

# Oil Review

Oil · Gas · Petrochemicals

## Middle East

VOLUME 20 | ISSUE 8 2017

## Saudi Arabia pushes ahead with petrochemicals

- Saudi Aramco rolls out massive investments
- Evacuation monitoring and mustering solutions
- Tackling the cyber security threat
- Positive mood at ADIPEC
- The impact of digitisation and disruption
- Boosting training opportunities

SEE US AT

**intersec**


**WORLD FUTURE  
ENERGY SUMMIT**

PART OF ABU DHABI SUSTAINABILITY WEEK 2018

**20**  
Years

**Serving the  
regional oil  
& gas sector  
since 1997**

WE DELIVER THE PERFORMANCE YOU NEED.  
// FROM STOCK // FROM PRODUCTION

 raccortubi group

raccortubigroup.com

Austenitic stainless steel \_ Duplex \_ Superduplex \_ Superaustenitics \_ Nickel alloys \_ Titanium



Since 2013, Raccortubi Middle East has been supplying customers with pipes, tubes, fittings and flanges in standard and special steel grades directly from its own local stock in Dubai (Jebel Ali Free Zone).

The perfect synergy with Raccortubi Group's manufacturing units allows a consistent stock replenishment to offer clients cost-effective, flexible solutions.

 raccortubi  
middle east

dubai@raccortubi.com

+971 4 887 6211

raccortubimiddleeast.com

**Editor:** Louise Waters - ✉ orme@alaincharles.com

**Editorial and Design team:** Prashant AP, Hiriyti Bairu, Miriam Brtkova, Kestell Duxbury, Ranganath GS, Samantha Payne, Rahul Puthenveedu, Rhonita Patnaik, Deblina Roy, Nicky Valsamakis and Vani Venugopal

**Managing Editor:** Georgia Lewis

**Publisher:** Nick Fordham

**Sales Director:** Michael Ferridge

**Group Magazine Manager:** Graham Brown  
☎ +971 4 448 9260

✉ graham.brown@alaincharles.com

**Magazine Sales Manager:** Tanmay Mishra

☎ +91 80 65684483

✉ tanmay.mishra@alaincharles.com

#### International Representatives

**Nigeria** **Bola Olowo**

☎ +234 8034349299

✉ bola.olowo@alaincharles.com

**USA**

**Michael Tomashefsky**

☎ +1 203 226 2882 ☎ +1 203 226 7447

✉ michael.tomashefsky@alaincharles.com

#### Head Office:

Alain Charles Publishing Ltd  
University House, 11-13 Lower Grosvenor Place, London SW1W 0EX, United Kingdom  
☎ +44 (0) 20 7834 7676 ☎ +44 (0) 20 7973 0076

#### Middle East Regional Office:

Alain Charles Middle East FZ-LLC  
Office L2-112, Loft Office 2, Entrance B,  
P.O. Box 502207, Dubai Media City, UAE  
☎ +971 4 448 9260, ☎ +971 4 448 9261

**Production:** Shaheen Shaikh, Rakshith Shivakumar, Srinidhi Chikkars and Eugenia Nelly Mendes  
✉ production@alaincharles.com

**Subscriptions:** ✉ circulation@alaincharles.com

**Chairman:** Derek Fordham

**Printed by:** Buxton Press

**Printed in:** December 2017

© Oil Review Middle East ISSN: 1464-9314



## → Editor's note

SAUDI ARABIA AND Saudi Aramco are the focus of this issue. 2018 looks like being a big year for the state oil giant, with an IPO lined up and massive investments being rolled out. The focus is on the expansion of its downstream portfolio, in line with its ambition to become a major global integrated energy/chemicals firm by 2020 and the Kingdom's Vision 2030 blueprint to boost investment, diversify the economy and create new jobs. (See our articles on p12 and p16). Meanwhile, the localisation initiative (IKTVA) is yielding results (see p20).

We also report on ADIPEC, where the mood was decidedly upbeat, with the oil price topping US\$60 and sustained efforts to improve operational efficiencies and diversify operations starting to pay off. Exhibitors generally expressed optimism about prospects for the development of their business in the region.

