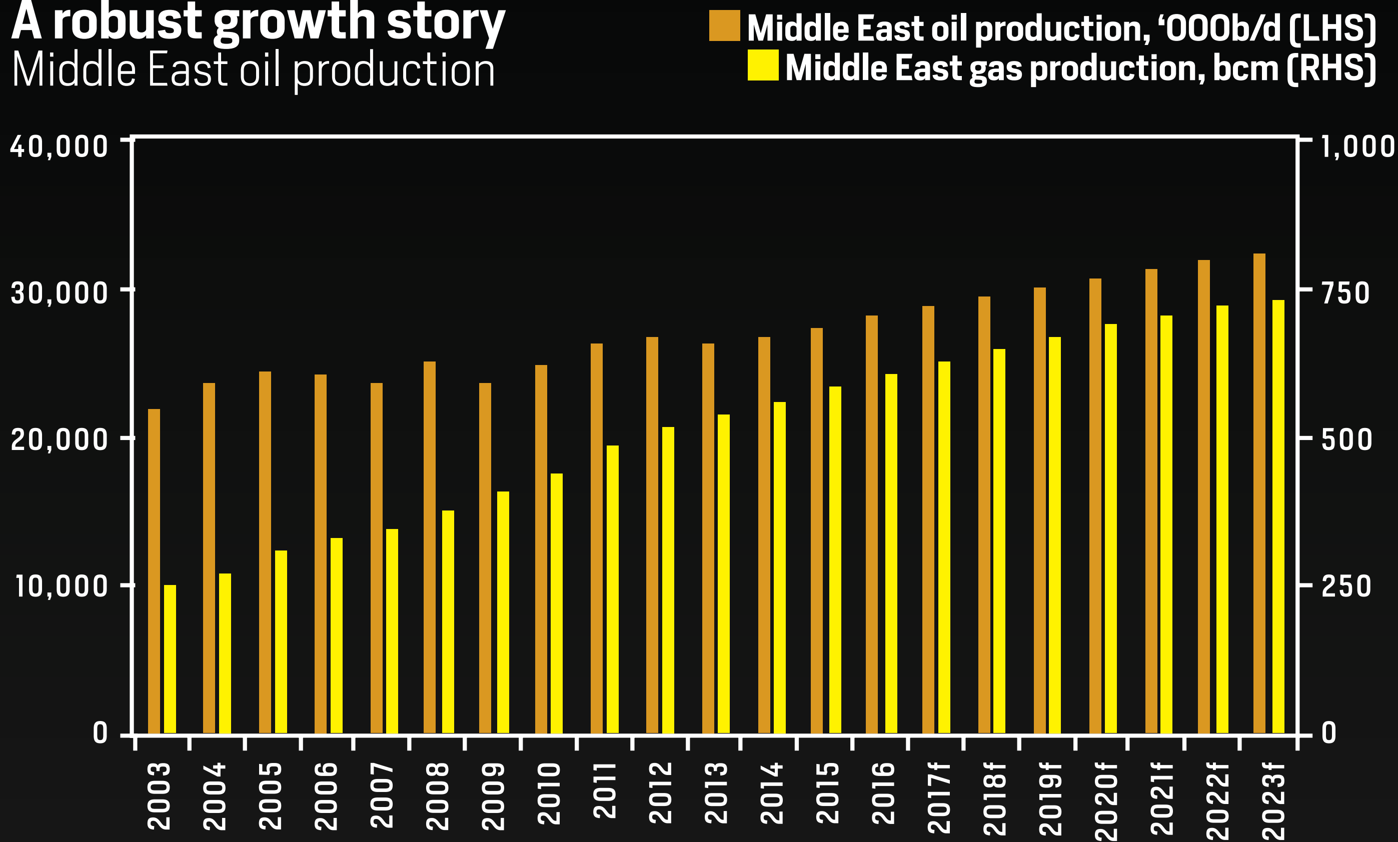


Divergent environments above ground

Upstream industry risk ratings



A robust growth story
Middle East oil production



Middle East upstream oil and gas risk/reward rating

	Upstream industry rewards	Upstream country rewards	Upstream rewards	Upstream industry risks	Upstream country risks	Upstream risks	Upstream R/R ratings
Iraq	83	85	83	40	22	34	68
UAE	66	75	68	70	62	67	68
Qatar	63	85	68	55	64	58	65
Oman	51	65	55	85	57	75	61
Bahrain	34	65	42	80	61	73	51
Kuwait	74	5	57	5	60	24	47
Saudi Arabia	71	10	56	5	49	21	45
Iran	60	28	52	10	34	18	42
Average	63	54	61	49	53	50	58

*Source: BMI Research

LNG MARKET

Need of the hour: gas pricing reform

Developing new sources of gas production in the GCC is not sustainable at current prices, which are typically significantly low and, if not addressed, will lead to a potential gas supply gap, experts at Strategy& believe

Words: ***Yasmin Helal***

Maintaining the GCC's low gas prices, which are set considerably below international prices, is unsustainable and will create significant problems for the region in the future, according to a recent study by management consultancy Strategy&, formerly Booz & Company, part of the PwC network.

While keeping GCC gas prices low has supported local economies in the past, the cost of new gas production is set to rise significantly in the future. According to Strategy&, the average weighted costs of new gas production across the GCC could rise by a factor of one-third to two-thirds by 2030 as technology requirements necessary for accessing and successfully extracting gas becomes greater — from $1.50 to $4.50 per thousand cubic feet in 2015, to $2 to $7 per thousand cubic feet in 2030.

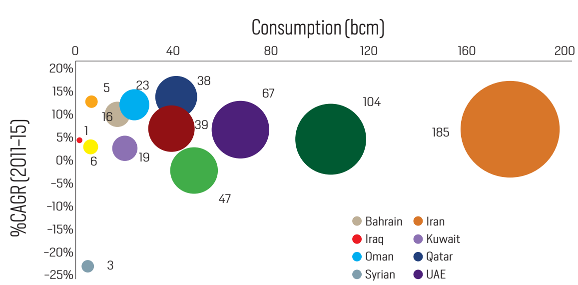
Developing new sources of gas production is therefore not sustainable at current prices which are typically significantly below this level and, if not addressed, will lead to a potential gas supply gap of over 300bn cubic meters by 2030.

On the argument of the need of GCC countries to adopt gas pricing reforms, George Sarraf, a partner at Strategy&, says "If the cost of gas does not start to reflect its true market value and appropriate investment in the oil and gas sector is not allocated soon, the GCC will be unable to meet demand for gas in the future. Reforms should define a mechanism that prices natural gas closer to its true value and that in some manner reflects

2030

The average cost of new gas production in the GCC could rise by a factor of one-third to two-thirds by 2030.

Natural gas consumption by country with growth rate



Gas squeeze in the Middle East & North Africa region

The Middle East & North Africa (MENA), which has 47% of the world's proven gas reserves, is struggling to cope up with its own expected demands. The MENA region's demand for power generation, petrochemical projects and re-injection has far outpaced the region's gas exploration and production. As a result, MENA countries find themselves in an almost contradictory position of having to import gas, when they have exported gas for decades.

The cost of new gas production is set to rise significantly in the future.

If the issue of gas production is not addressed properly, it will lead to a potential supply gap of over 300bn cubic meters by 2030.

the global and regional dynamics of supply and demand. While abundant and cheap gas has played a critical role in the development and diversification of GCC economies, the current system is not sustainable."

"Gas – like any other commodity – should be priced in line with its true market value. That is a price set by supply and demand forces. The market decides where best to use the gas given alternative fuels and feed stocks. While this approach is the norm in liberalised economies, countries in the region will have to Continued on page 12>>

Continued from page 11>> move gradually towards that goal. That is the path towards sustainability [in the LNG market]," Sarraf told *Oil & Gas Middle East*.

The best approach to setting gas prices is to use market mechanisms such as 'oil indexation' and 'gas hub pricing'. Oil indexation requires gas prices to be linked to a basket of commodities including crude oil and oil products. Gas hub pricing, also known as 'gas-to-gas competition', is when gas is traded based on spot prices set by the market in a liquid trading hub to better reflect the true price of gas to consumers.

↑ The best approach to setting gas prices is to use market mechanisms such as 'oil indexation' and 'gas hub pricing'.

"Gas prices in the GCC are usually fixed and at levels that do not necessarily reflect the actual value that the market sees," Sarraf says. "In other words, gas prices today are the result of state policy rather than what the market values. A mismatch (usually lower than market) between these two result in subsidy and therefore in wastage behaviour with negative impact on long-term sustainability."

According to David Branson, an executive advisor with Strategy& in Dubai and a member of the energy, chemicals and utilities practice in the Middle East, "Many markets around the world are becoming increasingly liberalised and are gradually moving from oil indexation to gas hub pricing as the preferred pricing method. In 2014, 43% of all gas sold was subject to gas hub pricing and 17% was indexed to oil. However, the Middle East is yet to

THE LNG SCENARIO: THREE THINGS TO KNOW:

1 The cost of new gas production is set to rise significantly in the future. Average costs for developing new gas production in the GCC expected to increase by a factor of one-third to two-thirds by 2030. Potential gas supply gap is predicted to exceed 300 billion cubic meters by 2030, according to Strategy&.

2 Gas prices in the GCC are usually fixed and are thus low – something that could lead to supply issus in future. Current gas prices do not reflect true market price in the GCC. The best approach to setting gas prices is to use market mechanisms such as 'oil indexation' and 'gas hub pricing'.

3 While abundant and cheap gas has played a critical role in the development of GCC economies, the current system is not sustainable. A transition to market-based gas pricing is required, coupled with initiatives to mitigate economic impacts for consumers.

adopt market-based gas pricing with almost all prices regulated by national governments."

For the GCC market specifically, Strategy& suggests four possible effective gas pricing regimes for countries to implement: 1) increase wholesale prices to match – at a minimum - the increasing production costs and encourage investments in new supply sources, 2) index gas prices to oil prices, 3) link domestic gas prices to prices in existing hubs in other geographies or 4) establish a dedicated GCC gas hub price.

"The time to act is now and some countries have already taken steps in this direction but more is needed to advance this vital reform across the region. Although a new regime will result in higher gas prices, carefully crafted mitigation measures can help with the transition.

These will allow the economy as a whole to benefit from increased diversification, private investments, true competition and a greater sense of energy security," added Dr Yahya Anouti, principal with Strategy& in Dubai and a member of the energy, chemicals and utilities practice in the Middle East.

Building on that argument, Sarraf adds, "All GCC countries have recognised the need to increase gas prices and many have already done that (e.g., Saudi Arabia, Oman). But this is not enough. Gas prices are not fixed because they fluctuate depending on market forces. Some sort of mechanism needs to be put in place to acknowledge that."

As a consequence of a new pricing regime however, gas prices will inevitably increase and may have an adverse socio-economic impact on consumers unless managed carefully. The impact of a new potential gas-pricing mechanism therefore requires proactive and targeted risk mitigation measures to ensure that the benefits of the new pricing model are captured.

According to Strategy&, GCC countries need to proactively communicate with all key stakeholders to evaluate potential risks of higher gas prices and offer appropriate solutions. "Indeed, the cost of supplying new gas will increase due to the more challenging nature of non-associated gas fields. To develop such fields cost-effectively, partnerships with international oil companies with advanced technologies are needed (e.g., development of the Shah sour gas field in the UAE). But that would not remove the burden from increasing market prices as well," Sarraf says.

↑ GCC countries need to communicate with all key stakeholders to evaluate potential risks of higher gas prices.

For example, mitigation measures might include offering incentive packages to industrial customers and instituting targeted compensation mechanisms for the poorest households. Accompanying a move to market-based gas pricing, a regulator for gas should also be established to govern the new gas pricing regime and monitor its application.

"There are a few examples to mitigate the impact of higher gas prices. Usually, they all point out towards targeted subsidies. In other words, subsidise a specific user as opposed to the inputs for the entire sector," Sarraf states. "Also, the decision needs to differentiate between industries that can absorb the hike by being leaner with others that may need real state support. There are a few examples of targeted subsidies in the viewpoint."

UPDATE

Coming up:

ADNOC's 2030 strategy and 5 year plan get government nod

The new strategy is aimed at generating sustained growth in ADNOC's upstream, midstream and downstream segments in an evolving energy market; upstream to remain the most profitable business, as per plan

VISION 2030 & 5-YEAR PLAN
The new strategy is aimed at generating sustained growth in ADNOC's upstream, midstream and downstream segments in an evolving energy market.

Headed by His Highness Sheikh Mohammed bin Zayed, Crown Prince of Abu Dhabi, the UAE's Supreme Petroleum Council (SPC) has approved ADNOC's 2030 strategy, five-year business plan and operational budget.

The new strategy is aimed at generating sustained growth in ADNOC's upstream, midstream and downstream segments in an evolving energy market.

Under the 2030 Strategy, upstream will remain ADNOC's most profitable business. The strategy reaffirms ADNOC's intent to achieve a production target of 3.5mn bpd in 2018, an increase over today's production of 400,000 bpd. There will also be a stronger focus on the application of new technologies for enhanced oil recovery and tapping into additional sour gas resources.

Sheikh Mohammed said the strategy that ADNOC's chief executive Sultan Al Jaber and his board had set out would "build on the foundations laid in the past eight months, during which ADNOC embarked on a journey to evolve into a more agile and resilient company that is strategic, commercially-minded and performance-driven".

In line with increased sour gas production, ADNOC's sulphur output will rapidly increase over the coming decade, making Abu Dhabi one of the world's largest sulphur producers. As a result, ADNOC plans to maximise the value of its sulphur by working closely with key phosphate markets. Meanwhile, the company will continue supporting the development of a local sulphur products industry, including enhancing the existing ammonia and urea industry, with a new generation of advanced fertilisers.

In parallel with growing its crude production, the strategy is aimed at ensuring economical and sustainable gas supplies, as part of its fully integrated Gas Master Plan. The plan will facilitate ADNOC's commitment to provide the gas necessary to meet the growing demand. It has also embarked on a gas price restructuring exercise that will ensure a competitive gas price.

QUOTE: "ADNOC'S STRATEGY WOULD BUILD ON THE FOUNDATIONS LAID IN THE PAST EIGHT MONTHS, DURING WHICH IT EMBARKED ON A JOURNEY TO EVOLVE INTO A MORE AGILE AND RESILIENT COMPANY."

GE, Baker Hughes to merge oil and gas businesses: Report

The new entity, valued at $14bn, will be based in both Houston and London

MERGER General Electric and Baker Hughes are combining their oil and gas businesses to create a powerful entity in the global energy sector, after being harshly impacted by weak oil prices for a prolonged period.

As per reports of the deal, global industrial giant General Electric will own 62.5% of the new publicly traded company and major oilfield services company Baker Hughes will own the remaining 37.5%.

Baker Hughes shareholders will receive a one-time cash dividend of $17.50 per share.

The boards of both companies have approved the deal, which is expected to close by mid-2017. It still needs approval from Baker Hughes shareholders.

The transaction calls for GE to contribute $7.4bn to Baker Hughes shareholders as a cash dividend.

The new merged entity, which will have dual headquarters in Houston and London, is valued at $14bn, the companies said.

62.5%

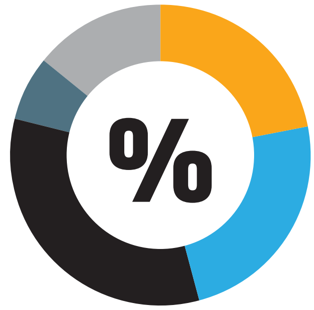
of the new merger will be owned by the global giant General Electric

$17.50

per share will be paid to Baker Hughes shareholders

SPOT POLLS

WHAT WILL BE THE MOST SIGNIFICANT TAKE-AWAY FROM ARAMCO'S POSSIBLE IPO?



- 22% Saudi Arabia to end role as swing producer
- 24% Will help Saudi navigate low oil price era
- 33% Aramco to join IOCs' trend of divesting refining assets
- 14% Other GCC NOCs would follow suit
- 7% PO would release treasures of data about KSA's oil sector

Source: Gulf Intelligence

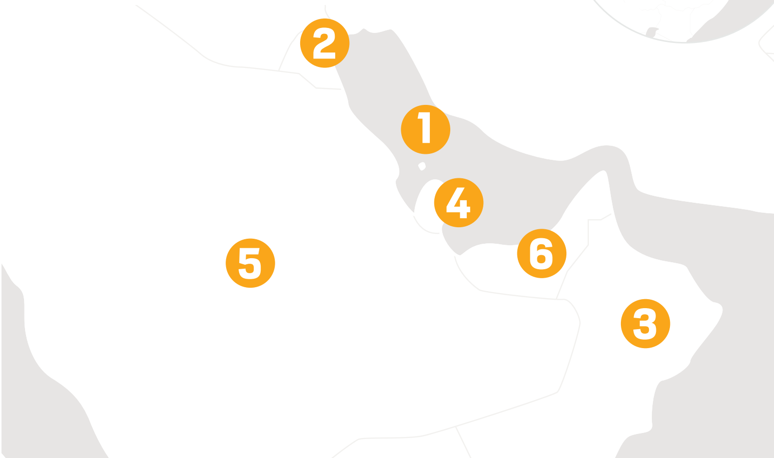
Energy industry stakeholders grace Abu Dhabi

Seen in this photo are key decision makers of the industry attending the opening ceremony of the Abu Dhabi International Petroleum Exhibition & Conference (ADIPEC) 2016 on November 7th. Energy sector professionals from around the world participated to engage in business and networking. (ITP Photography/Grace Guino)

REGION

AROUND THE GCC

Latest developments across the region

1. BAHRAIN

Bahraini authorities have invited Eni to study and assess the potential of some E&P assets in the country. To this purpose, four agreements have been signed between the Bahrain Petroleum Company (Bapco), Tatweer Petroleum and Eni. Eni will have access to the data for the study of the oil and gas fields potential within the offshore and onshore areas. Based on this study, potential initiatives will be evalauted.

2. KUWAIT

Weir Oil & Gas has announced signing an agreement with Kuwait Oil Company (KOC) for the sale of 295 Seaboard wellheads, worth approximately $12mn. Weir will provide the state-owned oil company with 11 different wellhead configurations ranging from 3,000 to 10,000 PSI. The products sold include conventional wellheads along with HH cladded trees, and solid block dual completion trees.

3. OMAN

Petroleum Development Oman (PDO) has signed a $200mn pipe supply contract with an Omani factory as part of its in-country value (ICV) strategy. The Sohar-based Gulf International Pipe Industry (TMK-GIPI) will manufacture a variety of pipelines sized 6-24 inches in diameter for both PDO and other operators, as part of a four-year deal, introducing a new manufacturing line for small pipeline categories.

4. QATAR

Qatar Petroleum's (QP) newly-formed marketing affiliate Ocean LNG Ltd has signed a long-term sale and purchase agreement (SPA) with Brazil-based CELSE-Centrais Elétricas de Sergipe S.A. Ocean LNG will supply 1.3mn tonnes per annum of LNG from 2020 to CELSE, on an Ex-Ship basis. QP announced earlier in the month the establishment of the firm to promote its LNG globally.

5. SAUDI ARABIA

Saudi Aramco has pledged to invest $100mn in climate-friendly technologies. The company's CEO Amin H. Nasser, together with the chief executive officers of nine of the world's largest oil and gas companies, met together to declare their collective support for an effective climate change agreement to be reached at the upcoming UN Conference on Climate Change (COP21).

6. UAE

Schlumberger has announced the opening of a new reservoir and a rock analysis laboratory based in Abu Dhabi, to support customers in the Middle East and Asia. This is in addition to their laboratories in Dubai, Qatar, Kuwait and Saudi Arabia. The laboratory features a portfolio of core processing and analysis services coupled with digital rock modelling and fluid inclusion technology.

Schlumberger buys ADNOC technology

LICENSING The Abu Dhabi National Oil Company (ADNOC) has entered into an agreement with Schlumberger to license its proprietary offshore drilling technology for use in the latter's portfolio of drilling services.

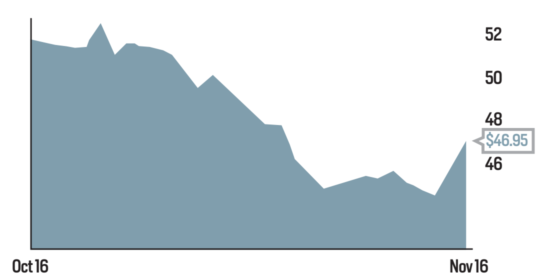
The licensing agreement was signed during ADIPEC in November by Abdulmunim Saif Al Kindy, ADNOC's director of exploration, development and production, and Djamel Idri, Schlumberger's general manager and vice president, UAE.

The licensing of the SSDD system represents the first time a proprietary ADNOC technology will have been commercialised abroad.

Developed by Fahed Al Ameri, ADNOC drilling department manager, and Farhaad Khaled Saeed Mohamed Al Awadhi, ADMA OPCO drilling technical support manager, the system is manufactured in the UAE.

DATA SNAPSHOT

BRENT CRUDE OIL PRICE



Brent prices creeped above $52 in the middle of the month, eventually settling down to around $46.

Source: oil-price.net

Total becomes first major IOC to sign deal with post-sanctions Iran

French giant announced that it has signed the agreement with the National Iranian Oil Company for the Phase 11 development of South Pars gas field in the Gulf

AGREEMENT Total has announced signing an agreement with Iran to further develop the Islamic Republic's share of the world's largest gas field, making it the first western energy company to strike a major deal with Tehran since the lifting of international sanctions.

Total said the agreement was signed with the National Iranian Oil Company (NIOC) for the Phase 11 development of South Pars gas field, which extends into Qatari waters.

The SP11 project will progress in two stages, the first costing an estimated $2bn, Total said. The produced gas will be fed into Iran's gas network.

The French giant has already played a key role in Iran's energy industry, including the development of phases 2 and 3 of South Pars in the 2000s, before pulling out of the country after international sanctions were imposed in 2010.

Foreign companies keen to tap into Iran's vast oil and gas reserves have so far made little inroads into the country, despite the lifting of many sanctions earlier this year following a landmark agreement on Iran's nuclear programme.

Tehran has pledged to open up its oil industry but foreign companies, including BP and Eni recently said they still have little information about Iranian oilfields and contract terms, hindering investment decisions.

Total said it would operate the SP11 project and have a 50.1% stake in it. Petropars, a subsidiary of NIOC, will have a 19.9% stake while state-owned China National Petroleum Corp (CNPC) will have a 30%.

Total will develop the project in compliance with national and international laws.

TOTAL THE FIRST TO TAP IRAN

The agreement was signed for the Phase 11 development of South Pars

IN BRIEF

Mott MacDonald has been appointed by Qaiwan Group to provide engineering, procurement and construction management services for the new Xarajyan oil terminal in Kurdistan, Iraq. Scheduled to be completed by the second quarter of 2018, the facility will handle petroleum products such as gasoline, diesel, aviation turbine fuel, kerosene, fuel oil and liquefied petroleum gas.

Gas production at Libya's eastern Abu Tifl field has resumed and 12,000 barrels per day (bpd) of oil will start being pumped there from next week. Abu Tifl was shut for two years because of protests by local residents and blockades at eastern ports that were recently lifted. The engineer said oil would be pumped to the port of Zuetina, one of four terminals seized in September by forces loyal to eastern Libyan commander Khalifa Haftar and handed to the National Oil Corporation (NOC).

ADNOC has recognised the achievements of 46 students, including 25 from the UAE, who participated in the Second Middle East Boot Camp 2016, an annual professional development programme supported by ADNOC, the Petroleum Institute, and Schlumberger. Representatives from the European Association of Geoscientists and Engineers (EAGE), and other companies awarded the students with certificates for their work on the Dibba-Wadi Al-Fay Fault Zone. The ceremony took place at their main stand at ADIPEC 2016.

IN QUOTES

"We are very focussed on the regoin. We see a lot of opportunities in not just energy and oil and gas, but broadly in a lot of other sectors, like infrastructure. So we are very committed to the region."

Lisa Davis – a member of the managing board of Siemens.

"The low oil prices affected everyone. The UAE has been very clear about diversifying the ecnomy and reducing the dependency on oil. We are very lucky to be a part of Mubadala because it gives us more clarity of the vision."

Abdul Khaliq Saeed, CEO of Turbine Services & Solutions

"As a result of the low oil prices, the biggest trend today is to do more with less. The simplest answer to this is digital transformation."

Alaa Elshimy, regional managing director, Huawei

European energy majors look to reduce expenses: Report

Italy's Eni, France's Total and Norway's Statoil want to reduce CAPEX till 2019

COST REDUCTION European majors Eni, Total and Statoil are considering to reduce costs due to the prolonged low oil prices.

Eni has stated that it expects to carry out a number of initiatives to reduce capital spending, in order to cope with the slump in crude oil prices, including rescheduling capital projects, being more selective with exploration plays and renegotiating contracts for the supply of capital goods. Eni forecasts a 20% reduction in spending for the full year as a result of these changes.

20%

Eni intends to reduce spending by 20% for the full year.

$2.5BN

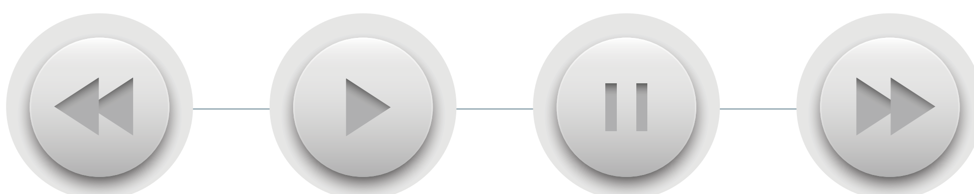
Statoil expects to deliver efficiency improvements with pre-tax cash flow effects of around $2.5bn from 2016.

French integrated oil and gas firm Total has echoed Eni's stance and vowed to lower its breakeven price, stating that it expects the market to remain volatile. Total is currently in the middle of a cost reduction programme which it said was ahead of schedule. The programme is aiming to achieve $4bn in savings by 2018.

Norwegian energy company Statoil said it expects to deliver efficiency improvements with pre-tax cash flow effects of around $2.5bn from 2016. The company said that its ambition is to keep its unit of production cost in the top quartile of its peer group and revealed that it would be lowering its capital expenditure guidance for 2016, from $12bn to around $11bn.

PLAY/PAUSE:

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



The Abu Dhabi National Energy Co (TAQA) has reported a wider loss for Q3 caused by the drop in oil prices. TAQA made a net loss of $142.66mn compared with loss of $113.26mn in the previous year.

Wintershall has spudded its first offshore well SH-6 for ADNOC's Shuwaihat project. In July 2015, Wintershall completed the first onshore drilling of Shuwaihat together with ADNOC and OMV.

Dana Gas will review its 2017 investment plans for Egypt, if Cairo doesn't pay its dues. It has registered profit in Q3, halting a run of poor earnings performances, as it benefited from Kurdistan's receivables.

BP and Oman Oil Company have extended their agreement for further development of the Khazzan tight gas field. The field, which is estimated to cost $16bn, is expected to produce 1.5 bcf/d of gas.

Nabors to form a joint drilling venture with Saudi Aramco

The companies will be equal partners in the venture which will begin in Q2 2017

CEMENTING REGIONAL PRESENCE

Nabors and Aramco will be equal partners in the new venture, which they will own, manage and operate together.

JOINT VENTURE Houston-based Nabors Industries Ltd, considered to be the world's biggest operator of onshore oil rigs, will form a joint drilling venture with Aramco, in a bid to cement its presence in one of the industry's largest markets.
The two companies will be equal partners in the venture and will own, manage and operate oil and natural gas rigs in Saudi Arabia, Nabors has said in a statement.

Saudi Aramco and Nabors will each contribute land rigs in the first years of operation and will commit capital toward future rigs to be manufactured in Saudi Arabia, according to the statement.

The venture will begin operations in the second quarter of 2017, the companies said.

Businesses that drill wells for oil explorers have been among the hardest hit over the last two years as a global petroleum glut more than halved prices.

For Saudi Arabia, whose economy has faltered during the crude slump, the deal "supports the wider development and localisation of industries such as rigs and rig equipment manufacturing and casting and forging," according to the company statement.

UPCOMING EVENTS

INDUSTRY CALENDAR

- SPE International Heavy Oil Conference & Exhibition – December 6-7, 2016
  Hilton Kuwait Resort, Qatar
- OpEx MENA 2016: Operational Excellence in Oil, Gas & Petrochemicals – December 6-7, 2016
  Anantara Eastern Mangroves Hotel, Abu Dhabi
- Gulf Intelligence UAE Energy Forum – January 11, 2017
  New York University, Abu Dhabi
- SPE Global Integrated Workshop Series: Managing Well Integrity in a low cost oil environment – February 6-7, 2017
  Abu Dhabi

WORLD IN NUMBERS

$560MN

NEWFOUNDLAND AND LABRADOR IN CANADA HAVE EARNED $560MN FROM A LICENSING AUCTION OF OFFSHORE PROJECTS, OFFERING 16 PARCELS TOTALLING ABOUT 3.3MN HECTARES.

110MCF/D

CHEVRON HAS ANNOUNCED PRODUCING FIRST GAS FROM THE UK'S ALDER OFFSHORE GAS FIELD. THE PROJECT HAS A PLANNED DESIGN CAPACITY OF 110 MILLION CUBIC FEET OF NATURAL GAS AND 14,000 BARRELS OF CONDENSATE PER DAY.

140,00

THE CHINA NATIONAL PETROLEUM CORP. PLANS TO SPIN OFF MOST NON-ENERGY ASSETS – A PORTFOLIO COMPRISING ROUGHLY 10% OF ITS WORKFORCE – AS LOW OIL PRICES FORCE IT TO STREAMLINE OPERATIONS.

8.69MN BPD

WEEKLY DATA FROM THE EIA SHOWS THAT THE US INCREASED OIL PRODUCTION UP TO 8.69MN BPD IN THE FIRST WEEK OF NOVEMBER, UP BY 170,000 BPD FROM A WEEK EARLIER.

$7.37MN

INDIA'S EXPLORATION COMPANY OIL INDIA (OIL) HAS SET UP AN OIL STARTUP FUND OF ₹ 500MN ($7.37MN) TO ENCOURAGE NEW "OUT OF THE BOX" IDEAS FOR DEVELOPMENT OF THE OIL AND GAS SECTOR,

2019

THE DIRECTOR OF PEMEX HAS SAID THAT THE BATTERED COMPANY WILL RETURN TO SOLID FINANCIAL FOOTING AS EARLY AS 2019. MEXICO'S STATE-RUN OIL COMPANY HAS POSTED A LOSS OF 150BN PESOS ($7.20BN) BOTH THIS YEAR AND THE LAST.

30%

BRAZIL'S CONGRESS HAS APPROVED A MEASURE TO REMOVE A REQUIREMENT THAT STATE OIL COMPANY PETROBRAS MUST HAVE AT LEAST A 30% SHARE IN ANY OPERATION IN THE OFFSHORE RESERVE OFF THE SOUTHERN COAST.

6MCM/D

ALGERIA'S TIGUENTOURINE GAS PLANT WILL RESUME FULL PRODUCTION WITH THE START OF ITS THIRD TRAIN BEFORE THE END OF THE YEAR AFTER A DEADLY MILITANT ATTACK IN 2013, PRODUCING 6 MCM/D.

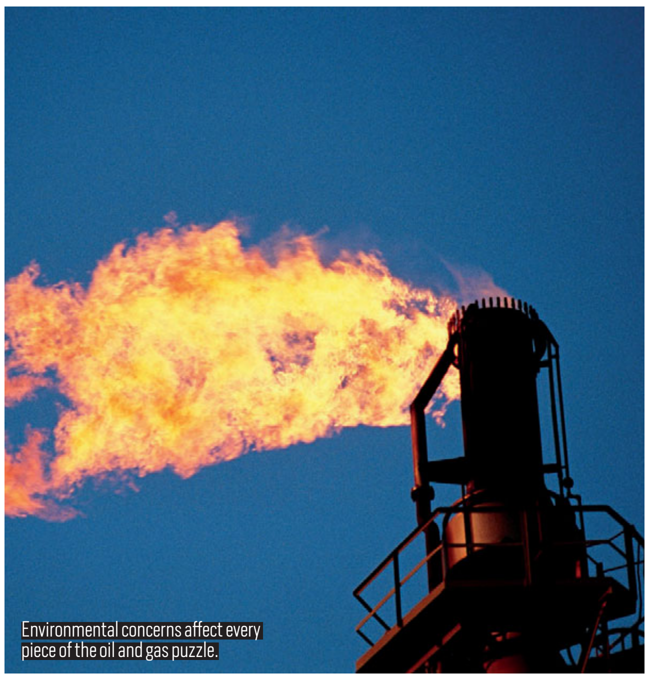
Have your say:
Contact indrajit.sen@itp.com

Low emissions reshape region's energy future

The GCC's support for the United Nation's Framework Convention on Climate Change meeting in Paris last December saw a region with one of the world's highest rates of pollution solidify its status as an environmental conservationist

About the author:
Alasdair Buchanan is the group energy director at Lloyd's Register

The Middle East is at the precipice of what will be the second most innovative chapter in its unique energy narrative, the first being defined by the region's role as the epicentre of global oil production since the mid-1990s. The growing appetite of governments for low carbon is more than a silver lining to the dark economic cloud caused by two years of low oil prices – it has created an entirely new horizon.



Environmental concerns affect every piece of the oil and gas puzzle.

The previous era of $100 per barrel oil and investors' general aversion to expensive technology costs stalled the decade-long conversations in the Middle East to embrace a low-carbon ethos. But a now settled range of lower oil prices, and the Abu Dhabi Water and Electricity Authority's announcement in September that it received the lowest bids ever for solar power, are two key developments that help reaffirm the dawn of a new energy roadmap in the Middle East.

The Gulf Cooperation Council's (GCC) support for the United Nation's Framework Convention on Climate Change (UNFCCC) meeting in Paris last December saw a region with one of the worlds' highest rates of pollution solidify its status as an environmental conservationist.

The US and China, the world's two biggest contributors of global emissions, agreed in September to join the 180 countries that have signed the Paris Climate Agreement over the last year. The agreement aims to reduce emissions of greenhouse gases (GHG), and to limit global warming to 2°C, and ideally no more than 1.5°C.

US and Chinese support of the climate agreement is the first time so many of the world's leaders have united under a single framework. Environmental concerns affect every piece of the global oil and gas puzzle. In South America, for example, a third of organisations responding to a Lloyds Register survey said curbing the sector's negative environmental impact is the primary driver for their research and development (R&D) spend.

So, as global momentum increases, the Middle East's sunny climate, R&D ecosystem, and penchant for innovation, mean that it has the opportunity to champion and export clean energy technologies, especially for solar.

At current rates, the Middle East's energy consumption by 2035 will rise by 60%, and oil consumption per capita will be more than three times the global average. These sobering statistics, laid out by BP's Energy Outlook, underscore the urgency of environmental reformation. The region has already made hard-won progress in what is an economic blink of an eye.

The World Bank estimated in 2014 that the Middle East and North Africa accounted for 48% of global energy subsidies, despite being home to just 5.5% of the world's population. The economic toll of subsidies, at a time when balance sheets are cracking under the pressure of low oil prices, prompted some governments to start reducing subsidies last year; a politically sensitive move considering that subsidies have been ingrained in the region's psyche as a national right thus far.

The UAE, which the International Monetary Fund (IMF) estimated spent an annual $7bn on petroleum subsidies, took the plunge and deregulated gasoline and diesel prices from 1 August, 2015, for example.

The Abu Dhabi-based International Renewable Energy Agency (IRENA) said the GCC has the potential to save 400 million barrels of oil, and reduce the combined per capita carbon footprint by 8% by 2030, by meeting the renewable energy targets that governments have put in place. The UAE aims to have 30% of its power generation from clean energy by 2030, with Kuwait and Qatar targeting 15% and 20% respectively during the same period.

A low carbon future does not mean a one-track journey in which the Middle East ignores valuable hydrocarbon infrastructure and reserves, as illustrated by Oman's Miraah project. Miraah will be one of the world's largest solar plants when it starts coming online in 2017, and will save 300,000 tonnes of emissions per year, which is the equivalent of taking 63,000 cars off the sultanate's roads. GlassPoint is spearheading the project for Oman's state-owned and Shell-led Petroleum Development Oman (PDO) to feed 6,000 tonnes of solar steam per day directly into PDO's thermal enhanced oil recovery (EOR) operations at the Amal oilfield.

Three key lessons can be taken from this project: low carbon technologies are compatible with some of today's extensive – and typically profitable – hydrocarbon operations; supporting small and medium-sized enterprises' (SMEs) entrepreneurial spirit is crucial; and private-public partnerships are highly effective.

All three points could be applied to resolving the disparity between the region's water scarcity and its swelling population and booming industry. Qatar already uses desalinated water to meet 99% of municipal demand, amid a forecast that today's population of 2.6 million is likely to multiply eightfold by 2050, for example.

A note of caution accompanies Middle Eastern governments' and energy companies' ventures into a low-carbon frontier as the International Energy Agency (IEA) expects oil prices to hover around today's $50 per barrel range until mid-2017. As pressure builds on already strained budgets, the region must block out the bearish noise and focus on R&D and talent-creation for clean energy to accelerate the downward cost spiral.

The Middle East's sunny climate, R&D ecosystem, and penchant for innovation, mean that it has the opportunity to champion and export clean energy technologies.

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

Geopolitics to have greater sway over oil market than ever

As markets undergo structural changes, now is the perfect time to try and win a more favourable position, which companies can only achieve via a strategic marketing approach, experts at Euro Petroleum Consultants say

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

We have seen continued volatility for oil prices over the past few months and this is expected to continue, now that the results of the US presidential elections have been declared - the outcome of which will have an impact on future trends in the industry. The future US energy strategy will impact the global markets.

Given the circumstances and multiple changes in the industry this year, this has impacted all activities in oil and gas production even in prosperous regions such as the Middle East. To keep up with the pace of volatile oil prices, major companies have to review their investment strategies and operation plans in order to minimise potential losses and possibly gain more strength in the market. Since markets are undergoing structural changes, now is the perfect time to try and win a more favourable position, which companies can only achieve via a strategic marketing approach.

Companies worldwide are focusing on their competitive advantage, which for ME companies definitely means getting the most out of low cost of production ($2-5/barrel versus $20-30/barrel for more difficult oilfield locations in areas such as the North Sea or other offshore locations), as well as closing the gaps that lead to failures in a number of companies (it could either be safety and environmental protection, or inappropriate risk and asset management).

A key factor to maintaining stability in oil prices is to have agreements on production levels between the key producers.

Iran has been taking the back seat for some time due to applied sanctions, but after they have been lifted, there has been a surge in activity in the country. Many researchers predicted that it would take Iran two to five years to build up production to pre-sanctions level, but in reality it has taken only four months to recover (+25% to the volume of last year), Tehran then continued to increase this level by approaching 4mn bpd during the summer.

To sustain the planned level and reach an increase of up to 4.8mn bpd in the next five years, the country would need significant external resources to finance the growth ($70-100 billion as per estimates).

Many international companies and foreign banks have shown interest in investing in this business. Nevertheless, there are some limitations: a need to secure funds and guarantees for the risks taken, as well as strong governance of the industry from the government create some challenges that have made some potential investors hesitate and wait until the situation becomes clear and stabilises. It may lead to Iran having to scale back its ambitions to develop at a swift rate. The situation definitely leads to some uncertainty and concerns in other producing countries that did not anticipate such a strong competitor in a matter of half a year.

The framework of the Iran Petroleum Contract (IPC) was a bright new way to sign agreements with partners more easily as an alternative to buy-back contracts, and although it needs to be modified to fit in all essential aspects, it will have an impact on the region's market and others might need to find their own solutions to remain competitive. NIOC also plans to put efforts in improving oil recovery at brownfields which means it will be ready to attract engineering companies to help with that or even form JV for major projects.

Iraq, another major player in the region, is breaking records this year too. An ouput of about 4.8mn bpd was reached, making up the base for export buildup – and profit as well. But most of the progress was diminished by the oil price situation which affected international operators working inside the country.

Since most of the contracts were signed on a partly reimbursable basis, Iraq's government now has to compensate risks that were not included in them (+15% of the country's budget compared to 2014's level) and pay extra $3.5 billion to cover the debts. But still Iraq does not want to reduce production targets planned for 2020 – set at 6mn bpd.

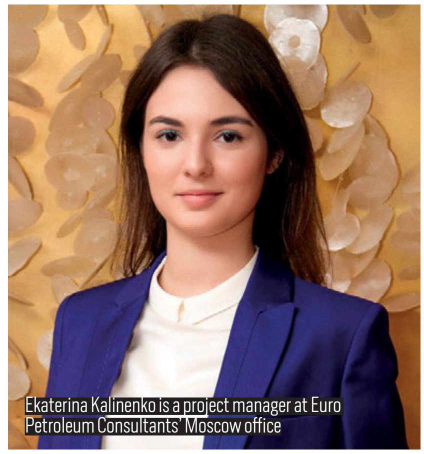
Another country that has suffered from lack of investment over the past few years is Egypt, and it is now seeking investments to revive the oil and gas sector and the economy in general. Egypt was an oil exporter before the crisis, but now it imports about $5.5 billion worth of oil and gas products from its regional producers (Iraq and Jordan mostly).