## → Contents

### Calendar

- 4 Executives' calendar and event news**  
Event news and a preview of Middle East Electricity

### Oil & Gas News

- 8 Developments**  
A round-up of the latest news from across the region

### Analysis

- 12 Moving ahead with petrochemicals production**  
Saudi Arabia is emerging as a significant player in the global chemicals market
- 16 Saudi Aramco gears up for a big year**  
Saudi Arabia's oil giant is rolling out huge new investment plans, with an IPO lined up for 2018
- 20 Increasing the local contribution**  
A new report from APICORP assesses the progress of Saudi Arabia's In-Kingdom Total Value Add (IKTVA) programme

### Training & Development

- 24 Developing skills of Kuwaiti engineers**  
A programme organised jointly by Fluor and the Kuwait Fund for Arab Economic Development is providing valuable training for Kuwaiti graduate engineers

### Safety & Security

- 29 Tackling the cyber security threat**  
Strategies to combat complex cyber and critical infrastructure security threats were discussed at the ADIPEC Security in Energy conference

- 32 Evacuation monitoring and mustering solutions**  
Technological advancements in evacuation monitoring and mustering systems

### ADIPEC Review

- 36 Positive vibes at ADIPEC**  
The mood at ADIPEC was upbeat, with exhibitors optimistic about business opportunities in the region
- 40 Bringing fire-fighting technology to the Middle East**  
Turkey-based VOLKAN discusses prospects for its business in the Middle East
- 46 Advancing women in the oil and gas workforce**  
The ADIPEC Women in Energy conference highlighted the growing importance of women in the oil and gas industry

### Technology

- 48 Transforming innovation through digital disruption**  
The impact of digitalisation and disruption on capital projects
- 50 Award for BP Khazzan project**  
BP Oman has won the 'Advancements in Asset Performance' category in Bentley's *Be Inspired Awards* programme, for the Khazzan Gas Production project in Oman

### Project focus

- 55 Saudi Arabia project list**

### Arabic

- 5 News/Analysis**

## → Executives' Calendar 2018

JANUARY			
15 - 18	<b>World Future Energy Summit</b>	ABU DHABI	<a href="http://www.worldfutureenergysummit.com">www.worldfutureenergysummit.com</a>
21 - 23	<b>Intersec</b>	DUBAI	<a href="http://www.intersecexpo.com">www.intersecexpo.com</a>
22 - 24	<b>Homeland Security Masterclass</b>	MUSCAT	<a href="http://www.homelandsecurityseries.com">www.homelandsecurityseries.com</a>
FEBRUARY			
12 - 14	<b>Egypt Petroleum Show</b>	CAIRO	<a href="http://www.egyps.com">www.egyps.com</a>
19 - 21	<b>ME-TECH 2018</b>	DUBAI	<a href="http://www.europetro.com/events">www.europetro.com/events</a>
MARCH			
5 - 8	<b>GEO 2018</b>	MANAMA	<a href="http://www.geo2018.com">www.geo2018.com</a>
6 - 8	<b>Middle East Electricity (MEE) 2018</b>	DUBAI	<a href="http://www.middleeastelectricity.com">www.middleeastelectricity.com</a>
6 - 7	<b>Saudi Downstream Forum</b>	YANBU	<a href="http://www.saudidownstream.com">www.saudidownstream.com</a>
11 - 13	<b>GPCA Research &amp; Innovation Summit</b>	DUBAI	<a href="http://www.gpcaresearch.com">www.gpcaresearch.com</a>
26 - 28	<b>Oman Oil &amp; Gas Exhibition &amp; Conference (OGWA)</b>	MUSCAT	<a href="http://www.ogwaexpo.com">www.ogwaexpo.com</a>
26 - 27	<b>OpEx MENA 2018</b>	MANAMA	<a href="http://www.europetro.com">www.europetro.com</a>
28 - 29	<b>Gulf Safety Forum</b>	MANAMA	<a href="http://www.europetro.com">www.europetro.com</a>
APRIL			
17 - 18	<b>Kuwait Oil &amp; Gas Summit</b>	KUWAIT	<a href="http://www.cwckuwait.com">www.cwckuwait.com</a>
29 - 3 May	<b>SOGAT 2018</b>	ABU DHABI	<a href="http://www.sogat.org">www.sogat.org</a>
30 - 3 May	<b>OTC 2018</b>	HOUSTON	<a href="http://www.2018.otcnet.org">www.2018.otcnet.org</a>
MAY			
7 - 8	<b>Homeland Security Middle East</b>	DUBAI	<a href="http://www.gulfhomelandsecurity.com">www.gulfhomelandsecurity.com</a>
29 - 1 June	<b>Caspian Oil &amp; Gas</b>	BAKU	<a href="http://www.caspianoilgas.az">www.caspianoilgas.az</a>