Egypt is now looking to take on the role of a producer again, at least to meet internal needs. It has large offshore gas resources that are yet to be developed since they will need to attract outside investors and foreign partners. Projects are now being actively evaluated.

If we are to see stable oil prices which should be in the interests of all parties, then it will be essential for OPEC and major non-OPEC countries to reach some agreement on limiting production levels.

It will be important to see if the continued discussions at the next OPEC meeting result in an understanding between the different parties, namely Iran, Saudi Arabia, Iraq and Russia to limit production so as to ensure some price stability.

Much of the global over-production has been caused by the growth of shale oil production in the USA. It will be important for the new administration of Donald Trump to follow the Energy Security Strategies. Questions such as the future of oil production, renewables and the state of the coal sector are very important issues that will impact the global oil and gas industry. Over the next few months we shall see the impact on oil prices. This could lead to even more uncertainty for the coming period with respect to the factor of crude oil price stability.


Ekaterina Kalinenko is a project manager at Euro Petroleum Consultants' Moscow office

INTERVIEW

Passion for profession

Roddy James, chief operating officer of N-Sea, looks back at his career in the subsea industry and shares his insight into how the industry continues to evolve

INTERVIEW: INDRAJIT SEN

> "BEING ABLE TO WATCH OTHERS PROGRESS, AND BE A PART OF A GROWTH JOURNEY, IS A REALLY IMPORTANT PART OF MY ROLE."

From a young age, I'd always been hugely fascinated by the sea. When I wasn't sailing, I spent all my time at the coast or in the water; it was somewhere I always wanted to be. I guess it was inherited from my father, whose naval background and passion for sailing assisted in my development. But my career path into the subsea industry was probably more unconventional than most.

After studying for my degree in the US, I moved back to the UK in the mid-90s and immediately achieved my recreational diving qualifications, so I could begin to explore the underwater world. Every spare evening and weekend was spent diving all around the UK and, after a few years, I was involved in a number of technical diving groups that were at the very edge of pushing the limits of subsea exploration, particularly in the wreck diving area. By then I had really caught the bug, and the natural progression was to change my passion into my career. I decided to obtain my commercial diving qualifications at The Underwater Centre in Fort William, Scotland. From there, I spent around three years working as a self-employed commercial diver and dive supervisor before I was offered an offshore project engineer role in 2001, with Norwegian company, CorrOcean, based in their Aberdeen offices. I thoroughly enjoyed this role as it allowed me to combine my inspection diving with engineering and, over a three-year period, I worked my way up to the role of operations director.

In 2004, I was lucky enough to be part of a management buyout that formed a new company, iicorr, which specialised in integrity, inspection and corrosion services, mainly in the subsea oil and gas sector, where I became business development director. The company continued to expand rapidly during the first few years and, in 2006, we were acquired by Stork Technical Services, which was developing its oil and gas division through further acquisitions. From there, I moved into a more corporate role as global account director for the oil and gas division of Stork. I led the integration of a company called RBG, which had a diving division, and I eventually became Stork's subsea services senior vice president in 2011. Stork was acquired in 2013 by subsea IMR provider, N-Sea Group, where I still am today, in the role of chief operating officer.

I've been lucky that all of my previous roles have led me to naturally progress to my current role at N-Sea. At Stork and iicorr, we focussed on the integrity issues that clients faced, and my passion for the subsea sector gave me a great grounding for the role that I am currently in.

I've always been drawn to the entrepreneurial way of growing a business, and enjoy developing a business plan that I can bring to fruition, with a strong team alongside me. Being able to watch others progress, and be part of a growth journey, is a really important part of my role. I've always been keen to support people starting out in their careers, as well as long-established employees, who gain a new sense of achievement from playing key roles in implementing our growth strategy.

N-Sea recently opened a new office in Dubai, which was a fundamental element of our growth plans and a natural progression from the European market. I believe the Middle East could become N-Sea's hub for global activities as we expand further. Our services are well suited to the water depths in the region, and I'm looking forward to developing our survey and IMR operations as we increase our presence in the UAE.

I've always had a competitive spirit and firmly believe that when you're knocked down, you just have to get right back up again. It's all about finding that mental strength to push through the tough times.

WHAT ELSE DO YOU NEED TO KNOW ABOUT RODDY?

Roddy pursued a degree in Business Administration and Finance at the University of Nebraska-Lincoln. Having grown up in Scotland, close to the sea, the landlocked state of Nebraska didn't suit him, however, so he spent his free time pursuing as many water-based activities as possible.

Qatar

راس غاز
RasGas

ENERGY for life

"Energy and form are a major inspiration for my work"
Yousef Ahmad - Artist

Energy powers our world, it enriches our lives.

Qatari artist Yousef Ahmed uses energy as an inspiration for his art.

It fuels his imagination.

RasGas' liquefied natural gas has a transformative and sustainable effect on Qatar's future.

Clean, reliable energy for Qatar and the world.

Energy for Life.

the power of the drop
THE ENERGY TO TRANSFORM

Global power and electrification giant Siemens is utilising its digitalisation acumen and capabilities to help its oil and gas clientele achieve optimisation in an era of necessary operational excellence

SEAMLESS EMPOWERING

WORDS: INDRAJIT SEN

One of the reasons why the Abu Dhabi International Petroleum Exhibition and Conference (ADIPEC) has established itself as the biggest and most successful oil and gas exhibitions is that it brings together the global industry's doyens and magnates. ADIPEC this year hosted one such key decision maker, who let me into her mind to understand how she directs the course of a global corporation.

Being her first time at the mega event this year, Lisa Davis was overwhelmed by the show's global appeal and seemed intent on engaging in meaningful business with stakeholders. "I'm very impressed and seems like there's quite a positive mood among those attending and the folks in the booths," Davis, a member of the Managing Board of Siemens, told me.

Siemens has been exhibiting at ADIPEC for years and Davis considers the event to be a valuable networking platform for the German energy services behemoth as "we offer products and services for every segment of the (oil and gas) business – upstream, midstream and downstream."

Davis, a composed industry leader who makes crucial calls to drive Siemens' business globally, says the Middle East is a core area of focus for the management. "At Siemens, we do business in over 200 countries. So we are active in pretty much all countries around the world. Having said that,

Siemens' oil and gas offering has been enhanced by the acquisitions of Rolls Royce industrial business and Dresser Rand.

we are very focussed on the region – the Middle East and North Africa. We see a lot of opportunity in not just energy or oil and gas, but broadly in a lot of other sectors, like infrastructure. So we are very committed to the region."

For an enterprise dealing in power and automation products and services, the oil and gas industry would quite naturally feature prominently in the business portfolio. Davis mentions that Siemens has strengthened its offering to the energy industry by way of two major acquisitions.

"We are very serious and committed to the oil and gas industry. We have done a lot over the course of the last several years to strengthen our capability in the oil and gas space, through the acquisition of the Rolls Royce industrial business and the Dresser Rand business."

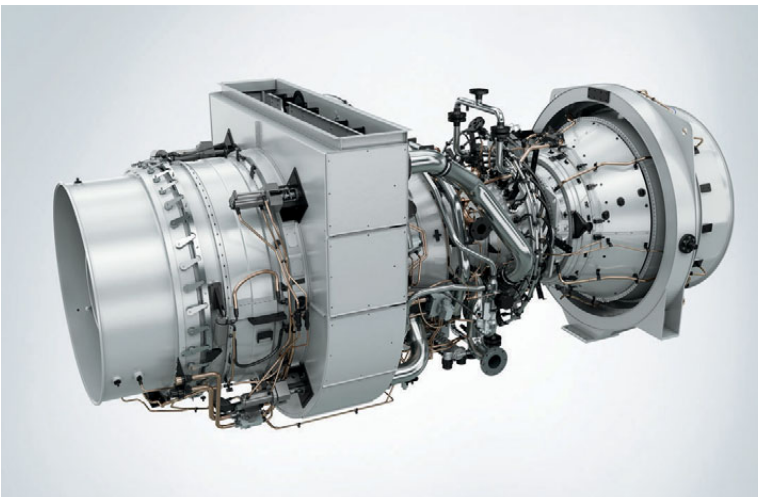
"Now we have a great portfolio, a very capable team and the capability to leverage the strength of Siemens in electrification, automation and

200

SIEMENS DOES BUSINESS IN ABOUT 200 COUNTRIES AROUND THE WORLD, TRULY MAKING IT A GLOBAL CORPORATION

digitalisation and bring that capability to the oil and gas market to support our customers," Davis says of Siemens' business strategy. That essentially outlines how the multinational corporation is constantly integrating its specialised offerings to various industrial sectors, such as automotive and food & beverage (F&B) to bring to oil and gas the best of its expertise.

"The company is active in many sectors and so we leverage our engagements with those sectors into another, like say the oil and gas sector. So we



Lisa Davis says Siemens' products portfolio for oil and gas is based around rotating equipment.

try and leverage the best practices across those," Davis explains.

"We also mobilise experiences; for example we leverage our experience in digitalisation. We have a common offering which we call 'MindSphere' which is an open-source platform to offer digital services to our customers – whereby our customers can actually build their own applications. So we have leveraged that across all the sectors we have worked in and our strength lies in that; in helping our customers learn from outside their areas of expertise."

Siemens has been involved in oil and gas projects around the world and boasts of a clientele that includes major IOCs like BP and Shell and regional NOCs like ADNOC. "We are doing a lot of great work with ADNOC here in Abu Dhabi. So we have a very broad clientele and a very broad portfolio to solve problems. Obviously the foundation of our (products) portfolio is around rotating equipment," Davis said.

Siemens' core strength of electrification, coupled with its acquisition of Dresser Rand has significantly improvised its capability to service the LNG sector, as it is now equipped with advanced product models of gas compressors and turbines.

Davis elaborates: "So we are working hard in the LNG space, specifically in the electric LNG space – which implies to the LNG liquefaction space where we offer solutions for fewer emissions and higher efficiency. We have a strong offering in that space, especially in the small-to mid-sized LNG liquefaction plants – which is where the industry is moving towards. We are very active in that area and we are looking to enhance our offering there."

Clamour for digitalisation

The oil and gas industry, having realised the benefits of digitalisation, is aggressively pressing ahead with digitalising operations and is keenly hunting for solutions that help it optimise the business. Various relevant digital techniques have come into play and those providers that have the necessary acumen and portfolio to fulfil the wants of the upstream sector stand to gain from this trend.

"Everybody is talking about digitalisation and ways to create value to manage data. So we are working hard on that and to help our customers understand the large quantities of data and how to manage them; whether it be through data analytics or diagnostics or other such concepts," Davis says.

It would be fair to call Siemens' work over the year in the digital domain as pioneering, and more so due to the fact that the multinational giant has exemplified how digitalisation techniques can be applied to the upstream sector to make projects far more efficient.

"So we have a lot of great examples," Davis recalls. "For instance, we have been involved in an offshore project in the North Sea where we had taken an offshore platform and operated it completely remotely from onshore – which allowed the owner/operator of the platform to avoid deploying people to the hazardous environment and exposing them to that. So we were able to leverage our (digital) expertise for the company (client) in a more effective way and reduce (the project's) costs."

"So there are a variety of different things that we can do to train and implement advanced diagnostics to help our customers manage their assets, to reduce costs and drive efficiency," she says.

"WE CAN LEVERAGE THE STRENGTH OF SIEMENS IN ELECTRIFICATION, AUTOMATION AND DIGITALISATION AND BRING THAT TO THE OIL AND GAS MARKET."

Siemens is equipped with advanced product models of gas compressors and turbines.

Siemens is involved in the LNG sector to which it offers solutions for fewer emissions and higher efficiency.

Efficiency is indispensable

It is too obvious not to recognise that the oil and gas industry, in the region as well as globally, is traversing through a tumultuous phase and as such stakeholders across the board have been impacted in multiple ways.

The upstream industry has borne the brunt of the fall of crude oil prices, coercing both major and minor players to reduce their capital expenditure. The negative effects of the decline of oil prices have also been apparent in the number of projects in the upstream sector that have been either put on the shelf or cancelled altogether.

"You are right. We have seen fewer projects recently," Davis said. "But our business is a mix of new projects as well as maintaining or operating existing ones. We are helping our customers maintain and operate their existing projects. So where we see customers reducing their new projects, we also see them get more and more value from their existing projects.

So we can help our customers do that as well and we do that through improving the reliability of the equipment, increasing the service life of the equipment and reducing the costs. So we are just as focussed on maintaining existing assets as we are on putting new assets on the ground."

Despite realising the merits of digitalising

operations, companies have been coy to adopt digitalisation for want of sufficient budgets. At a time as this, an industry service provider as Siemens – whose core offering to the oil and gas sector is hinged on providing holistic digital solutions, certainly incurs the risk of being stuck in the doldrums created by sub-par oil prices.

"We are finding that our customers in the oil and gas environment today are very interested in looking at new ways to do business. So we are supporting them in that, obviously by driving down costs, improving efficiency, increasing productivity, and so on," Davis observed.

"We see that oil and gas customers, and even within our own Siemens business, are working hard to reduce costs, improve efficiency and drive productivity and are responding to the marketplace that we are dealing with today.

And finally our customers are willing and eager to do business in a different way and that is allowing us to find new sources of value. And this is creating a very good business from what you may call a difficult environment. But it is also helping

ADNOC

SIEMENS BOASTS OF A CLIENTELE THAT INCLUDES MAJOR IOCS LIKE BP AND SHELL AND REGIONAL NOCS LIKE ADNOC

create businesses that are more sustainable for the longer term."

Operational excellence thus has become the order of the day as companies strive to do 'more with less' and indulge in an innovative thought-process to optimise their operations. Davis believes Siemens has a key role to play in helping its oil and gas customers achieve optimum operational value.

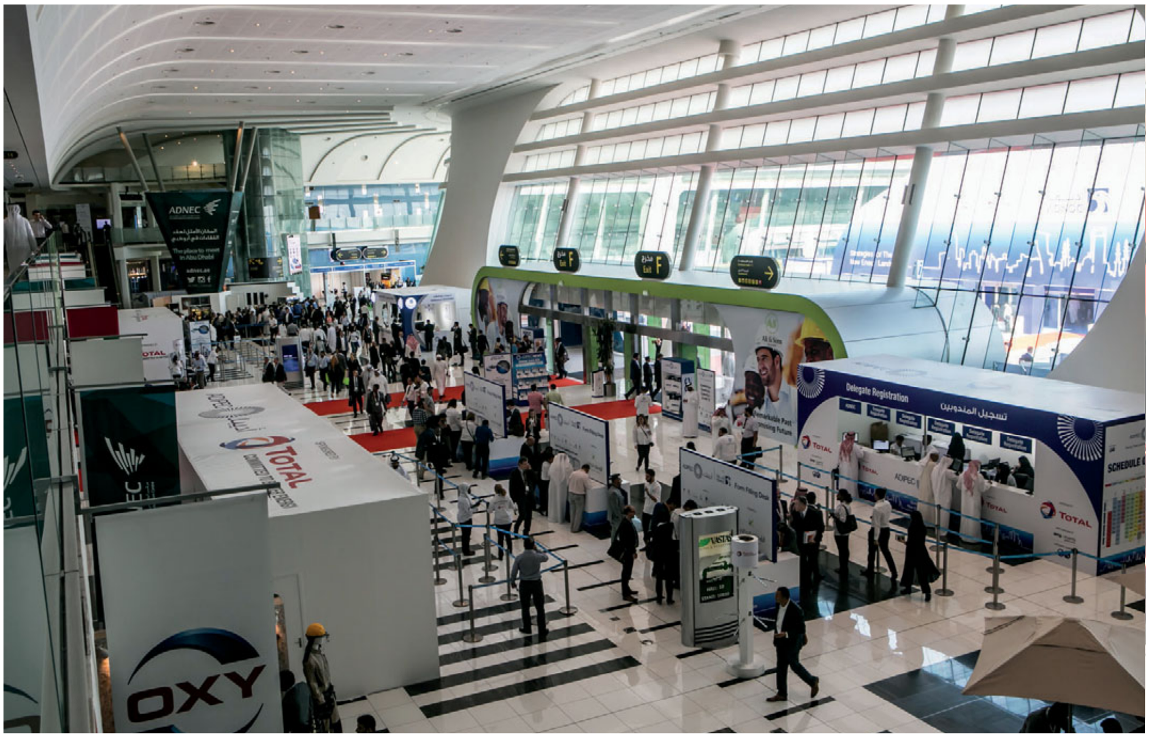
"When we look at operational excellence, to me it's about improving performance and safety – which is paramount. It's also about cost-effectiveness and improving productivity. All of that is operational excellence and that's something we really focus on.

I gave you the example earlier of the remote operation of the offshore platform (in the North Sea) that helped (the operator) in keeping people off hazardous conditions – so that obviously helps in maintaining safety. So our focus is on operational excellence, not only in what we do but also the value we bring to our customers by making sure that we provide the most reliable and safest equipment."

With digitalisation gathering steam, international providers of digital and automation services to the oil and gas sphere now form a busy club – whose membership is growing rapidly, and so is competition among the members. Davis however believes that Siemens has what it takes to keep the competition at bay.

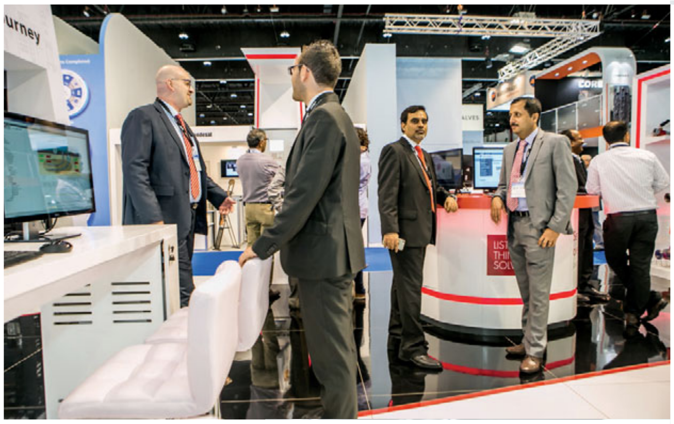
"There is a lot of competition and competition is good because it requires and causes us to better our game and improve our services to our customers," she remarked.

"The oil and gas sector is not as developed or advanced, in comparison to say the automotive industry, in terms of automation and digitalisation. So now we have the opportunity to really bring that expertise to oil and gas to help the industry do business in a different way. And all of that, in addition to our company's portfolio and capabilities and our many years in the industry, allows us to differentiate ourselves."



A TESTIMONY OF RESILIENCE

Companies and professionals from far and wide engaged in business as usual at the Abu Dhabi International Petroleum Exhibition & Conference 2016, contrary to concerns that the event might witness subdued fervour

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HE Suhail Mohamed Al Mazrouei, UAE Minister of Energy holding a rountable discussion with the media on November 9th at the Hyatt Capital Gate Hotel, Abu Dhabi (ITP Photography)

UAE Minister shares key elements of energy strategy with regional media

WORDS: INDRAJIT SEN

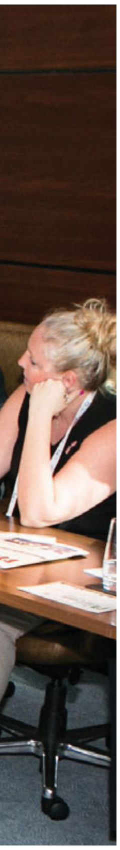
His Excellency Suhail Mohamed Al Mazrouei, UAE Minister of Energy, held a press conference to answer key questions of the media on November 9th on the sidelines of ADIPEC. Moderated by Sean Evers, managing partner at Gulf Intelligence, the event also hosted Dave Ernsberger, global head of oil content at S&P Global Platts.

In answering the first question, Al Mazrouei touched upon a crucial aspect of the UAE's energy expansion strategy – its trade relations with India. "India is a very important market for us and a market that has the potential to grow. In fact, we have an old relationship in supplying India with crude. India will continue to be an opportunistic market (for the UAE)," he said.

India is building underground storage facilities at Visakhapatnam in Andhra Pradesh state, and Mangalore and Padur in Karnataka state, with a capacity to store about 5.33mn tonnes of crude oil to guard against global price shocks and supply disruptions. During the visit of a UAE delegation to Delhi in February this year, ADNOC signed key agreements, including a deal to use half of Mangalore's 1.5mn tonne facility, which would make up 6mn barrels of oil. In return, ADNOC at the time said it would allow India to maintain about two-thirds of the stored oil for free

"There is talk between India and ADNOC about the storage, similar to what we did in South Korea and in Japan. We will definitely announce once we reach a final agreement," Al Mazrouei said. "When there is a major client requiring to have strategic storage, the typical response is to supply. Because their (Indian) refineries are used to certain types of crude and they would like to have a strategic reserve. This is typical and it happens and we have done it in other countries. We will continue to do this as a major exporter."

ADNOC has embarked on a major consolidation drive, as part of its newly structured 2030 plan. The UAE oil giant in October announced the integration of two of its offshore oil companies – the Abu Dhabi Marine Operating Co (ADMA-OPCO) and the Zakum Development Co (ZADCO) – into a new entity. The same month, ADNOC also announced the consolidation of the operations of three of its



shipping, marine and services companies – the Abu Dhabi National Tanker Co, Petroleum Services Co and Abu Dhabi Petroleum Ports Operating Co – into one firm in order to increase efficiency.

More recently, ADNOC has also said it would be merging the Abu Dhabi National Tanker Company (ADNATCO), Petroleum Services Company (ESNAAD) and Abu Dhabi Petroleum Ports Operating Company (IRSHAD) to optimise resources and assets. "This is an entire journey. We have seen lots of consolidations within the ADNOC group. And I would like to command Dr. Sultan al Jaber (UAE Minister of State and ADNOC group CEO) and his team for all of that work that they have done," Al Mazrouei said.

"The idea is that we need to sharpen our pencils. We have a plan to become one of the, if not the most, efficient producer by reducing the cost per barrel. We already have some of the best reservoirs and some of the best reservoir management programmes. These resources can be further optimised for higher competitiveness," the minister continued. "Of course, the merger between companies create value, which we have seen within the IOCs in the past. But it needs to be done with care and clear objectives. Otherwise, you will not achieve your target."

The Abu Dhabi government has not limited its consolidation drive to just the ADNOC group, but has also shown a keen interest in implementing an exhaustive efficiency model, by deciding in July this year to merge two of its biggest investment firms into a single entity to create a giant portfolio (comprising mainly energy assets) that would help the economy take the next step towards diversification.

In response to a question by Oil & Gas Middle East on the timeline and benefits of the proposed merger of the International Petroleum Investment Company (IPIC) and Mubadala, Al Mazrouei said: "First, Mubadala and IPIC are not only oil and gas. They are investment funds with various investments. Every entity of them complements the other. They are a merger of equal size, but they are a little bit different in terms of focus. There is an overlap of course when it comes to upstream. What we are trying to achieve from this merger is creating champions and creating companies that can compete internationally and that can take a lead in growth."

He continued: "The IPIC group, for example, already has a portfolio that comprises a large producer of petrochemicals (in the Gulf) together with the Abu Dhabi-based Borouge, while Mubadala has the third or fourth largest producer of aluminium and the second largest producer of semi-conductors."

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Strategies for a sub-par oil price environment

The oil industry shared the secrets of its crash-course diet at ADIPEC, during a conference session entitled 'Investment challenges in current market conditions'

WORDS: ROBERT WILLOCK

Senior sector leaders have been forced to readjust their strategies to create value in a low-oil-price environment.

Berislav Gaso, executive vice president upstream at MOL Group said: "We as oil producers became somewhat lazy. It was easy to generate margin and cash flow in a $100 environment. But we forget that for many decades we were operating very profitably in a $30-$50 oil price environment."

MOL's response to the new reality included production optimisation (reducing marginal barrels), cutting back on frontier exploration, and reviewing all supplier contracts to extract additional value.

Gaso added that the industry should "stop designing wells like bespoke suits", adding: "We have drilled hundreds of wells. I want standardised design. I want Ryanair, not a first class Learjet."

Erwin Kroell, senior vice president MEA at OMV spoke in similar terms about his company's transformation that involved a 40% reduction in costs. "It has been tough given the cost base we had. The industry grew rather fat, not just the operators but also our contractors."

He said that in a $100+ per barrel environment the organisation focused on upstream, explored new frontiers (deep water, arctic etc), and developed 'unconventionals'. But in the sub-$50 per barrel environment, the business is "opportunity constrained" and there has been a strong reduction of upstream costs and investments to the point where the downstream business is now supporting the upstream business.

↑ ADIPEC 2016 saw organisations discussing ways of achieving greater efficiencies in a low oil pice environment.

The oilfield services company representatives spoke of achieving greater efficiencies with equipment. Kyle Chapman, president – global product line marketing at Weatherford, noted that in the high oil-price environment "there wasn't a lot of movement of equipment". He said: "We just built new equipment. Now we need to use what we have, move it and repair it efficiently."

Jean Francis Poupeau, executive vice president corporate development & communications at Schlumberger, revealed his company's ambition to reduce non-productive time rate 90%. "In other words, a 10-fold improvement in reliability," he said. "In our industry there are a lot of defects. A lot of time [equipment] doesn't work."

The oilfield industry operates at 4 Sigma, said Poupeau, with more than 6,210 defects per million opportunities, compared to the automobile industry, which operates at 5 Sigma (233 defects per million). "We are going to take it from 4 Sigma to 5 Sigma," he promised, adding that this stepchange in reliability and efficiency is "good for us and good for our customers".

Poupeau revealed that Schlumberger is 51% of the way to its target will reach its objective by the end of the decade.

PEOPLE MATTER

Panellists discussed the impact of large-scale redundancies on the oil industry. OMV's Kroell admitted: "We are lacking skills because we have heavily reduced our workforce."

Weatherford has managed a 43% decline in headcount since 2014, amounting to 35,000 people laid off. "It's people's lives," acknowledged Chapman, adding: "It's not something we choose to do; but as a matter of survival we had to do it."

He added: "We are starting to hire people [again] now. Only 10% of people [who were laid off] want to come back to the industry. The younger generation have made a decision not to live in this volatile industry. We are going to do a good job with marketing to get beyond that stigma."

Poupeau said: "Fresh graduates still have a huge appetite to join this industry. We just have to tell our story a little bit better." He added that Schlumberger, which has let go of 50,000 people in the past 54 months (one third of its workforce), is recruiting again, but admitted: "We will not reemploy the same number of people for the same level of activity."

And Gaso said simply: "We love barrels but we should learn to love knowledge more."

Jereh is changing directions to explore engineering backed with investment

Jereh's business development manager Anderson Han reveals the company's new directions in the region

This is your first time at ADIPEC, so what is the general mood at the event this year?
Even though you see a lot of visitors, exhibitors and participators, we did not see significant change in the whole industry. The discussions are still focused on reducing costs, optimising operations, and even decreasing the workforce. However, I believe this is more positive to last year. So generally speaking, it is getting better.

What are some of the products and services that you offer to the upstream sector?
Jereh is a traditional oil and gas equipment supplier and manufacturer for over 20 years now. Our reputation is quite recognised, specially here in the Middle East. However, we are trying to move strategically towards something new, which is engineering. We plan ourselves to be an integrated international engineering solutions provider. How can we, as manufacturers, step into the engineering field? We have a good weapon which is financial investment. To tell you more about this topic, we have stablished two oil and gas industry funds in China with the scale of more than $2bn.

Does that mean that you will begin to manufacture in China whatever equipment that you provide and then ship it into the region?
This is the traditional purchase and sale mode. Jereh is changing to a new direction. On the one hand, we are still manufacturing and selling equipment. On the other hand, we do the projects by ourselves. We intend in some cases to be project owners.

↑ Anderson Han at Jereh's stand at ADIPEC 2016

↑ Jereh's stand at ADIPEC 2016

Don't you think that manufacturing locally gives you an upper edge over producing in China and shipping into the region?
We have considered to transfer some of our manufacturing facilities to the local market. For the first time, we established two storage facilities in both Kuwait and Oman to serve the market better. This is in addition to our existing facilities in the UAE, which is quite successful. I do believe that in the next five to ten years, we will have more manufacturing capacities in the region.

What are some of other countries where you are looking to expand?
Jereh is currently setting up 6 bases only in the market, which means we have a great potential. To that potential, the two markets which I am looking for is first Iraq, which has great potential and environmental settings. This is despite the political risks; you should come up solutions because you always have trouble everywhere. The next market would be Iran where the restriction policies is slowly loosening up, which we assume would be a potential market for us. I am also looking forward to high ranking markets like Saudi Arabia and Qatar which are some of our targets for 2017.

Can you give us an idea about your clientele in the UAE and Oman? We assume that you are already doing business with the ADNOC and PDO?
In the Emirates, we have been providing CTU, coiled tubing unit service, for two years now. We have two fleets with 150 people within the UAE market. In Kuwait and Oman, we are supplying equipment and spare parts to several companies including Kuwait Oil Company.

Midstream solutions provider Agility to dedicate a big part of its $27.2mn investment to the upstream sector in 2017

Bassel El Dabbagh, CEO of Agility Abu Dhabi, has an optimistic outlook for the upstream industry in 2017

What led you to participate at ADIPEC this year?
We serve several sectors, with oil and gas being one of the main industries that we provide for. This is why ADIPEC is a critical event for us to attend. This is our first year to exhibit, but we have been participating every year by being the logistics provider for the event.

What is your involvement with the oil and gas industry in the region?
To take Abu Dhabi as an example, we service mostly the ADNOC group of companies as owners of the oil and gas projects. However, sometimes we service directly the EPC companies that are executing these projects. We do customs clearance as well as overland transportation on our own assets. Also, we specialise in the oversized and overweight type of cargo which we bring from anywhere in the world to the Abu Dhabi site in a door-to-door solution. We also have a significant port handling capacity
.

Where are your key centres located within the GCC?
It is mostly between Khalifa and Jebel Ali ports in Abu Dhabi and Dubai respectively. For the oil and gas industry, a lot of the oversized cargo comes through Mina Zayed port also in Abu Dhabi. We mostly transport oil and gas pipes, rigs, spare parts for rigs and refineries, and big steel modules for onshore and offshore projects. Also, our sister company TriStar is specialised in the movement of liquid bulk over land and by sea.

↑ Bassel El Babbagh, CEO of Agility Abu Dhabi, at the company's stand at ADIPEC 2016

Among the top global logistics players in the world, Agility is the only one that has roots in the GCC countries, with the essence coming from our corporate headquarters in Kuwait. The region is a main focus for us, and we are stronger than our global competitors because we originated from the region itself. Particularly, we have a strong presence in Kuwait, the UAE, and Saudi Arabia.

What are you looking to achieve from your participation at ADIPEC 2016?
All the stakeholders in the industry are present. In addition to network, it is also an opportunity to see the latest trends, enabling us to develop more efficient solutions that can better address the challenges of our customers.

During the event, we are focusing on our oil and gas solutions. This includes our capability when it comes to heavy lift transport for the overweight and oversized cargo. Also, we are highlighting our marine logistics services, given that lately the bigger number of oil and gas projects in Abu Dhabi is offshore. We have been involved in a number of these offshore projects providing marine logistics solutions.

Is this is a good time to expand your presence in the region?
At this time of downturn, we see it as a part of a cycle. We have been in the region for the last 40-50 years and we are here to stay. We take this as an opportunity to invest. In Abu Dhabi, we are looking to invest 100mn AED ($27.2mn) in 2017 in general expansion, a big part of which is for the oil and gas industry. We are determined and committed to this economy. In addition, we are optimistic that this is just a temporary downturn. We are optimistic for the outlook and believe that the market will pick up again in the second half of 2017 in terms of the oil prices as well as the number of projects.

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Making profit with the current prices is possible once companies adjust

Nigel Wilson, Chairman of Petroplan, talks about the growing demand for nationalisation in the sector

Can you give us a brief about your company?
Petroplan is a global recruitment specialist that has a global footprint and has a presence in all of the major oil and gas hubs around the world. This year is their 40th birthday and they have been operating in the Middle East for 10 years. We opened our first office in Dubai in 2009. We also have representation in Abu Dhabi, Iraq, Oman and Kuwait.

Nigel Wilson at ADIPEC 2016

What are some of the recruitment trends in the oil gas sector across the region?
We recruit for both contract and permanent roles. . At the moment, we have about 90 contractors working in the region. We also have recruited 80 permanent individuals in the last 12 months. There is a growing demand for nationalisation, which is absolutely the right thing to do. Having young, qualified, educated national staff is not only good for the oil companies but also for the whole country. So it is a demand that needs to be fulfilled. The problem is the practicality of reaching these goals.

It can be very difficult especially in countries like Oman where they have a quite small population but quite high nationalisation demands. What we are seeing in other countries like Iran is that they are opening up and if they want to meet their production targets, they need access to capital, modern technology and people. This demand will almost certainly be met by expatriates when local talent is not available.

What are the channels that you are using to reach this talent?
We extensively use technology channels. Recruitment in general has adopted technology in a big way. This is the way to get access to the international community. Candidates can apply to jobs through our website where they can also register.

Our challenge is that we have two stakeholders to manage. One is our clients, the companies we are working for, and the other is the important resources that we are matching with the clients. So we have to have a very good communication process that meets the needs for both of these stakeholders.

What brought you to ADIPEC this year?
We have been coming to ADIPEC for a while now, with this being our third year. This year, I was presenting a technical paper about sourcing talent in the Middle East. This is the primary reason that brought us here today.

But in general, ADIPEC is the most important conference for us, especially since we are trying to grow the Middle East portion of our business. The reason for that is there are still things happening in the Middle East that have stopped in other areas. For example, in North America, Norway, and the North Sea in the UK, the business has almost come to a stop. Whereas here, there are still projects happening.

How do you think the drop in oil prices affected recruitment in the upstream sector?
When the oil price dropped very quickly, the problem was the high cost base that was designed for the previous high prices. As a result, the oil companies were making a massive loss. Over the last 4 years, the costs have been gradually coming down but it is a very slow process, especially since a lot of these costs are in contracts of 3 to 4 years. Some companies were just waiting for the oil prices to go up, which of course hasn't happened. So I think now people are realising that the oil will stabilise at this price for a while, and the costs have come down. In my early days in the industry in 1999, the oil was at $11 a barrel.

The end of a crisis is the right time to grow and to do business in the region

Sandra Antonvic, COO at Reflex Marine, thinks it is premature to say that the oil prices have stabilised.

What is the general mood at ADIPEC this year?

I think that the conference has a quite upbeat about it. There are a lot of companies exhibiting from different areas so it's not just oil and gas onshore but also other offshore sectors. So I think the market is ready to see what will happen at the end of the month with the OPEC meeting. I think that everybody understands that the market shifted and that the next year is going to be much more positive.

Did the success of this year's event led you to decide in favour of participating next year?

We have been present in this market for over ten years. So the Middle East is quite an important piece of the puzzle for us. I moved to Abu Dhabi earlier this year where I am now based. If a company decides to move its COO to a specific region, it sends a message to the market about where that region stands on the priority list.

Which are the countries you are most active in?

We work with all countries in the Gulf region including Iran, Kuwait, Saudi, the UAE, Qatar and we recently opened in Oman as a new market for us. Some of our clients include McDermott, Saudi Aramco, ADMA as well as others.

Can you give us an idea about some of your products and services for the upstream?

↑ Sandra Antonvic, COO at Reflex Marine

We are in marine transfer, for which we design and manufacture carriers to transfer people offshore. This can be used for LNG as well. Anywhere offshore where you need to transfer people back and forth whether it's to go to work or for maintenance visits, our products would be a suitable option.

What steps did Reflex Marine take to come to terms with the current market conditions?

Just to touch quickly on the oil prices, I am not sure if we came to an agreement because there is the OPEC meeting at the end of this month. So it is premature to say that the oil prices have stabilised at the current rates and that it will not increase. I don't think a dramatic rise in price is necessary because at this point getting it up to $60 is enough. I think anywhere between $50 and $75 is sustainable. Anything over that would create the bubble that is unsustainable.

The downturn in the past few years did make us leaner, move at a much faster pace and became more proactive. We learnt a lot and we understood the importance of data and information. We also understood the importance of connecting the dots between different regions, because we can't just look at one region since the oil moves everywhere. In that sense, I think we managed to transform and we came out stronger.

Do you think this is a good time to do business in the region?

I think it is the right time to do business in the region actually. The end of a crisis is always the right time to grow.

Do you have any expansion plans in the region, beyond the maritime transport which you are already very strong in?

Oil and gas maritime is our primary focus. There are a lot of opportunities in that regard. There are quite a lot of shipyards in the region that we have spoken to, a lot of which are managing their own fleets.

Shipyards are the next kind of thing for us here. We are already in conversation with two of them in Jeddah, Saudi as well as with Abu Dhabi shipyard. I think that ports and freezones would be the obvious choice. Also, Kuwait and Iran are opening their refineries in Vietnam, for which the logistics side of things will be an important piece of the puzzle for us.

Oil prices will not improve and immediate readjustment is critical

Dow's Adraino Gentilucci talks about solutions that can help the upstream sector adapt to the new oil prices

Being one of the major players in the industry, Dow Chemicals has an old footprint in the region, particularly with their presence in Kuwait. More recently, the company has been developing their presence in Saudi Arabia with Sadara.

Because of their strong manufacturing presence in the region, it was ideal for the organisation to participate at ADIPEC, which offers a perfect platform for them to explore different opportunities with their clients in the region.

Adriano Gentilucci, commercial leader of the company, said, "We founded a specific oil and gas business within the company in 2008. We have been participating of the event since the inception of that segment and we will continue.

With exploration and production being the main focus of the show, Dow participates as it has a presence across the value chain of the industry. In fact, the company, according to Gentilucci, has a strong focus in exploration and production across the region and offer solutions that particularly go into segment of the industry.

Given their strong involvement across the value chain of oil and gas, EOR is an area where they plan to grow more in this region.

"We are working in this area with our improvement in advanced chemistry. So we continue to spend R&D resources and capital in the range of $1.5mn in R&D expenditure per year globally," Gentilucci said.

↑ Adraino Gentilucci, commercial leaders at Dow Chemicals

↑ Dow Chemical's stand at ADIPEC 2016

After the drop in oil prices, decision makers of the company felt more comfortable to bring their technologies into the region, "because the region is probably now in the right time to start applying those types of technologies."

The dip in crude oil prices has put some pressure on the investment capacity of companies in the region. When well-managed and well-designed, EOR allows oil companies to find opportunities to produce oil on their existing facilities.

With conventional standard, techniques, oil companies only recover a minority of the existing potential, with an average of 30% of the original oil in place. This can be increased by an additional 10% to 15% with secondary oil recovery which includes water injection systems. Still, a relatively large quantity of oil remains unrecovered.

"This is very valuable for a company today because the capital investment is more modest," explains Gentilucci. "This is an area where we saw an opportunity for us to explore."

"I don't see the oil price will change in the foreseeable future. I see that oil companies are slowly readapting to this level. Seen as unsustainable a year ago, this level now looks more sustainable to the players of the sector and has become the new norm. Companies that have been readapted I believe are now much more efficient. They are able to produce at a lower costs," he added.

For Dow Chemicals as a manufacturer that is fully integrated in the industry, immediately adapting to the new prices was critical. "Being a buyer of crude oil products, we also optimised our solutions," Gentilucci concludes.

The region has adapted to technology faster than other parts of the world

Honeywell's president and CEO Norm Gilsdorf discusses the company's long presence across the region

What brought you to ADIPEC this year?
Honeywell is here at ADIPEC, as we have in previous years, representing a number of our businesses. This year, we also brought Elster, which is a company we acquired earlier this year in the gas metering technology. We are also offering some of our historical products previously launched that are very much appropriate for the region.

Norm Gilsdorf at Honeywell's stand at ADIPEC 2016

Where are you present in the region?
Everywhere. We have been in the region for over 40 years. In some areas, we have been present for 50 years or more. We have nearly 2000 people spread across the region, with over 800 of them here in the UAE, 500 in Saudi Arabia, and several hundred in Kuwait. We also have a presence in Egypt, Iraq, Qatar, Oman, and Jordan. There is probably no place in the Middle East where we are not present.

Some of the places you mentioned are quite high risk areas, how does Honeywell deal with the situation there?
There are two aspects of risk management. First, we are in the business of helping our customers manage their risks, providing them with all sorts of technologies to help them protect their assets.

When it comes to our own employees, we have a security organisation that looks over all countries across the world, providing us with the required level of security to be able to enter these countries. We work very hard to protect our people.

When it comes to the current market conditions and the low oil prices, in what way did Honeywell get impacted?
Honeywell is a technology provider that helps the industry be more productive, more efficient and safe. For us, in an environment where the price of oil is down reducing capital spending, there is still a tremendous need by our customers to be wise with how they spend their capital but also to improve their operational excellence. We are actually very busy right now helping our customers get through this period because we are their enablers.