*Readers should verify dates and location with sponsoring organisations, as this information is sometimes subject to change.*

**Gardner Denver** **CompAir** **Elmo Rietschle** **ROBUSCH**  
PUMPS-BLOWERS & COMPRESSORS

The **Ultimate** Source for Pressure and Vacuum for your industry

Gardner Denver provides reliable, low-pressure products that serve a wide range of manufacturing and process industries.

enquiries [fze@gardnerdenver.com](mailto:fze@gardnerdenver.com)  
**Tel: +971(0) 4881 1744**  
[www.gardnerdenver.com](http://www.gardnerdenver.com)

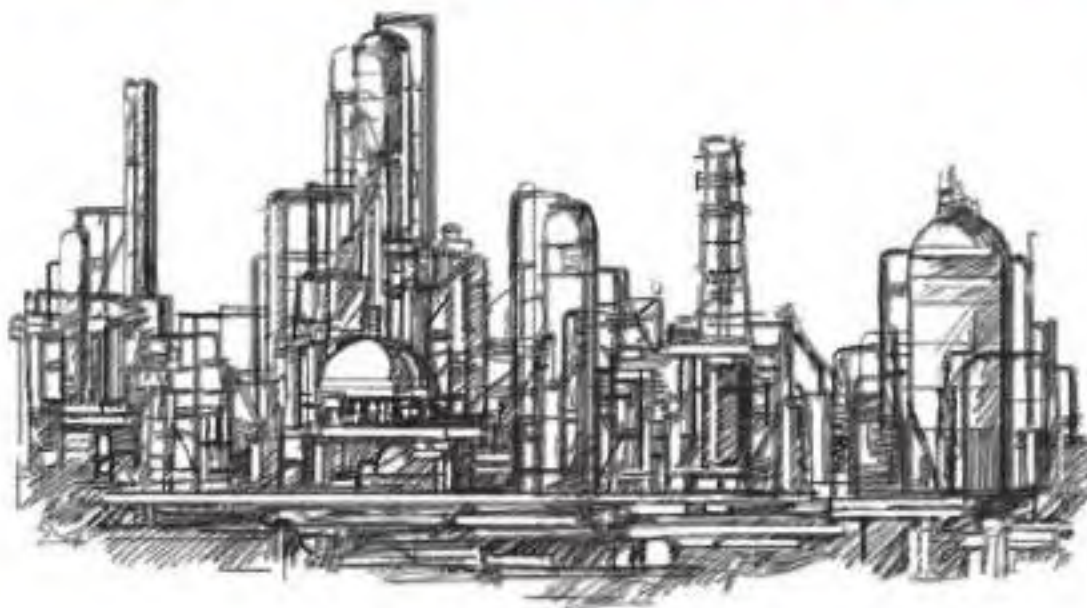
For more information, contact us today



# ***Jotachar***

1709  
*mesh free*

Proven offshore. *Now available onshore.*



*Mesh free epoxy passive fire protection  
for the hydrocarbon processing industry*

Jotun has introduced a next generation epoxy passive fire protection material. Jotachar 1709 mesh free is designed to protect against hydrocarbon fire scenarios for up to 4 hours as defined in the ANSI UL1709 Standard.



**Jotun Protects Property**  
jotun.com



*Middle East Electricity is forecast to attract its highest ever turnout for the 2018 edition*

# MEE evolves in response to regional demands

Middle East Electricity (MEE), the region's leading annual international trade event for the power industry, is undergoing major expansion in 2018 to service the shifting demand dynamics of the regional sector.

**T**O AID ONGOING growth, Informa Exhibitions, the event organiser, has launched a dedicated Energy Storage & Management Solutions sector for the show, which is hosted by the UAE Ministry of Energy and runs at the Dubai World Trade Centre from March 6-8 2018. Informa will also debut the thought-leading Global Smart Energy Summit alongside the mega exhibition.

"Middle East Electricity is evolving in line with the regional industry, which is now one of the world's most vibrant," said Anita Mathews, group director – Industrial Portfolio at Informa Exhibitions.

"Our new dedicated product sector will launch as the Middle East and Africa's most comprehensive coming together of local, regional and international energy storage and management providers, with international manufacturers demonstrating the latest technologies transforming industry practices to regional audiences.