Do you think this move towards automation will cause more workforce layoffs?
In this industry, I don't think that automation has gone to the point where it is having any significant effect on the number of people working. Meanwhile, it does enable people to be a lot smarter, safer and more productive. But we are not necessarily eliminating jobs in doing that. In fact, some 15% of the oil wells today are unmanned and are not getting monitored. Technology now enables you to monitor them, report back what's going on. This is all without putting someone out there, but when someone returns for maintenance, that person knows what to do and what are the right tools and the right parts to bring.

How does the Middle East compare with the rest of the world in the adoption of the technology that you offer?
I would say that the Middle East is faster adopters than many other regions in the world for a couple of reasons. First, the region has newer technology with that it is able to adapt. Take the US where I come from as an example, the wells are 80-90 years old, making it is hard to implement the latest technology. Second, people here in the region are much more into mobility, connectivity and software. They are much more adapted to these things because they are younger in the labour pool, making them very interested and motivated to integrate technology into their work. I would say that this region as well as some parts of South East Asia are the fastest in adopters of technology.

Cyber attacks are evolving in sophistication, threatening the energy industry

Harshul Joshi, SVP – governance, risk, & compliance at DarkMatter, expects cyber-attacks to increase in 2017

How successful do you think ADIPEC is this year against the backdrop of the dip in oil prices?
This conference is where the oil and gas as well as technology players come together. This is more so under the light of the low oil prices, because everything around efficiency and cyber security is becoming more important. For example, cyber security is a new track at the conference, reflecting how important it has become to prevent cyber breaches from impacting the industry.

How did DarkMatter get impacted in the past year as a result of the low oil prices?
We were not impact at all. In fact, we are growing tremendously. The UAE and the GCC are becoming very serious about their cyber security. This is especially true when it comes to oil and gas, which is one of the most critical infrastructures of the country, contributing a large share to the UAE's GDP. We haven't seen any cut downs on cyber security because now it is a must-have rather than a luxury. Any breach can be huge blow to the revenue as well as the bottom line.

What led to this new focus on cyber security in the region?
As you can see, the cyber-attacks are on the rise. You saw what happened recently in the US and Liberia. These attacks are focusing on critical infrastructures of nations. We are no longer at the stage where it is targeting just a couple of companies from the financial standpoint or a loss of a few credit cards. It started attempting to bring nations and smart cities down, which can really hurt countries from a financial standpoint, reputation standpoint, or even loss of life. This is why cyber security is now taking centre stage across the world. In the GCC, as a matter of fact, in its reliance on a couple of industries like the oil and gas sector, addressing this issue has become extremely important.

↑ Harshul Joshi at DarkMatter's stand in ADIPEC 2016

Technology is now a big thing and there are new players exploring this rea. What makes DarkMatter different from others?
First, DarkMatter has a holistic view of cyber security. A lot of players who work in the sector are focused on particular areas with a couple of products and services here and there. There is not a single company in the world, and I am coming from California's Silicon Valley, that has products, solutions and services under one umbrella as DarkMatter does.

Second, what makes us different is our global team who comes from 40+ countries. Thanks to our UAE headquarters, we have the luxury to hire the best. A lot of the folks, including myself, really love this part of the world because at some level it is not as legacy driven as the US, China or India. Here in this region, change can happen very quickly, while elsewhere this can take up to 5-10 years. So our headquarters being in the UAE gives us the opportunity to become a global player very quickly.

What are your expectations for 2017?
Unfortunately, cyber-attacks continue to be on the rise and are now targeting critical infrastructures of cities and nations. Those attacks are becoming more and more sophisticated. This can bring not just the businesses but the whole country down. If you look at smart cities like Abu Dhabi and Dubai, everything is interconnected whether it is oil and gas or other sectors. Therefore, countries and cities have to spend more to be really secure. Otherwise, one big attack can bring the whole nation down and the impact will be enormous.

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Localisation provides competitive advantage to long-term strategy

Localisatisation is critical to fully understand all the benefits of the local supply chain, says Linh Austin

What objectives did you come to ADIPEC with this year?

For us, ADIPEC is an important venue where we can achieve a number of our goals. One of which is to showcase and tell the McDermott journey, which is quite a positive story in this downturn. We actually hired about a thousand people to our workforce this year. This brings me to the second thing that ADIPEC helps us achieve which is to meet new talent. The third thing that we aim for is to network either meet new suppliers or touch base with the existing ones. This will help us understand the new technology and renovation that they bring to the table to support our business delivery.

Where are you operating in the region?

In Dubai, our head office is in Jebel Ali. We moved there in 1985. We were initially based at the Dubai Creek, but we had a great relationship with Sheikh Rashid, who as you know was the one who had the vision for Jebel Ali. He was looking for the area to be an anchor store concept and we volunteered to be the first to move there. We were the biggest employer in Dubai at the time and we are lease holder 001.

We also have two offices in Dammam and Al Khobar. We just opened our second 300-person facility there in October. We also have a fabrication yard there, the second biggest one in the Middle East, the first being also ours in Jebel Ali.

Linh Austin, McDermott's vice president and general manager at ADIPEC 2016

In May, we signed MoU with Nakilat-Keppel Offshore Marine (N-KOM) for Qatar. Obviously, we are a multinational global company but we have changed our philosophy about localisation. We believe that N-KOM is a good partner for us that provides us localisation in Qatar.

Why do you think localisation is so important?

For us, we do believe that there is an inherent competitive advantage for being local. It is all about understanding what is being needed locally, knowing the best way to service the market place, and promoting a certain understanding of the supply chain. Until you are actually local, you don't fully understand all the benefits of the supply chain that you can receive locally.

When do you expect to reach your localisation quotas in your different GCC offices?

For us, localisation is not a quota. We just see that localisation gives certain competitive advantages in strategic moves that need to happen on the long term. It differs from market to market, however.

In Qatar, there is less need for localisation simply because the size of the local population is much smaller, creating less interest in getting into offshore and EPCI work. Therefore, one of the things we do there is train local Qataris who are interested in an early career learning process because what they are essentially aiming for is potentially to work for national oil companies. So they are interested in us as an avenue for learning rather than as a long term career. We also see this same type of interest in the UAE.

In Saudi, however, we find a different interest. We find a lot of Saudi local talent who are looking to make a career in this kind of industry. In that case, it requires a different approach to localisation from our side.

The GCC is the one region globally that continued to grow in the downturn

SNC-Lavalin's executive vice president Rory O'Donell talks about its growing presence in the region

What do you expect this year at ADIPEC given the current oil prices?
We find it a great opportunity to network with our clients and to reinforce our understanding of what is happening in the industry. We are a global player, but we also have a large focus here on the Middle East. Within the region, we have seen a lot of activities over the last few years despite the downturn in the sector. This year alone, for example, we have secured $1.5bn worth of order intake within the oil and gas sector.

We work for all of the major national oil companies as well as all of the major international oil companies that are present here within the region.

How did the dip in oil prices impact your operations?
In fact, our operations have continued to grow. About 12,000 of our Middle East-base staff are in the oil and gas business. This is a new all-time high for us in terms of presence in the region. Our revenues are continuing to grow within the oil and gas in the Middle East.

Rory O'Donell at SNC-Lavalin's stand at ADIPEC 2016

Mubadala-owned ST&S maintains a positive outlook for 2017

Abdul Khaliq Saeed, CEO of TS&S, discusses the benefits of merger and acquisition activities in the region

What brings you to AIDPEC this year?

Turbine Services & Solutions is a Mubadala company, 100% owned by Mubadala. The different divisions of the company are run by one management, bringing a lot of synergies, eliminating duplications, and giving us more efficiency.

ADIPEC is very important for oil and gas businesses. It gives us the opportunity to network. Of course, we also showcase our knowledge, our technology, and what we have to offer to our customers. In fact, we have been participating at ADIPEC for almost 10 years now.

What is the difference that you saw happening at ADIPEC over the years?

If I go back many years of course the participants used to be much less. But I have not seen changes in the participation as a result of the low oil prices. I believe that the UAE plays a major role in that. The fact that Abu Dhabi is one of the biggest oil producer attracts many people and a lot of companies around the world are making sure that they are represented at ADIPEC.

What was the impact of the dip in oil prices on your company?

The reduction in oil prices that happened did not only affect us. It affected everyone in the GCC region. As a result, people need to adjust, rethink how they will spend money, and plan their way forward.

↑ Abdul Khaliq Saeed at ADIPEC 2016

This is one area that the UAE has been very clear about, announcing that they need to diversify and reduce the dependency on oil. This has been happening for a while and you could see it in the last few years. The government has been pushing in that direction and they have a very clear vision about the way to go forward. I think that we are very lucky to be a part of Mubadala because it gives us more clarity of the vision.

Do you think the drop in oil prices created new opportunities in the sector?

This is true in the sense that you definitely need to adjust in order to be more efficient, deliver high-standard services, and keep attracting people. Business now has to be done differently.

We did a lot of check and balance in our processes including how we can recheck our processes and improve. We did not have any layoffs but we looked internally to see the areas which we can improve the overall performance.

Do you think the recent merger and acquisition activities will make players in the sector stronger?

It certainly can bring in synergies with is. This was also our case; we looked inwards and sought to create synergies. For example, we are looking to have our businesses run by a single finance or HR office. There are a lot of benefits from this, not just when it comes to cost reduction but also in regards to efficiency. I think this is the right thing to do and right now is the right time to do it.

What are your expectations from 2017?

At the moment, my outlook is very positive and I hope it will continue to be this way because everyone is saying that next year will be much better. If I look at it from the business point of view, everyone has been very careful in 2016 with their expenditure.

However, at the end of the day, we are dealing with machines which have to stop and go for repair. In the sector of oil and gas, compared with our other aviation division for instance, there is more flexibility in how people run their engines and turbines. They have more time to run it but eventually they will have to stop. So I hope in 2017 a lot of these engines will stop to come to our shops.

Oil&Gas MIDDLE EAST

A SPECIAL REPORT INTO A KEY SEGMENT OF THE REGIONAL UPSTREAM INDUSTRY

MARKET FOCUS

Up to 80% of upstream companies are looking to increase spending on digital technologies/ ***p54***

KNOWLEDGE PARTNER

Chinese ICT giant Huawei shares how its digital expertise is helping it assist customers digitalise/ ***p56***

\+ **PRODUCTS**

A SHOWCASE OF DAM OFFERINGS /P58

SPECIAL REPORT

DIGITAL ASSET MANAGEMENT

Oil & Gas Middle East goes to the heart of Digital Asset Management to understand how in an era of low oil prices digital service providers are helping regional upstream companies gain from the concept's benefits and aiding customers optimise businesses and achieve operational excellence

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COMMENT

EDITOR'S LETTER

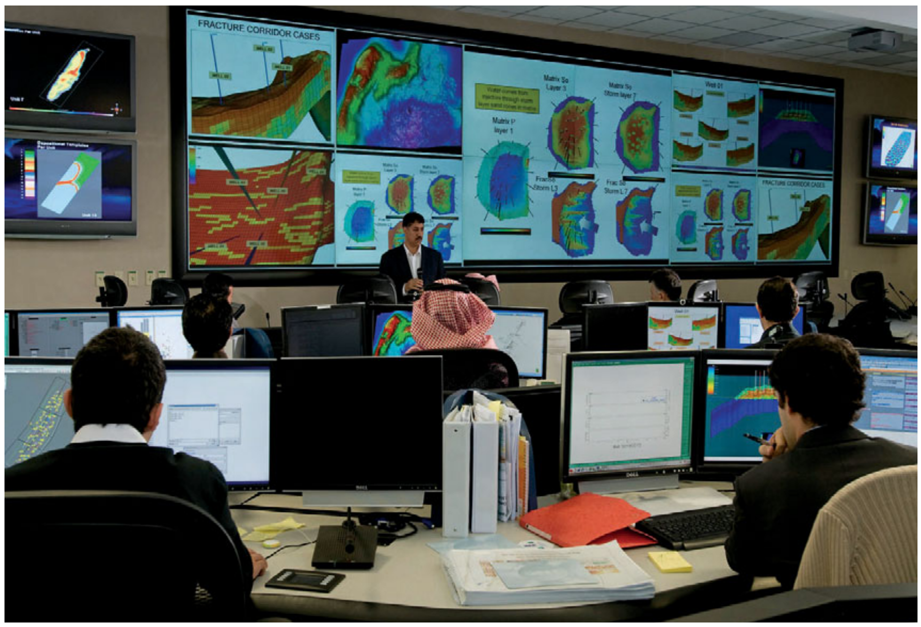
Indrajit Sen is the deputy editor of *Oil & Gas Middle East*. He can be reached at: indrajit.sen@itp.com

Treading the path of digitalisation

The concept of Digital Asset Management is rising in importance in the regional industry due to its associated benefit of helping companies achieve operational excellence goals

It is disheartening to hear from most industry stalwarts that the oil and gas industry, particularly in the region, has a long way to catch up to global standards of industrial digitalisation. As stated in my cover interview this issue, Lisa Davis of Siemens categorically told me that her experience is that the oil and gas industry in general lags behind in digitalising operations in comparison to sectors such as automotive or even (a much smaller industry as) food & beverage.

Yes it is discouraging to live with the fact that our very own industry lags behind other sectors when digital records are compared. But the brighter side of the fact is that the energy sector has a huge scope to develop, as well as offers myriad opportunities to digital service providers to explore the vast market. Global IT/ICT majors are already gushing into the regional upstream sector like a swarm of bees, having been attracted by the lucrative opportunities the market has to offer. Many more will come in, I'm sure.



Global IT/ICT majors are already gushing into the regional upstream sector like a swarm of bees.

It is also interesting to note that there is another unfounded concern in that digitalisation will lead to even more job losses in the industry, for the simple reason that automated operations will render a lot of the manpower useless. Industry experts I have met, especially recently at ADIPEC, quash this fear as baseless.

They say, if anything at all, digitalisation will help the oil and gas industry reduce expenditure to a great extent and will hence save companies financial resources which they can otherwise spend on expanding their workforce. Moreover, digitising operations itself will create the need for people specialised in such skills and will thus lead to the opening up of new employment avenues.

So why has digitalisation grown in importance over time? The simple answer to that is it helps the upstream sector achieve its goals of operational excellence. The regional industry is in possession of valuable assets, managing and controlling which is a capital-intensive affair. As the region tries to 'do more with less', digitalisation serves as a credible alternative for companies to be able to optimise their functions and thus 'go beyond the last drop'.

My interaction with a senior business leader – Gert Thoonen, business leader of Network Security Services at Rockwell Automation – at ADIPEC this year, summarises the merits of digital asset management: "Even though, assets used to refer to things that you can touch, the most important asset today is big data, which becomes the asset and the wisdom of our system. This is not just done by capturing data, because what will you do with it. Data alone is not enough because you need to maintain and secure it, etc. The key here is to optimise the data, connecting it with the field assets."

There are numerous examples of upstream operators in the region digitalising operations and witnessing the merits of it (we have mentioned details of some of those in this Special Report).

A number of industry leaders told me that the concept of Digital Asset Management is gaining momentum, and the day is not far off when the region too will boast of an upstream industry where digital standards are at par with other global sectors.

Oil industry invests for 'Big' returns

As a testimony to an energy sector spending heavily on IT, a survey has found that 80% of upstream oil and gas companies plan to increase spending on digital technologies in order to optimise operations

WORDS: KERI ALLAN

The continued turbulence in the oil and gas industry has put a break 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 oil and gas will increase to nearly $50bn this year.

Today's challenging market conditions continue to hamper the region's oil and gas businesses and as a result the sector is increasingly looking for ways to gain a competitive edge and operational efficiencies. For some businesses, optimisation is key to their survival.

With this in mind, 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 a new type of enterprise and will, in turn, be "the foundation for more agile business plans" in readiness for when prices rebound. "This is going to drive innovation in the digital economy," he says.

One way to improve efficiency quickly and deliver long-term value is to capitalise on the masses of data companies capture every year. Importantly, the rise of affordable sensors, as well as new analytical tools, advanced storage capabilities and cloud computing are now creating commercial possibilities for data owners.

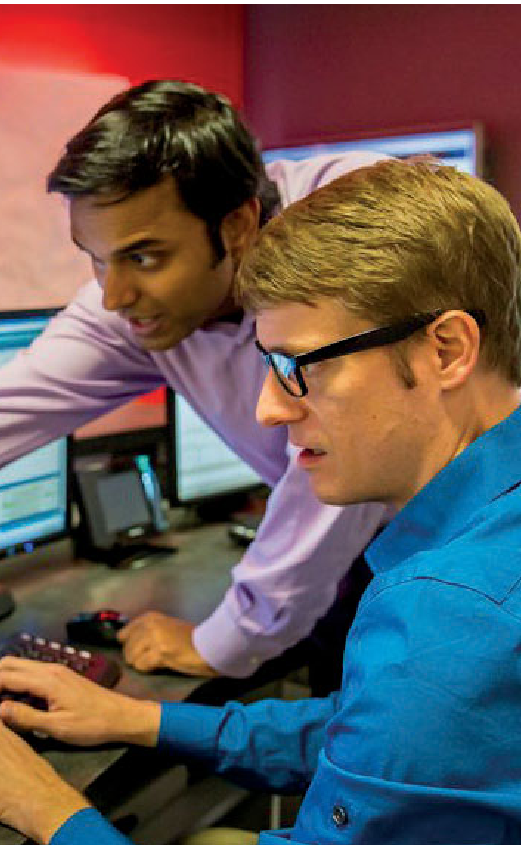
"The oil and gas industry is blessed with vast amounts of data that accumulated over decades. Think of the petabytes of seismic data, well logs, maps, real-time data flowing in from SCADA systems and sensors, ERP systems etc," notes Microsoft's Omar Saleh, Director – Oil and Gas, Middle East and Africa. "All this information presents a wealth of opportunity – in today's world the accuracy of predictive analysis and decision recommendations directly relate 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 of these customers are heavily investing to ensure the right capabilities and talent are available to make the most of these assets," says Tony Milan, executive partner – Natural Resources, IBM Middle East and Africa. "Business IT engagement is evolving as real-time collaboration allows companies to reap significant benefits from Big Data initiatives."

But 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.

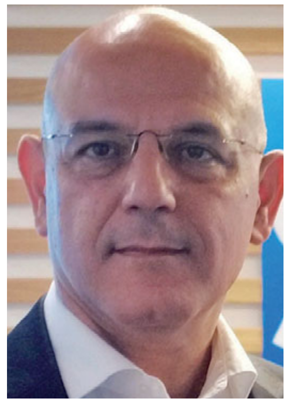
"This is related to organisational silos and ownership of information and data," notes Morgan Eldred, research director for Gartner's Upstream Oil and Gas Industry Advisory Services. "This forces companies to work on information management and integration along with putting in projects for data visualisation,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



As for the technologies being embraced, organisations such as SAP are noting an increased take-up in cloud-based data analytics and Gartner has reported that the sector's spending focus has been on Big Data for field strategies.

Eldred also notes that investment is still split between business units and divisions as well as within IT departments, and looking forward, 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.

ICT companies in the region are responding to the growing interest in Big Data by providing a growing range of technological offerings, covering everything from user-friendly predictive modelling and advanced analytics, through to cloud-based solutions. However, as well as technology, organisations are looking to spend their money on the right staff, which to date has been a challenge. "Staff investment is being made but to date very few companies in the region are geared up with data scientists," Eldred says. "Typically they'll bring in these sorts of resources for a specific proof of concept and project, which increases the overall cost and time to value."



Tech experts are seeing an increased demand for Big Data solutions.

Fawwaz Qadan, head of platforms and innovations at SAP MENA.

Morgan Eldred, research director for Gartner's upstream services.

CHINESE TECHNOLOGY FOR DIGITAL OILFIELD

Alaa Elshimy, managing director of the Enterprise Business Department for the Middle East region of Huawei speaks to *Oil & Gas Middle East* during ADIPEC about the Chinese digital major's work for the regional upstream sector, the company's digitalisation portfolio and how it is helping customers reduce operational costs

INTERVIEW: YASMIN HELAL

Could you explain the concept of digital asset management?

Digital Asset Management entails installing sensors to all your vehicles, wells and any other asset that you might have in the field or elsewhere, connecting them all to the devices that can track the information and sending it back to one command and control system. The recorded data will be sent to the cloud, from which you can analyse all this information and take decisions. These decisions could be automatic decisions taken by the system, an alarm for mechanism to prompt you, or something predictive to build future expectations.

How big would you say the scope of DAM is in the region?

From the perspective of digital transformation in general, because digital asset management is just a part of it, I think maybe there is 25%-30% penetration in the regional market. So the opportunity here is really big. In fact, I think from a digital transformation point of view the oil and gas industry is actually behind other sectors, compared to the banking industry or even to the government services or a lot of other industries.