"With governments looking to meet spiraling demand of between seven to eight per cent a year caused by population growth and industrialisation, change is the name of the game across the entire Middle East and Africa power gambit. There is also a tremendous appetite to embrace technologies and renewables to combat climate change, deliver smart cities and make local eco-systems more resilient."

Energy Storage & Management Solutions will join the Transmission & Distribution, Power

Generation and Lighting specialised sectors at the show, along with Solar, which joins the MEE fold as a dedicated sector after six years as a co-located event.

"Solar is now undoubtedly one of the fastest-growing sectors in the region, with the Middle East Solar Industry Association putting the number of solar projects under execution throughout MENA at 3,610 with another 1,300 under tender," added Mathews. "Mega projects are being jumpstarted across both North Africa and the GCC, while there is increasing acceptance and uptake of rooftop solutions, which have witnessed a 10-fold demand surge in the UAE in the last 12 months alone. This advancing sector, now benefitting from region-wide clean energy policies, holds out enormous opportunities for developers, EPC contactors, equipment suppliers and financiers," she added.

The 2018 edition will host more than 1,615 companies from 66 countries, supported by 24 dedicated country pavilions. Covering the entire value chain of electricity products and services across the show's five sectors, Informa anticipates its highest turnout ever for MEE 2018, reflecting the transformation currently underway throughout the MENA power industry.

"This scale of evolution is nothing short of breathtaking, with APICORP forecasting the GCC investment requirement at US\$85bn for an additional 69 GW of generation capacity, and US\$52bn for transmission and

distribution over the next five years."

APICORP says GCC power capacity needs to expand at an average of eight per cent annually up to 2020, with Saudi Arabia facing the biggest demand and needing to invest US\$71bn to increase capacity to 114GW.

"With regional governments increasingly focused on economic diversification, demand is unlikely to slow for some considerable time. This has more keenly focused the global industry's attention on the region and the show will reflect this with an international exhibitor base looking to engage with local players," concluded Mathews.

Alongside MEE 2018, Informa will also debut the Global Smart Energy Summit, a high-level summit featuring some of the biggest corporate champions in sector transformation, including Tesla, US National Renewable Energy Laboratory, US Department of Energy and NASA. The Summit sessions will lay out the future of the international sector and are expected to attract over 700 attendees exploring reform patterns across the entire power spectrum.

Middle East Electricity is held under the patronage of HH Sheikh Maktoum Bin Mohammed Bin Rashid Al Maktoum, Dubai Deputy Ruler, and is hosted by the UAE Ministry of Energy. ■

*For more information, please visit - [www.middleeastelectricity.com](http://www.middleeastelectricity.com).*



أبوظبي لبناء السفن

ABU DHABI SHIP BUILDING

ADSB

# The largest drydocking facility in Abu Dhabi



ADSB owns and operates two state-of-the-art drydocking facilities in Abu Dhabi - located in Mussafah and Mina Zayed. Each year, an average of 300+ vessels are drydocked and serviced.

The new floating drydock in Mina Zayed and the Synchro Lift in Mussafah are fully equipped to meet clients' needs with high quality services and competitive rates.

Contact us directly for more information on our service offering.

## MINA ZAYED

Length  
180m

Breadth  
30m

Lifting capacity  
10,000 tons

Water front  
430m

## MUSSAFAH

Length  
80m

Breadth  
20m

Lifting capacity  
2,000 tons

Dry berths  
30

## Aramco Trading inaugurates first international office in Singapore

ABDULAZIZ M AL-JUDAIMI, senior vice president of Downstream at Saudi Aramco, has inaugurated Saudi Aramco Trading Singapore (SATS).

The expansion of Aramco Trading in Singapore is part of Aramco's strategy to optimise value across the whole oil and products chain, as well as support the company's expanding refining operations and petrochemical output.

Oil product demand in Asia Pacific has grown in the past decade to reach 32.6 mn bpd in 2016. According to Wood Mackenzie's forecast, the growth is expected to continue based on an average GDP growth of 3.7 per cent between 2016 and 2035.

Demand is expected to reach about 41mn bpd in 2035, with China and India projecting to account for more than 75 per cent of the demand growth in Asia Pacific.

Aramco said that being the largest physical oil trading hub and price discovery centre in Asia, Singapore also has the largest concentration of oil storage in Asia, with 10mn cu/m of independent oil storage capacity.