There are a number of reports that detail investments and transformation happening per industry and the level of maturity and actually the oil and gas sector appears at the bottom of it. Hence, I think the opportunity is very big here. And I think that Digital Asset Management can help resolving the issue of the pressure created by the low oil prices.

Could you talk about some of the clients in the region whom you have offered DAM solutions?

Speaking about the Middle East in specific, we have top three clients here. We are working with ADNOC. We have also started recently with ADMA-OPCO for whom we have implemented some systems. According to them, our systems helped them reduce operational expenditure by 30%. Aramco is another reference for us, again under digital transformation. The Kuwait Oil Company is another one of our digital transformation clients.

What are some of the digital solutions that you are showcasing at ADIPEC?

As a result of the pressure from low oil prices, I think the biggest trend today in the oil and gas industry is to 'do more with less', or increasing productivity while reducing cost. The simplest answer to this is the digital transformation. So we have a number of solutions that we are showing at ADIPEC this year that can help organisations achieve this target.

What role can Digital Asset Management play in achieving Operational Excellence?

If you cannot manage your assets, you cannot manage your business. If I am talking about digital transformation efforts to digitalise the oilfield, DAM is definitely a part of it but it is just one point. Of course, you can manage your assets but can do

↑ **Alaa Elshimy of Huawei.**

↑ **Huawei's exhibition stand at ADIPEC this year..**

> **"IN THE OIL AND GAS FIELD THERE IS A BIG NEED FOR SUCH TECHNOLOGY AS IT IS BEHIND OTHER SECTORS, AND WE ARE ALL UNDER PRESSURE BECAUSE OF THE DIP IN OIL PRICES. THE VERY SIMPLE LOGICAL ANSWER TODAY IS DIGITAL TRANSFORMATION. SO IT IS GROWING FOR SURE."**

so by different methods including manual, half-automated, or fully automated. And I think that today, we are at a point where it has to be fully-automated for best results. The technology is there and it is up to us to leverage from it or not.

This is the new era, everyone was talking about the cloud, now the new era of cloud or the cloud 2 era as some might call it is the industry plant. So, on the cloud, you will have a lot of solutions and renovations coming from different industries and the number will be limitless.

In the oil and gas field there is a big need for such technology as it is behind other sectors like I previously mentioned, and we are all under pressure because of the dip in oil prices. The very simple logical answer today is digital transformation. Therefore, I expect digital transformation will grow very fast in the coming couple of years for sure.

In your opinion is digitalising operations helping the upstream sector reduce operational costs?

I wouldn't say that Digital Asset Management in particular is doing that so much. If you are talking about digital oilfields or about complete digital transformation and complete automation, then yes. I gave you the example of ADMA, the number they reported is 30% reduction in Operational Expenditure. So asset management is good but it is not limited to just that. Rather, it's about the complete digital oilfield and the complete digital transformation; applying different technology.

Where in the regional industry is digital technology more prevalent?

Its prevalence usually depends on the wells. But you can find it in Saudi Arabia, Kuwait, the UAE, and partially in Oman.

How has the decline in oil prices created new opportunities for Huawei?

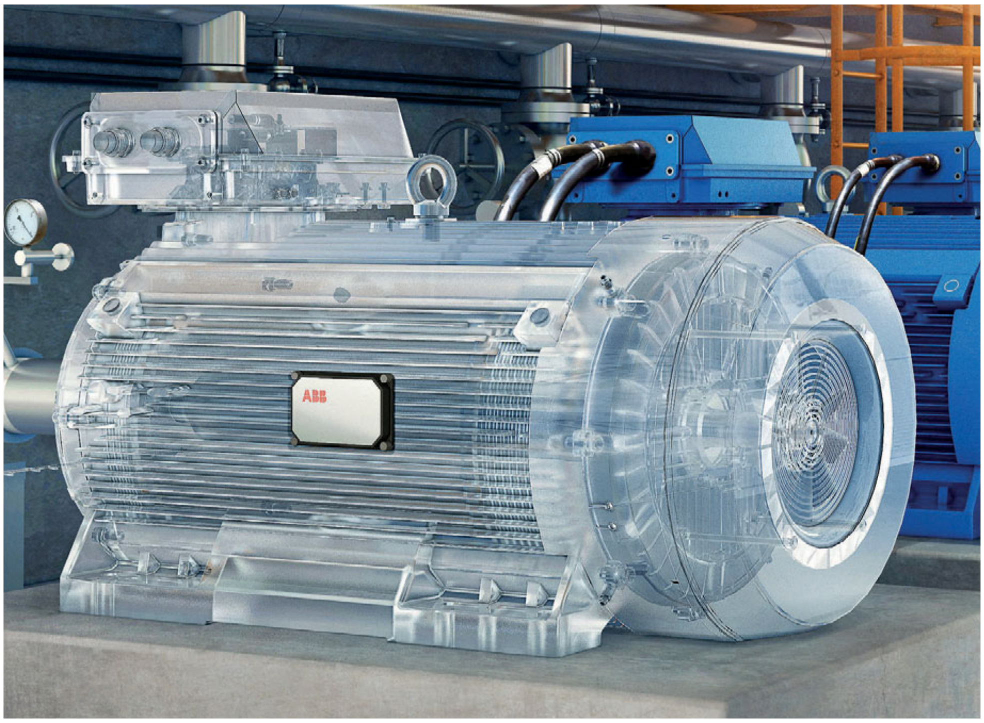
Research has shown that the number of layoffs in the oil and gas industry until 2020 is expected to increase to reach 5 million, which is a huge number. The good news, however, is that the expected new jobs that will be created will reach around 2.1 million by that time, but those jobs will entail different profiles and requirements.

Now if the number of jobs in the sector will decrease by 3 million people in 2-3 years, who is going to replace them? The only answer is automation and utilising digital transformation to automate the tasks that are done today manually by individuals.

The reduction in oil prices is putting pressure on organisations to reduce their cost, and to reduce cost they have to reduce the number of resources that they have. To do this, they have to automate the tasks that individuals are doing, which can be done by acquiring new and modern systems to automate the existing jobs. I believe this will have a positive impact from a technology and a solutions point of view.

THREE REASONS TO BUY

ABB's smart sensing product can reduce downtimes of low-voltage motors by upto 70%



1 COST EFFICIENT

The sensor technology offers plant operators huge potential savings on maintenance and repair. It also makes it easy to utilise the Internet of Things, Services and People (IoTSP) for millions of motors. Small and mid-sized firms can also benefit from the advantages of the IoTSP.

2 ANALYSES DATA

The smart sensor provides information on parameters such as vibration, temperature or overload and calculates power consumption. The data are analysed by a special software and provided to the plant operator, thereby enabling downtime reductions of up to 70%.

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PRODUCT FOCUS

TP Link's Talon AD7200 multi-band Wi-Fi Router offers industrial wireless technology

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GuardLogix 5370 controller provides integrated safety and motion

With the new Allen-Bradley Compact GuardLogix 5370 controller from Rockwell Automation, users no longer need separate networks and controllers for safety and motion in applications with up to 16 axes. This makes it easier to design safety into a wide range of standard and custom machines, and results in simpler system architectures. The Compact GuardLogix 5370 controller also helps users meet global safety standards.

SEATRONICS SDM SYSTEM

Intertek offers cost savings through sample cylinder service

Seatronics and Norwegian associates RTS have achieved 100 successful global installations with the Subsea Deflection Monitoring system (SDM). The SDM is a time-saving monitoring system used for the deployment and installation of subsea structures. Time-stamped data from pressure and attitude sensors are transmitted through an ROV hot stab connection or an acoustic modem. When installing the structure, the operator has full online feedback of its heading and deflection.

SELL IT TO ME

Honeywell's enhanced RTU2020 process controller simplifies management of distributed oil and gas assets

PROCESS CONTROL: The RTU2020, enhanced with native redundancy, expanded input/output (I/O) modules, and wireless I/O, is a modular process controller that provides complete visibility into the most efficient utilisation of distributed assets through expanded remote monitoring, diagnostic and asset management. The unit is designed to withstand harsh environments and can be deployed at remote sites with very low power consumption (1.8 watts), which is ideal for use with solar power. It also allows for remote maintenance and cuts equipment monitoring and diagnostic time from hours to minutes.

I/O COMMUNICATIONS: The RTU2020 now increases availability through native controller redundancy – no switch is required for I/O communications. A new integrated onboard solution provides wireless I/O integration of ISA100 instruments, with no specialised module needed. ISA100 instruments appear as 'native' I/O to the controller. The RTU2020 controller's 28 channels of onboard I/O can now be extended by adding one or more of the new 28 channel mixed I/O modules. Like the onboard I/O, the new mixed I/O module is HART-enabled. This approach contrasts with process controllers requiring separate dedicated HART modules or external multiplexers.

DESIGN: RTU2020's innovative design meets multi-well operational requirements in the oil and gas field, including electronic flow metering for gas per API 21.1 with per meter run licensing. Additionally, RTU2020's flow calculations have been independently validated against Alberta Energy Regulator (AER) Directive 17. ISO equations have been added to the flow calculation library alongside the existing AGA and API based calculations.

FEATURES: Honeywell's RTU2020 offers numerous best-in-class features, including removable and plug-in terminal blocks to simplify wiring and reduce time for cabinet assembly. Integrated with Honeywell's Experion supervisory control and data acquisition (SCADA) system, it eases configuration over thousands of assets and enables operational efficiency with an advanced human-machine interface (HMI). Users gain perfect '20/20 vision' into realising the production potential of their distributed assets. Honeywell's distributed system architecture (DSA) allows multiple Experion SCADA servers to operate as one within a single asset or across the enterprise.

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Dubai-United Arab Emirates

Telephone: +9714-8865119
Fax : +9714-8865118

Email: sales@sso.ae | info@sso.ae
www.shreesteeloverseas.com

DIGITAL 'EVOLUTION'

Maurizio Rovaglio, vice president – Technology & Alliances Global Solutions at the Oil & Gas segment of Schneider Electric, sheds light on why digital asset management has grown in importance in the industry and the kind of work the company delivers in the digital domain

How is digital asset management necessary for the oil and gas industry?
There are two different aspects. There is this new interest for us in management after the digitisation trend. For our company, asset management is something that we have been doing for a long time, considering the key assets that we are manufacturing. Even when you consider new connectivity and cloud solutions, we had already been providing our customers with similar solutions, supporting the different types of asset performances on the electrical side. That is mainly because any failure like an outage in a refinery or other big assets or electrical element could turn into a disaster. Now with connectivity, big data, and analytics, there is even more interest to extend this type of services.

Why do you think digital asset management is growing in importance for the upstream industry?
Today, companies are trying to increase the performance of their existing assets. The interest today in the availability of the data is growing. So you find today that there is connectivity on all the assets offering a large data, which can be used to improve production. So the increased interest for asset management is coming from the availability of the data against the backdrop of cost reduction.

How will the digital concept help the regional industry 'do more with less' given the current low oil prices?
Definitely there is a CapEx reduction in the region. Digitisation is helping as a technology as well as a business model. This is what we call 'digitalisation', which is more on the business side. From one side, you provide the solution today not as a CapEx investment but as a service. On the other side, this type of solution is able to provide optimisation of OpEx, going by service factor and by 'pay as you use', reducing the cost for the customer. This 'evolution' has generated interest from the customer. I call this an 'evolution' and not a 'revolution' because this technology has been around.

What are some of the products or services that you have within this domain?
Our portfolio is very wide, covering significant activities as well as playing a big role in IOT and building smart cities. When it comes to asset management in oil and gas specifically, we look at it from a different perspective. Typically, assets tend to be associated exclusively with machinery, pumps, compressors, turbines, or other single equipment. However, for us an asset is a site, a plant or a unit, as we believe in changing the scale. So we are also looking to asset performance as a unit, where there is large data and analytics that can improve the performance of the asset.

We offer a hybrid model whereby we collect information from the site and analyse the performance periodically. This feedback is then converted in the form of a report that can be given to the customers.

Give me an idea of the clientele that you work with in the region and how you help them digitalise their operations?

↑ Schneider Electric's Maurizio Rovaglio.

We are working with the big players in the region. However, these types of solutions are not just limited to the major customers. So, we are also trying to penetrate the market to reach the smaller players.

Some of the IOCs that we are working with in the region include KOC and Aramco. For example with Aramco, we are focussing on the approach of having a better understanding of assets through 2D and 3D augmented reality technology. ●

> "TODAY, COMPANIES ARE TRYING TO INCREASE THE PERFORMANCE OF THEIR EXISTING ASSETS. SO YOU FIND TODAY THAT THERE IS CONNECTIVITY ON ALL THE ASSETS OFFERING A LARGE DATA, WHICH CAN BE USED TO IMPROVE PRODUCTION (IN THE INDUSTRY)."

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QATAR BUILDS ON LNG STRENGTH

As Qatar explores new markets across Asia and perhaps Africa in the near future, its focus on expanding the thriving LNG sector will remain one of the key elements behind the growth of its energy industry, helping the country on its path to achieving a key goal of Vision 2030

WORDS: YASMIN HELAL

The state of Qatar finds itself in an interesting situation, as having positioned itself as a leading liquefied natural gas (LNG) exporter, it now faces the potential risk of being dethroned by Iran which has vowed to match the Gulf nation's gas output – and even surpass it. But how much of a threat does that really pose to Doha?

Qatar enjoys the privilege of the bigger share of the world's largest gas field – the North Dome, while Iran, which calls it the South Pars, stakes claim to the smaller portion of the field having combined reserves of 51tn cubic metres. Currently, Iran is producing no more than 430mn cubic meters of gas per day (mcm/d) from the field while Qatar accounts for up to 650mcm/d. This is in addition to the fact that Qatar started producing gas from the field years before sanctions allowed Iran to benefit from it.

"In the five years or so, say, that it takes Iran to develop its key South Pars gas field capabilities, Qatar will simply have advanced and refined its development even further – so the immediate impact of any assumed relief in sanctions via output will not be significant in terms of how this affects Qatar, while non-nuclear sanctions on Iran continue to prevail," Iain Stewart-Linnhe, a UK-based specialist in global regulatory policy, risk management and capital markets, believes.

Senior analyst at KBC Energy Economics Ehsan Ul-Haq agrees saying, "Iran will need huge investments to develop its natural gas fields and LNG infrastructure. This is likely to take at least three to four years before Iran can become a major competitor to Qatar's LNG industry."

There is reason to believe thus that the lifting of sanctions on Iran shouldn't perturb Qatar's LNG market to a great extent. The situation, as it stands today, may however change in the near future, depending upon how the rivals develop their respective LNG production and export capabilities.

Independent consultant Vikas Handa is of the opinion that "as Iran starts to produce more from the shared field, we expect to see new supply coming into the market, which should ease demand in the region. Iran is already working on new pipelines to export (its produce) in the background. We also expect to see progress in awarding new pipeline contracts."

Only time will tell whether Iran will position itself as a major LNG competitor.

↑ Qatar is considered to be the world's fifth largest natural gas producer, with 14% of the global natural gas reserves.

→ To respond to the new global LNG supply market, Qatar needs to build an international footprint.

Competition intensifies in LNG market

Iran, however, is not the only potential competitor for Qatar. New LNG supply being developed in other markets such as Australia and the US will challenge Qatar's position in the global LNG market. Estimates suggest that Australia alone is expected to produce 120mn tonnes per year, overtaking Qatar as the largest producer by 2018. These new shale gas producers are expected to prosper once global oil and gas prices recover.

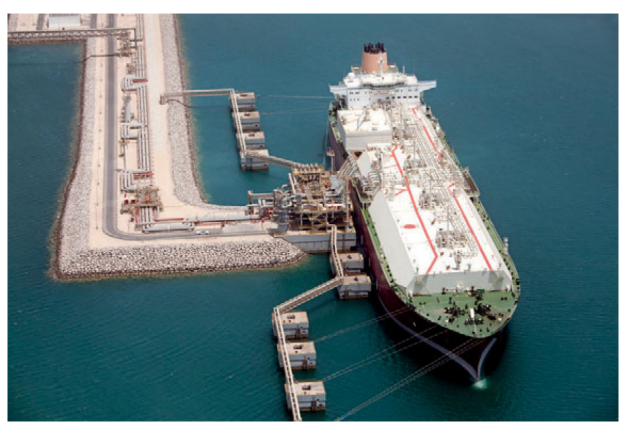
"This means," says Marc Hormann, partner, A T Kearney, "that Qatar's oil and gas industry, similar to other places in the world, has to respond to these pressures on profitability and the increased global competition. Profitability improvements are sought through cost transformation. The largest cost improvement potential lies in the area of OPEX and holistic cost transformation. This will require deployment of best-in-class sourcing techniques and increased operational efficiency of existing assets."

In response to the new global LNG supply market dynamics, Qatar needs to further build an extensive international footprint. Having a clear strategy and picking the right opportunities will be key to not dilute its efforts to tap new markets. In the meantime, growing demand for natural gas – particularly in the region, offers lucrative opportunities for Qatar to expand its market share.

As evidence of its efforts to further boost its LNG exports, Qatar Petroleum (QP) recently tied

65MN

CUBIC METRES OF GAS PER DAY IS WHAT QATAR PRODUCES FROM THE NORTH DOME FIELD, MAKING IT A MAJOR GAS PRODUCER



Iain Stewart-Linnhe, a specialist in global regulatory policy, risk management and capital markets.

Ehsan Ul-Haq, senior analyst at KBC Energy Economics.

Vikas Handa, an independent analyst.

The fact that Qatar realises its strength in producing and selling gas as opposed to oil, endows it with a natural advantage.

The FIFA World Cup in 2022 is set to be a landmark revenue generator for Qatar.

up with ExxonMobil to establish Ocean LNG Limited, a unit that is tasked with marketing the country's future LNG supply sources in the international market. According to a statement released by QP, the decision to create this new joint venture was "driven by its aspirations to continue to be a global LNG leader, and to invest in LNG projects outside Qatar."

Stable energy production

Within the GCC, the substantial natural gas reserves of Qatar have meant that it has been relatively less affected by the oil supply glut and the subsequent decline of crude oil prices than its peers. The fact that Qatar realises its strength in producing and selling gas as opposed to oil, thus endows it with a natural advantage over its neighbours.

"Majority of the growth in fossil fuel demand is expected to be met by natural gas, which is good news for Qatar. The country is already forging new relationships and marketing its gas aggressively; this will put them in a leading position and give them a certain advantage over upcoming competition. This has got to be good for Qatar's economy, provided they do not lose focus on diversifying the economy, which is the third pillar of Qatar's Vision (2030)," Handa states.

Qatar is considered to be the world's fifth largest natural gas producer, with 14% of the global natural gas reserves. The GCC state's large gas reserves are key to it claiming 3.5% share of the global consumer market. The majority of Qatar's natural gas comes from the North Dome field, which covers an area of 6,000 sqkm.

The Barzan gas field is expected to add 2bn cubic feet of gas per day (bcf/d) by 2018. The $10 billion-worth project, a joint venture between Qatar Petroleum and ExxonMobil, is aimed at meeting surging domestic electricity demand in Qatar as it prepares to host the FIFA World Cup in 2022.

Other fields are also playing a key role in boosting Qatar's oil and gas production. This includes the offshore fields of Meydan Mahzam and Bul Hanine. Operating in these fields are a number of global players that have partnered up with the state owned Qatar Petroleum, including Occidental Petroleum of Qatar Ltd. (OPQL), Total Exploration & Prodcution Qatar (TEPQ), and Qatar Petroleum Development-Japan (QPD).

Among the onshore fields, Dukhan produces up to 335,000 barrels per day (bpd) and is sprawled across 640 sqkm, producing crude oil, associate gas

"MAJORITY OF THE GROWTH IN FOSSIL FUEL DEMAND IS EXPECTED TO BE MET BY NATURAL GAS, WHICH IS GOOD NEWS FOR QATAR. THE COUNTRY IS ALREADY FORGING NEW RELATIONSHIPS AND MARKETING ITS GAS AGGRESSIVELY."
VIKAS HANDA, INDEPENDENT ANALYST.

and condensate non-associated gas. Other oilfields include Al Shaheen and Idd al-Shargi, both of which account for a majority of the country's oil production.

Tapping new markets

Qatar has for quite a while displayed an aggressive keenness in the rewarding Asian LNG market compared to other global producers. This is one of the key factors that has kept it strong in the face of competition from Australia and US.

The country has sold most of its LNG through long-term sales and purchase agreements (SPAs) to customers like Chubu Electric of Japan, KOGAS of South Korea, and Petronet of India. More recently, it struck deals with Pakistan, Taiwan and Sri Lanka.

According to Handa, "(The) Qatari leadership definitely has had the foresight to focus on the (Asia) region." This focus will pay off for various reasons, he says. "The low price environment transportation cost is considered to be a differentiating factor, giving advantage to Qatar over other exporters, as they have long term contracts sewed up with Asian customers."

In fact, he says, other exporting countries are now trying to focus on these markets for the same reason as Asia's demand for energy far outpaces that of any other region. However, Qatar being ahead in forging the commercial relationships certainly enjoys the edge.

Qatar is also attempting to explore markets beyond Asia: ExxonMobil has joined forces with Qatar Petroleum with the intention of exploring energy assets in Mozambique's Rovuma basin. Due to its friendly trade relations with Asia and perhaps Africa in the near future, Qatar has earned the rare distinction of being an energy supplier to both developed and emerging markets.

Within its neighbourhood, with the (argued) exception of Saudi Arabia, other GCC countries are known to be scrambling for natural gas to meet

Other GCC countries are known to be scrambling for natural gas and are hence looking to Qatar to source additional LNG supplies.

Qatar has joined the wave of economic diversification to decrease its dependency on energy exports .

spiking industrial and domestic power demand, and are hence looking up to Qatar to source additional LNG supplies.

A case in point is the UAE's Dolphin Energy which has recently signed with its partner Qatar Petroleum a long-term LNG agreement to supply gas to the Sharjah Electricity and Water Authority and Ras Al Khaimah Gas Commission (RAK Gas). According to the agreement, Qatar will supply additional LNG quantities to Dolphin Energy through the tri-nation subsea pipeline – transporting about 2 bcf/d to the UAE.

The path to diversification

Qatar has joined the wave of economic diversification in the Gulf – expressing its ambitions to diversify its economy and decrease its dependency on energy exports through its well-crafted, detailed 'Vision 2030' strategy.

According to figures released by the Qatar Statistics Authority, oil and natural gas production comprises up to 55% of Qatar's GDP, while hydrocarbon exports account for 90% of total exports. The government's revenues in the region add up to 38% of GDP, 60% of which comes from energy exports – figures indicating the Qatari economy's clear dependency on the energy sector.

Regarding that, Stewart-Linnhe said, "Qatar's 2030 Vision is unique in the region as it will build on the expected successes of the first FIFA World Cup to be held there in 2022, which will naturally be a showcase for the country. What is significant in the aftermath of Qatar's first major bond issuance in 2016, and the cross-sector infrastructure spending associated with the FIFA event and the 2030 Vision, is that Qatar is already taking major steps to present itself as a vibrant and attractive place for cross-sector foreign direct investment."

90%

OF QATAR'S TOTAL EXPORTS COMPRISE HYDROCARBON PRODUCTS INDICATING THE ECONOMY'S CLEAR DEPENDENCY ON THE ENERGY SECTOR.

The FIFA event also poses to be a landmark revenue generator or Qatar to accelerate confident progress towards 2030. Particularly, its May 2016 $9bn bond issuance is an indication that the country is willing and able to engage with foreign investors in a significant way.

"The key role of any leadership is to define the Vision and Qatari leadership has done that well," Handa told the magazine. "They were ahead of time and many of their peers in doing that. However, the key remains execution – the progress on the pillars of the vision is a mixed bag, some have progressed better than others."

As testimony to its growing diplomatic clout, particularly within OPEC, Qatar has joined Saudi Arabia in negotiating with the cartel's members and other swing producers like Russia on production output to help prop up oil prices. At the last OPEC/non-OPEC meeting at Vienna on October 24th, Qatar's energy minister actively participated in discussions with his Russian counterpart among others to reach a viable decision on output and a possible joint action to stabilise the oil market. Observers (and cynics) unanimously believe that the participants' efforts were futile as the gathering failed to produce a concrete decision on output.

What the cartel's meetings this year with non-OPEC producers have however established is that Qatar's efforts and its influence in directing the course of the global energy market is invaluable. That coupled with the Gulf state's solid LNG credentials makes it a dominant force in the global energy domain.

INDUSTRY INNOVATIONS

Multiphase flowmeter

FLOWMETER Emerson Automation Solutions has launched the Roxar MPFM 2600 M multiphase flow meter. The Roxar MPFM 2600 M is a flexible and easily manageable wellhead measurement solution based on a field-proven technology platform. The meter meets the needs of many challenging applications and can be a cost effective solution for more constrained budgets. The Roxar MPFM 2600 M is part of the scalable Roxar multiphase product family and provides flexibility as fields mature and conditions change.

NEW LAUNCHES

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

ADVANCED SMALL-DIAMETER ESP SYSTEM

Baker Hughes has announced the commercial release of its CENtrilift PASS slimline ESP system, which is designed to help operators optimise production and reserve recovery while lowering lifting costs in small-diameter wellbores or wells with restricted space due to casing patches or complex completion designs. It is the industry's only small-diameter ESP system capable of operating at flow rates down to 50 BPD and includes the most comprehensive suite of slimline gas-management technology. The CENtrilift PASS slimline ESP system incorporates a FLEXPumpER™ pump, engineered using computational fluid dynamic modeling software to provide an operating range for a 3.38-in pump.

EXPLOSION-PROOF LED BEACONS

E2S has launched beacons with output enhancing field-replaceable colour lenses and LED light sources. These latest features, previously introduced with the GRP GNEx and stainless steel STEx families, have now been applied to the popular LM6 alloy BEx family. The lenses, moulded in UV stable polycarbonate for long life and toughness, with integral prismatic structure for enhanced light output, are available in a choice of colours to suit each application. Approved to IECEx and ATEX standards for all Zone 1, 2, 21 & 22 applications with ingress protection ratings of IP66/67, models have multiple cable entries and large termination areas.

WIRELESS LEAK DETECTION

Eaton has introduced a powerful new system for motor control centres (MCCs) and power distribution centres in low-voltage global International Electrotechnical Commission (IEC) applications. The SmartPX hardware and software system provides a range of protection, monitoring and control functionality, and is integrated with Eaton Power Xpert CXHTM motor control centres. Eaton's SmartPX technology stores and analyses data from connected electrical equipment, learns normative load characteristics and sends alarms and warnings to upstream systems when connected equipment is not operating as expected. The system tracks trends in total power, current and voltage.

Honeywell secures ZADCO facility

Honeywell helps improve safety and protection for facilities on Zirku island

SAFETY & PROTECTION Honeywell Process Solutions was selected by ZADCO for a project to improve fire safety standards at its Zirku island facility, by providing detection, panels, alarms, mitigation and operation level, in addition to integration with the existing Honeywell Distributed Control System (DCS) Experion PKS and Emergency Shutdown (ESD) Systems Safety Manager. As ZADCO's main operations centre, the Zirku island offshore facility required installation and all site activities while the plant was running online process control. Honeywell's Middle East capabilities and UAE engineers provided extensive experience with offshore implementation projects and a strong understanding of local standards. ZADCO and Honeywell worked together to select panel and detector locations and types, system design, and integration with ESD and DCS.

SOLUTIONS PROVIDED:

- The XLS3000 & 140 Fire Alarm Control Panels with advanced intelligent and flexible analogue/addressable expandable modular design. A network of fiber optic cable was established for approximately 25km.
- Sensors and devices, including smoke, heat, manual call points, horns and strobes, providing full coverage, early detection and eliminating false alarms to minimise hazardous conditions and improve safety.
- Experion Enterprise Building Integrator server and workstations for data collection, Operator HMI functionalities, providing a wide range of physical security options along with tight integration with the plant control systems.

PRODUCT FOCUS

Electro-hydraulic setting tool from Probe facilitates safer operations

The iSet provides a safer, more reliable and cost-effective method for setting bridge plugs, packers, gauge hangers and straddles.

Simple to use Cyclops Touch touchscreen technology, coupled with the iSet's rapid reset feature means that operators can be trained to run the tool in less than 30 minutes.

iSet addresses the issues posed by both explosive and hydrostatic pressure setting tools.

The iSet can be run on slickline or e-line and will operate in temperatures to 150oC and pressures to 15,000 psi.

WHERE CAN I BUY IT?

To learn more about the Probe iSet electro-mechanical setting tool, visit www.probe1.com.

ALSO IN STOCK

EMERSON FISHER FIELDVUE DIGITAL VALVE CONTROLLER

New valve controller offers better control and enhanced safety

Emerson's Fisher FIELDVUE DVC6200 digital valve controllers are HART-communicating, microprocessor-based, current-to-pneumatic instruments with linkage-less, non-contact travel feedback. This instrument provides a single platform for any pneumatic actuator application. The DVC6200 can be installed on sliding-stem, rotary, single- or double-acting actuators.

MWCC CAPPING STACK

The 10,000-pound psi capping stack was first used in the US

US-based Marine Well Containment Company's (MWCC) capping stack can handle up to 10,000psi. With a footprint of 9ft by 9ft, the capping stack is easier to manoeuvre in areas where wellheads and riser systems are closely spaced, such as tension leg platform applications where wells are beneath a floating production facility. The new dual ram capping stack can cap a well in depths up to 10,000ft.

Sharjah-based TransAsia Pipeline forms joint venture with UK's Power Technology Services

Transasia Power Technology (ME) FZC will offer a wide range of specialist engineering services and associated products to the regional oil and gas industry, ensuring operability and avoiding shutdowns

Trans Asia Pipeline & Specialty Services, the Sharjah-based pipeline and process pre-commissioning and commissioning services providers has announced the widening of its portfolio of services by forming a joint venture with UK-based Power Technology Services (SA) Ltd, for providing a range of hot tapping, line stoppling and onsite machining services.

The new joint venture Transasia Power Technology (ME) FZC will offer a wide range of specialist engineering services and associated products. These services are focussed on ensuring plant and pipeline operability and avoiding costly unplanned shutdowns by allowing intervention and plant critical maintenance work to be carried out without interrupting the process, thus avoiding loss of production, in a safe and cost effective manner. Some of these services include: pipeline rehabilitation, hot tapping and line stopping, on-site machining, under-pressure leak sealing, pipeline repair clamps, on-line safety valve testing, on-line valve maintenance and pipe freezing.

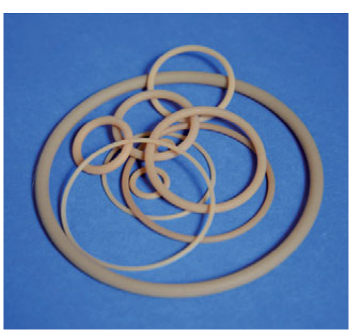
The company will also manufacture and supply a wide range of products included as part of this agreement like hot tap and line stop (hot tap tees and line stop tees), pipeline (flow tees), anchor and swivel-ring flanges, pipeline reinforcing sleeves, full-encirclement and partial reinforcing saddles from their 15,000 sqm manufacturing facility in Hamriya Free Zone in Sharjah.

"We are very happy and proud of our association with Power Technology Services (SA) Ltd. We are always dedicated to offer new services to our existing clients as well as target new clients with a new range of services," Surendranath Dhanekula, managing director at Trans Asia Pipeline Services said of the joint-venture.

Paul Ffoulkes, managing director at Power Technology Services (SA) Ltd, commented, "We are looking forward to a good future with Trans Asia Pipeline Services in the Middle East. It has been a pleasure to form this joint venture."

SELLING POWER

Shane Campbell, global business leader, DuPont Kalrez on how the latest 'Perfluoroelastomer' withstands aggressive chemical environments



TELL US ABOUT THIS PRODUCT.

Kalrez Spectrum 7275 is an innovative product tailored specifically for the most demanding and aggressive environments in the chemical processing industry. Our latest grade of Kalrez offers many benefits including an increased MTBR (mean time between repair) which contributes to reduced maintenance costs.

WHAT ARE THE BENEFITS OF KALREZ SPECTRUM 7275?

Kalrez Spectrum 7275 is a perfluoroelastomer product that provides long life sealing in an array of aggressive chemical environments that are known to be difficult for sealing, including ethylene oxide, acrylic monomers, silanes and chlorosilanes, and strong oxidisers.

IS THIS PRODUCT DUPONT'S FIRST SUCH OFFERING?

Kalrez® Spectrum™ 7275 joins a portfolio of high-performance materials that DuPont offers and is supported by a world-class technical support team with broad expertise in sealing solutions. It is available in a range of standard O-ring sizes and custom parts.

McDermott achieves safety feat in region

Offshore contractor reaches 45 million man-hours without LTI in the Middle East achieving QHSES

QHSES ACHIEVEMENT McDermott International has announced reaching 45mn man-hours without a lost time incident (LTI) in its Middle East operations area. The Quality Health Safety Environment Security (QHSES) milestone has been achieved in part through the company-wide adoption of 'Taking the Lead' programme, which embeds excellence in QHSES performance. To further evolve the QHSES culture, the McDermott Operational Values identify key procedures fostering safety first attitudes.

PRODUCT FOCUS

Eaton launches new range of CCTV camera, withstanding temperatures of +70°C for regional oil and gas market

Eaton's HERNIS CCTV product range of hazardous and safe area camera stations have now been certified for +70°C operational temperature

The CCTV device is now equipped to meet the demands of the harshest high ambient temperature environments.

This enhancement is the result of extensive internal and external testing, and the products are now ATEX and IECEx certified.

This enhancement in the upper ambient temperature rating has been made possible by subtle product design optimisation, decreasing the operating temperature and increasing operating longevity.

WHERE CAN I BUY IT?

Product datasheets, certification and literature are now available from www.hernis.no.

SELL IT TO ME

CamScan keyboard app with offline barcode scanning

OFFLINE SCANNING: ecom instruments, the leading provider of intrinsically safe mobile devices and solutions such as smartphones, tablets, handhelds and peripherals, has developed a professional data capture software solution, the CamScan Keyboard App, which allows – even offline – 1D / 2D barcodes to be scanned and NFC / HF RFID transponders to be read/written simply using the camera of a smartphone or tablet.
Scanning of NFC/HF RFID data: The CamScan Keyboard scans and enters NFC/HF RFID data and nearly all other types of barcodes – even in both sunlight and poor light conditions – directly into the selected data fields of most applications. Triggering the scan is very easy. Simply press the 'scan' button shown on the on-screen keyboard or make use of ecom's Smart-Ex programmable hardware button – reducing manual typing and eliminating copy and paste actions. Portrait/landscape scanning and batch mode are also supported.

GOOD ACCURACY: The ecom CamScan app is a 'keyboard wedge' software utility based on Honeywell's SWIFTDecoder Mobile professional offline barcode decoding software. It uses the integrated camera of the world's first Zone 1 / 21 and Division 1 certified tablet, the Tab-Ex 01, and the world's first intrinsically safe 4G / LTE-capable Android smartphone, the Smart-Ex 01, to scan barcodes – automatically converting them to human readable text.

PROFESSIONAL DATA CAPTURE: The CamScan Keyboard gives the option to scan and upload data directly within third party apps, and therefore eliminates the need for mobile workers to manually input results in the field or back at the office. Using specialised software packages also helps to prevent unwanted outages. Since they're designed to integrate with other applications and backend systems, they have a direct impact on work process effectiveness and visibility, reacting faster to anomalies, streamlining decision-making and ultimately reducing cost.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ON THE MOVE

John Bruce Rae-Smith
Chief executive officer
Swire Oilfield Services

Swire Oilfield Services has welcomed its new CEO, John Bruce Rae-Smith, who succeeds Tor Helgeland. Rae-Smith has been with the Swire group since 1985 Most recently, he was director of Swire Pacific and executive director of the Trading & Industrial Division. He will be based in Aberdeen, Scotland.

Gary Baker
Managing director – EMEA region
CFA

CFA Institute has announced the appointment of Gary Baker as managing director of CFA Institute Europe, Middle East, and Africa (EMEA). Based in London, Baker is tasked with delivering measurable value to CFA Institute stakeholders and constituents in the region. He is responsible for strengthening relationships with member societies, institutions, universities, regulators, and institutional partners.

Paul King
Head of commercial and risk
3sun Group

3sun Group has appointed Paul King as head of commercial and risk. King joins the group having most recently held the role of commercial and risk manager at Amec Foster Wheeler. He brings 28 years' experience to this newly created position, having begun his career with Amec in 1988, and has been working on large capital projects in the oil and gas industry for the last eight years. He is based in the UK.

Bader Alamoudi
Senior country officer for KSA
JPMorgan Chase & Co

JPMorgan Chase & Co has appointed Bader Alamoudi as senior country officer for Saudi Arabia, and Fahad Al Deweesh as chief executive officer of its Saudi investment banking and capital markets business. Alamoudi will be responsible for JPMorgan's operations and strategy in the kingdom, the bank said in a statement. He was previously CEO of JPMorgan Saudi Arabia Ltd, the local investment banking unit, and will report to Sjoerd Leenart, senior country officer for the Middle East, Turkey, and Africa; and Khaled Hobballah, head of Middle East and North Africa markets.

Ahmed Saleh Al Jahdhami

Appointment of the Month

Chief executive officer
Orpic

Orpic has announced the appointment of Ahmed Saleh Al Jahdhami as its chief executive officer, with effect from 1 January, 2017. Al Jahdhami joins Orpic having previously worked at Oman Power & Water Procurement Company (OPWP). He has previously performed a range of operational, technical, and commercial roles in Petroleum Development Oman's (PDO) production business. Al Jahdhami was also chairman of Omani Staff Committee, and became involved with PDO's extended leadership team. From 2005 to 2007, He worked for the Ministry of National Economy, as project manager of the Sur Independent Water Project (IWP). He then joined Electricity Holding Company (EHC), where he initially led the restructuring of the Salalah electricity business, and subsequently became EHC's director of privatisation and restructuring. Al Jahdhami has served as a board member for a number of electricity companies, and is currently on the board of GCC Interconnection Authority and INJAZ Oman.

JOBS

NOTICE BOARD

The latest jobs available in the oil and gas industry

QATARGAS, DOHA, QATAR

Senior electrical engineer
The candidate will be required to develop project plans and schedules and execute small projects within the area of specialisation with a high degree of independence. Assistance with project cost analysis will also be required.

MATCHTECH, SAUDI ARABIA

Process engineer - Hydrocracker
Recruitment firm, Matchtech, is seeking a principle process engineer with refinery hydrocracker debottlenecking/revamp experience. The candidate must have engineering design experience with a refinery process unit.

GUILDHALL, KUWAIT

Mechanical inspectors
Recruitment firm, Guildhall, is looking to hire five mechanical inspectors for a project in Kuwait. The project includes work for the main central processing facility, associated infrastructure, and the production support complex.

OPINION

Dealing with the threat of cyber attacks

Oil and gas producers in the UAE may be vulnerable to breaches from cyber hackers

About the author: Safdar Akhtar is the director of business development for the Middle East, Africa, and Asia, Honeywell Process Solutions, Industrial Cyber Security.

Since the 2010 discovery of the Stuxnet worm, targeted at industrial programmable logic controllers, the Middle East has been central to the increased profile of cyber security threats facing industrial enterprises worldwide. The 2012 security breach of a leading oil and gas company in the region remains one of the most significant cyber attacks on a process plant to date.

It can be no surprise that the Middle East faces a particular challenge from cyber attacks, due to its status as a global centre for oil and gas production. The consequences of a successful attack on its key businesses would be profound.

So, while the threats have continued to evolve, this region remains a key target for attackers. In early 2015, for example, cyber security firm Symantec identified a new information-harvesting malware dubbed Trojan.Laziok, which targeted energy companies worldwide. The most frequent targets for these attacks, according to Symentec, were the UAE (25%), Saudi Arabia and Kuwait (10%), and Oman and Qatar (5%).

With attacks increasing in both number and sophistication, for most it is not a question of if they will be attacked, but when. Whether from enemy states, terrorists, "hacktivists", criminals, or insiders, the risks facing oil and gas producers in the region are ever-changing and ever-growing.

A survey conducted for Honeywell by researcher Ipsos showed this message has got through: more than two thirds (69%) in the UAE, for example, fear cyber hackers breaching the defences of major sectors of the economy; oil and gas producers are vulnerable to attack according to 64%.

Increasing expectations

In response, there have been efforts from the industry to address cyber security. These efforts are driven in part by fear, particularly in the aftermath of previous attacks. Increasingly, they are also driven by regulation and the adoption of cyber security standards in the region.

Many regional governments have stepped up their requirements. Qatar published the third version of its National Standards for Security of Critical Industrial Automation and Control Systems in 2014, and last year outlined further developments in its National ICT Plan 2015. In 2014, the UAE's National Electronic Security Authority also published new standards, drawing on international standards such ISO 27001 and the US National Institute of Standards & Technology. Saudi Arabia, meanwhile, has been developing its National Information Security Strategy (NISS), and has had tough anti-cybercrime laws in place since 2007.

Despite this, the evolving threats, increasing use of connected devices and systems, and continued weaknesses in security at some companies, mean further improvements in cyber security are needed. To achieve these, businesses must take a holistic approach: technological solutions to both detect and fend off attacks; processes that ensure technology is effectively applied; and training for staff, to prevent them becoming a weak link in the battle for cyber security.

ADCO – North East Bab – Phase 3 (Al Dabbiya)

In the third phase, ADCO is planning to develop the North East Bab (NEB) Full Field Development Plan Project (FFDP) in Abu Dhabi to increase its production of crude oil from the current 1.4 million barrels per day (mbpd) to 1.8 mbpd by 2018.

PROJECT FINANCE

In the ADCO joint venture, ADNOC and its partners share the working interests as follows:

- ADNOC: 60% (operator)
- BP: 9.5%
- ExxonMobil: 9.5%
- Shell: 9.5%
- Total: 9.5%
- Partex: 2%

CONTRACTORS

Contract Type	Pre-Qualified	Bidders	Awarded
PMC	• Mott MacDonald	• Mott MacDonald	• Mott MacDonald
EPC	• Daewoo International Corporation • GS Engineering & Construction • Petrofac • Saipem • SK Engineering & Construction • Tecnicas Reunidas • Tecnimont • Daelim Industrial Company • Dodsal • Hyundai Engineering & Construction • L&T – Larsen & Toubro	• Daewoo International Corporation • GS Engineering & Construction • Petrofac • Saipem • SK Engineering & Construction • Tecnicas Reunidas • Tecnimont	• Tecnimont
FEED	• Technip	• Technip	• Technip
Sub-contractors	–	–	• ACC – Arabian Construction Company • Lahoud Engineering Company

PROJECT SCOPE

The objective of this project is to increase oil production by 20-40 thousand stock tank barrels per day (mstbd) through 50 to 60 new wells. The overall scope of work will increase production capacity at the Rumaitha and Shanayel fields to 39 mstbd, and at the Al Dabbiya field to 73 mstbd.
The project includes two packages: onshore – the development of the Rumaitha-Shanayel (stage 1 – 1 & 3) – and offshore – the development of Al Dabbiya (stage 2 – 2 & 4).

This package involves Al Dabbiya and includes an expansion of the existing facilities at the field through construction of the following:

- crude oil gathering system
- central processing facility
- oil and gas export pipeline system

The scope of work extends further, to civil, buildings, piping fabrication, installation, equipment, structural steel erection, testing, pre-commissioning activities, and commissioning assistance for the central processing plant (CPP) and on-shore clusters.

FAST FACTS

Name of Client
ADCO – Abu Dhabi Company for Onshore Oil Operations

Contract Value ($ US)
2,200,000,000

Facility Type
Oil production

Status
Construction

Location
Abu Dhabi

Project Start
Q1 2013

End Date
Q4 2017

Last Updated
12-10-2016

FEED
Technip

PMC
Mott MacDonald

Main Contractor
Tecnimont

RELATED PROJECTS

ADCO – North East Bab (NEB) – (Al Dabbiya) ASR
ADCO – North East Bab (NEB) – Phase 3 (Rumaitha-Shanayel)

PROJECT SCHEDULES

Feasibility Study	Q1 2013
FEED	Q2 2013
PMC	Q1 2014
EPC ITB	Q2 2014
Engineering & Procurement	Q4 2014
Construction	Q2 2015
Completed	Q4 2017

PROJECT STATUS

Date	Status
Oct 2016	Civil works are still in process.
Aug 2016	Civil works are ongoing.
Jun 2016	Tecnimont awarded ACC Lahoud Engineering Joint Venture for sub contract that involves civil, piping, fabrication, installation, equipment, structural steel erection, testing, pre-commissioning, and commissioning assistance.
May 2016	The project's onshore construction works are ongoing.
Mar 2016	Construction works are still in process.
Feb 2016	The site office is running, and related works are in process.
Jan 2016	Construction works by Tecnimont on Phase 3 Al Dabbiya are continuing.
Dec 2015	Plans for the new gas processing plant have been announced to handle associated gas produced from the Al-Dabbiya field expansion. FEED is carried out by Technip and EPC tendering will start in 2016.
Sep 2015	Construction works are being carried out by Tecnimont.
Apr 2015	Tecnimont is carrying the EPC works for the project.
Dec 2014	Tecnimont SpA has been awarded a $2.2bn EPC contract for the field.
Jun 2014	The following companies submitted technical bids – EPC: • Daewoo • GS Engineering & Construction • Petrofac • Saipem • SK Engineering & Construction • Tecnicas Reunidas • Tecnimont Commercial proposals are expected in Q3 2014.

Ongoing and upcoming projects

Information is supplied by DMS Projects

GCC GAS – NOVEMBER 2016						
Project	Country	City/ Region	Facility	Budget	Status	Completion Date
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	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	Construction	Q3 2017
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 – 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
ADNOC – LNG Import Terminal	UAE	Abu Dhabi	LNG Storage Tanks	1,000,000,000	Feasibility Study	Q3 2018
Al Hosn Gas – Shah Field– Expansion	UAE	Abu Dhabi	Gas Network		Feasibility Study	Q4 2021
Bahrain LNG WLL – Liquefied Natural Gas Receiving and Regasification Terminal	Bahrain	Hidd	Liquefied Natural Gas (LNG)	660,000,000	Construction	Q4 2018
Banagas – Central Gas Plant Expansion	Bahrain	Sitra	Gas Treatment Plant	600,000,000	Construction	Q3 2018
Banagas – Fuel Pipelines And Storage Facilities Expansion	Bahrain	Sitra	Gas Storage Tanks	80,000,000	Engineering & Procurement	Q3 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	Feasibility Study	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 – Taweelah – Gas Compressor Station	UAE	Abu Dhabi	Gas Processing	70,000,000	Engineering & Procurement	Q1 2019
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

Project	Country	City/ Region	Facility	Budget	Status	Completion Date
GASCO – Habshan 5 – New Compression Train	UAE	Abu Dhabi	Gas Processing	800,000,000	EPC ITB	Q1 2018
KGOC – Wafra Central Gas Utilisation Project	Kuwait	Wafra	Gas Processing	1,000,000,000	EPC ITB	Q1 2018
KNPC – Al Zour LNG Import and Regasification Terminal	Kuwait	Al Zour	Liquefied Natural Gas (LNG)	3,330,000,000	Engineering & Procurement	Q3 2020
KNPC – Mina Al Ahmadi Refinery Fifth Gas Train	Kuwait	Mina Al Ahmadi	Gas Production	2,000,000,000	Construction	Q4 2017
KOC – North Kuwait Gathering Center (GC) 32	Kuwait	Northern Kuwait	Gas Gathering Centre	2,000,000,000	EPC ITB	Q4 2021
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	Construction	Q4 2016
Oman Gas Company – Salalah LPG Extraction	Oman	Salalah	Liquefied Petroleum Gas (LPG)	600,000,000	EPC ITB	Q2 2019
Orpic – Liwa Plastics Industries Complex – NGL Extraction Units	Oman	Sohar	Natural Gas Liquefaction (NGL)	400,000,000	Engineering & Procurement	Q1 2019
Orpic – Nitrogen Gas Plant	Oman	Sohar	Nitrogen	50,000,000	EPC ITB	Q3 2018
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	60,000,000	Construction	Q3 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	80,000,000	EPC ITB	Q4 2021
PDO – Mabrouk Deep Phase 3 (Gathering & Surface Facilities)	Oman	Saih Rawl	Gas Gathering	200,000,000	Engineering & Procurement	Q2 2018
PDO – Rabab-Harweel Integrated Plant (RHIP) – Overview	Oman	Harweel	Gas Processing	3,000,000,000	Construction	Q1 2019
PDO – Saih Nahaydah Depletion Compression Phase 2 (SNDC2)	Oman	Saih Nihayda	Gas Compression	180,000,000	Engineering & Procurement	Q2 2019
PDO – Saih Nihayda Condensate Stabilisation Plant	Oman	Saih Nihayda	Gas Treatment Plant	115,000,000	Construction	Q4 2017
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	Q4 2016
Qatar Petroleum (QP) – Air Compressor Replacement at Mesaieed Refinery	Qatar	Mesaieed	Gas Processing	50,000,000	Construction	Q4 2016
Qatar Petroleum (QP) – Vapour Recovery System at Multi Product Berth	Qatar	Mesaieed	Gas Processing	50,000,000	EPC ITB	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 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 – Fadhili Gas Plant (Overview)	Saudi Arabia	Eastern Region	Gas Treatment Plant	13,300,000,000	Construction	Q1 2021
Saudi Aramco – Fadhili Gas Plant – Downstream Packages	Saudi Arabia	Eastern Region	Gas Processing	1,000,000,000	Engineering & Procurement	NA
Saudi Aramco – Fadhili Gas Plant – Industrial Support Facilities (FISF)	Saudi Arabia	Eastern Region	Gas Treatment Plant	100,000,000	Construction	Q4 2017

Project	Country	City/ Region	Facility	Budget	Status	Completion Date
Saudi Aramco – Fadhili Gas Plant – Main Processing Facilities (Package 1)	Saudi Arabia	Eastern Region	Gas Treatment Plant	2,500,000,000	Construction	Q1 2021
Saudi Aramco – Fadhili Gas Plant – Offsites & Utilities (Package 3)	Saudi Arabia	Eastern Region	Gas Field	2,000,000,000	Construction	Q1 2021
Saudi Aramco – Fadhili Gas Plant – Sulphur Recovery Unit SRU (Package 2)	Saudi Arabia	Eastern Region	Gas Treatment Plant	2,500,000,000	Construction	Q2 2021
Saudi Aramco – Hasbah Field Increment II	Saudi Arabia	Hasbah	Gas Field	1,600,000,000	Construction	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	Q2 2017
Saudi Aramco – Midyan Gas Processing Plant	Saudi Arabia	Tabuk	Gas Processing	800,000,000	Construction	Q4 2016
Saudi Aramco – Unconventional Gas Programme – Tight Gas Production Systems A	Saudi Arabia	Turaif	Gas Field Development	200,000,000	Construction	Q4 2020
Saudi Aramco – Unconventional Gas Programme – 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 Programme – Tight Gas Production Systems B	Saudi Arabia	Turaif	Gas Field Development	800,000,000	Construction	Q4 2020
Saudi Aramco – Uthmaniya Gas Treatment Units	Saudi Arabia	Uthmaniyah	Gas Network	900,000,000	EPC ITB	Q2 2019
Shell – Pearl GTL Scheme – Onshore & Offshore Facilities	Qatar	Qatar	Natural Gas Liquefaction (NGL)	20,000,000,000	Construction	Q3 2019
Takreer– Hamriya Jetty and Pipeline Network Project – Marine Works 2	UAE	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 – NOVEMBER 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	Abu Dhabi	Oil Field Development	200,000,000	Construction	Q4 2016
ADCO – South East Asset – Sahil Field Development – Phase 2	UAE	Abu Dhabi	Oil Field Development	175,000,000	Construction	Q3 2016
ADCO – Bab Integrated Facilities Project – Expansion	UAE	Abu Dhabi	Oil Field Development	3,000,000,000	Feasibility Study	Q1 2020
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 – South East Asset – Tie-in Project (A, B, C & D)	UAE	Abu Dhabi	Oil Field Development	650,000,000	Construction	Q1 2018
ADMA OPCO – Nasr Full Field Development – Phase 2 (Package 2 – Platforms)	UAE	Abu Dhabi	Oil Field Development	200,000,000	Engineering & Procurement	Q4 2018
ADMA OPCO – Nasr Full Field Development – Phase 2 (Package 3)	UAE	Abu Dhabi	Oil Field Development	200,000,000	Construction	Q4 2018

Project	Country	City / Region	Facility	Budget	Status	Completion Date
ADMA-OPCO – Umm Shaif Super Complex – Additional Gas Supply & Flexibility	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 – 100 MBD DAS Facilities Upgrade Project	UAE	Abu Dhabi	Oil Field Development	48,000,000	Construction	Q1 2017
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	800,000,000	Construction	Q1 2018
ADMA-OPCO – Umm Al Lulu Field Development – Package 2	UAE	Abu Dhabi	Oil Field Development	200,000,000	Construction	Q4 2016
ADMA-OPCO – Umm Shaif Infield Pipelines Replacement	UAE	Abu Dhabi	Oil Field Development	500,000,000	EPC ITB	Q4 2015
ADMA-OPCO – Bu Haseer Field	UAE	Abu Dhabi	Pipeline	200,000,000	Engineering & Procurement	Q3 2018
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
ADNOC – Ghasha Field	UAE	Abu Dhabi	Oil & Gas Field	1,000,000,000	FEED ITB	Q1 2025
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	Q4 2017
Al Hosn Gas – Dalma Field	UAE	Abu Dhabi	Oil Field Development	800,000,000	Feasibility Study	Q4 2020
BAC – Bahrain International Airport Modernisation Programme – New Aviation Fuel Farm & Fuel Hydrant	Bahrain	Muharraq	Oil Storage Tanks	200,000,000	Construction	Q4 2017
Bahri – Very Large Crude Carriers (VLCCs) Construction	Saudi Arabia	Various	Very Large Crude Carriers (VLCCs)	1,000,000,000	Construction	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 2019
Duqm Petroleum Terminal Company – Duqm Liquid Jetty – Topside Facilities	Oman	Duqm	Oil Storage Terminal	250,000,000	EPC ITB	Q4 2019
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 & Mubadala – Fujairah Refinery (EPC 1 & 2)	UAE	Fujairah	Refinery	3,500,000,000	EPC ITB	Q4 2018
KNPC – Expansion of Ahmadi Depot	Kuwait	Ahmadi	Oil Storage Tanks	250,000,000	Construction	Q2 2019
KNPC – Matlaa New Depot	Kuwait	Northern Kuwait	Oil Storage Tanks	500,000,000	EPC ITB	Q4 2019
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 Programme (KERP) – North Package	Kuwait	Northern Kuwait	Oil & Gas Field	100,000,000	Construction	Q4 2021
KOC – Kuwait Environmental Remediation Programme (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	Engineering & Procurement	Q3 2017

Project	Country	City / Region	Facility	Budget	Status	Completion Date
KOC – North Kuwait Jurassic Oil and Gas Field Development	Kuwait	Northern Kuwait	Oil & Gas Field	1,300,000,000	Engineering & Procurement	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
KOC – Southern Kuwait Maintenance of Oil Production Facilities	Kuwait	Kuwait South	Oil Production	150,000,000	Construction	Q3 2020
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
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
Primestar Energy – Prime Tank Terminal & Jetty Pipeline	UAE	Fujairah	Oil Storage Tanks	165,000,000	Construction	Q3 2014
Qatar Petroleum (QP) – Bul Hanine Redevelopment (Offshore)	Qatar	Bul Hanine	Oil Field Development	11,000,000,000	FEED	Q1 2028
Qatar Petroleum – Al Shaheen Offshore Field Development Plan	Qatar	Qatar	Oil & Gas Field	500,000,000	Construction	Q3 2017
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 – Annual Onshore Maintain Potential Programme (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 – 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
Star Energy Group – JAFZA Expansion 7A	UAE	Dubai	Oil Storage Tanks	200,000,000	Construction	Q3 2019
Takreer – Abu Dhabi International Airport Expansion – Aviation Fuel Depot	UAE	Abu Dhabi	Oil Storage Tanks	100,000,000	Construction	Q3 2016
Takreer – Hamriya Jetty and Pipeline Network Project – Marine Works 2	UAE	Sharjah	Oil Storage Tanks	250,000,000	Construction	Q4 2014
Takreer – Ruwais – LPG Recovery	UAE	Abu Dhabi	Refinery	40,000,000	FEED	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	Abu Dhabi	Sub Sea Cable	650,000,000	Construction	Q4 2016
ZADCO – Umm Al Dalkh Full Field Development (Overview)	UAE	Abu Dhabi	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	300,000,000	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

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

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ABOUT THE INTERVIEWEE:
Cor Corbeek is the vice president and general manager of the UAE, Oman, Yemen and Lebanon operations of Emerson Automation

Cor Corbeek, VP and GM of Emerson Automation Solutions

FIVE MINUTES WITH...

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

0.00

What is the general business mood in the market like?
I feel there is a slight optimism. It looks like everybody has more or less come to terms with the current oil prices, setting the right budgets for the current market needs. Now, I think the budgets are the right size for the current prices. On top of that, for a company like Emerson, there is huge potential in the fact that companies have to work with much less manpower and are trying to be more efficient. We are focussed on the digital revolution, especially asset monitoring and more efficient operations.

1.03

Could you talk about a specific service for the industry that you may have deveoped?
We start at the wellhead with equipment to help the customers reduce the manpower while still being able to monitor their sites. In Abu Dhabi, there is a high sulphur content which is very dangerous for the individuals. To solve that we have the equipment that monitors operations around the well with more safe operations.

1.45

Can you explain the concept of digital asset management?
Everything now comes in the digital form, which has many advantages including the fact that more information and data have become available than previously. There are small computers that can measure different elements at the site, giving out signals in case of equipment deterioration. This helps in diagnosing and repairing the equipment. This concept is important because the time has come where companies need to be more efficient. The common trends now include how to become top quarter performance while reducing maintenance cost. The top performers should have 80% of their maintenance automated, while currently they are only at 20%-40% in the region.

3.15

What is your opinion of the regional industry's adoption of digitalisation?
I see that there is a change happening now. Maybe last year there was not enough drive to use these technologies. This is changing now since companies are striving to become top quarter performers. This is especially true now considering the current directions that, for example, ADNOC is setting which is all about improving efficiency, reducing cost, and increasing profitability.

"IN ABU DHABI, THERE IS A HIGH SULPHUR CONTENT WHICH IS VERY DANGEROUS FOR THE INDIVIDUALS. TO SOLVE THAT WE HAVE THE EQUIPMENT THAT MONITORS OPERATIONS AROUND THE WELL."

3.55

How has Emerson come to terms with the new market conditions?
Maybe we focus less on the big projects. Instead, the main focus now is on operational aspects, and there are a lot of things to say for that. For instance, with ADNOC we are discussing maintenance and spare parts programmes, where we optimise spare parts for the group rather than them managing it themselves. This creates a win-win situation. For us, it has created a different revenue stream. For them, they don't have to worry about maintenance and spare parts.

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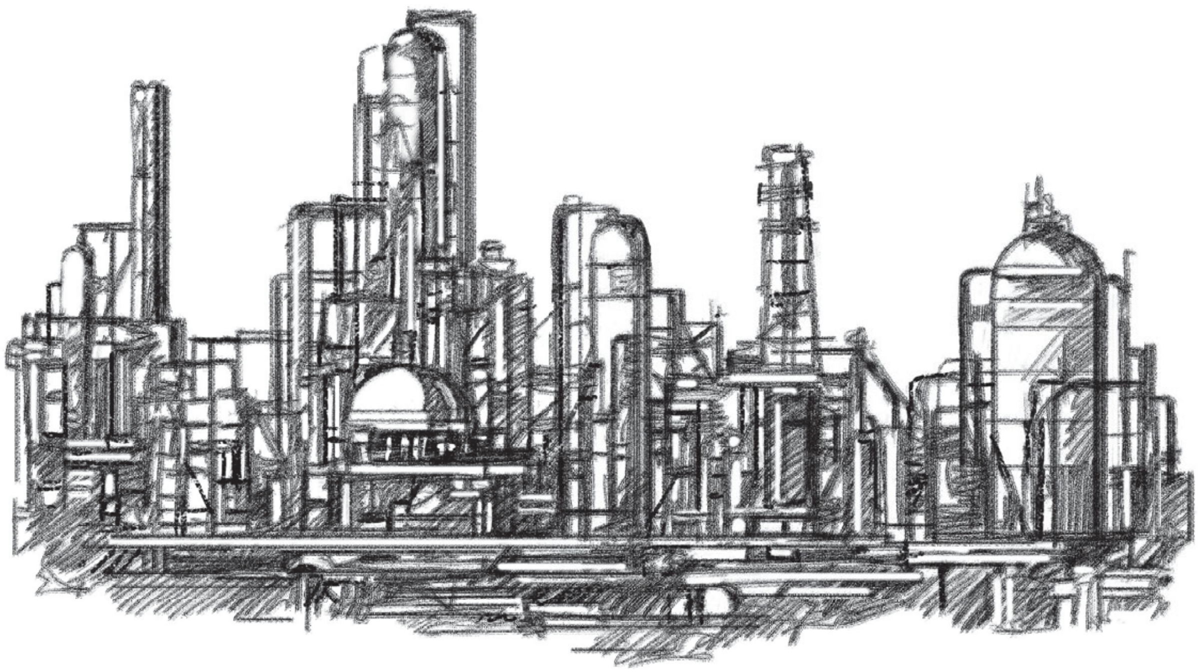

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