Representatives of Saudi Aramco during the inauguration ceremony.

Image Credit : Saudi Aramco

## CB&I receives EPC award for SASREF's refinery in Al-Jubail

SAUDI ARAMCO SHELL Refinery (SASREF) has awarded a contract worth US\$95mn to CB&I to provide engineering, procurement and construction management for SASREF's existing refinery in Al-Jubail city in Saudi Arabia.

CB&I has completed the conceptual design and FEED phases of the project, while working with SASREF to optimise investment on the new refinery configuration.

CB&I's integrated solutions are expected to give SASREF the operating flexibility for generating maximum returns through sustainable fuels production, which meets Euro V regulations for cleaner emissions.

According to Duncan Wigney, executive vice-president of engineering and construction at CB&I, "This award demonstrates CB&I's ability to deliver value to SASREF and our other customers in the Middle East. It also enhances CB&I's position in the region as a leading provider of energy infrastructure solutions, from conceptual design to fabrication to EPC delivery."

SASREF's refinery in Al-Jubail is one of the world's most technologically advanced refineries.



Image Credit : SASREF

**A commitment to Performance and Quality**

Are you searching for reliability and products?

We manufacture Straight Seam (L.S.A.W.) and Spiral Seam (S.A.W.) Steel in diameters ranging from 20 to 84 inches, high strength API line pipe.

Our products conform to Saudi Aramco and International Standards.

**National Pipe Co. Ltd.**  
 P.O. Box 1099 Al Khobar 31952, Saudi Arabia  
 Tel: (013) 882 5266 Ext. # 121, 124 & 129  
 Fax: (013) 882 5435 Email: sales\_dept@npc.com.sa  
 Web: www.npc.com.sa

## ADNOC Distribution offer price set at AED2.50 (US\$0.68) per ordinary share

ABU DHABI NATIONAL Oil Company for Distribution PJSC has set the pricing for the initial public offering at US\$0.68 per ordinary share. Based on the offer price, the company's market capitalisation at listing is expected to be approximately US\$8.5bn.

The number of shares included in the offering is 1,250,000,000, which represents 10 per cent of the share capital. The company said that immediately after the offering, Abu Dhabi National Oil Company (ADNOC Group), the Company's parent, will continue to own 90 per cent of the share capital.

The value of ordinary shares sold in the offering totals US\$851mn. Speaking about the IPO, Dr Sultan Ahmed Al Jaber, CEO of ADNOC Group, said, "This important and strategic offering represents a unique opportunity for investors to own a stake in the UAE's number one fuel retail brand, and largest network of retail convenience stores."

At listing, the company is expected to have the fourth largest capitalisation on the Abu Dhabi Securities Exchange (ADX).

The transaction marks the first IPO on the ADX using a book building process, in line with international best practice. This has led to substantial interest and engagement from high quality, global institutional investors allowing for increased Foreign Direct Investment into the UAE, on top of the high demand and interest from local retail investors.

The IPO represents the first IPO of an ADNOC subsidiary company, and creates a new platform and route for further value creation.

The offering represents a further step in ADNOC's new value creation strategy, and the more proactive management of its portfolio of assets and capital, to unlock value and drive growth. ADNOC retains a 90 per cent shareholding in the company and is fully aligned with other shareholders as the company looks to further growth.

According to ADNOC, significant interest and demand from UAE-based investors paves the way for further interest and investment in future transactions.



INTRODUCING THE NEW

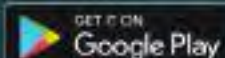
# ALTAIR® 4XR Multigas Detector



**ATEX Zone 0  
approved**

## REAL-TIME

- Get real-time event notifications via the MSA ALTAIR Connect app
- Check for bump test compliance at a glance thanks to the Bump LED



## RUGGED

- Can survive a 7.5 m drop
- Certified military-grade repeated drop test protection (MIL-STD-810G)
- Agency-certified IP68 rating for dust and water ingress

## RELIABLE

- Full 4-year standard warranty – a year longer than the industry average
- MSA XCell Sensors offer superior speed, stability, accuracy and repeatability
- < 15-second sensor response, clear and bump test times



Don't miss our eNews! Sign up now!  
Feel free to contact us: [newdetector@MSAsafety.com](mailto:newdetector@MSAsafety.com)

## TechnipFMC awarded Bapco Sitra refinery expansion in Bahrain

UK-BASED TECHNIPFMC, jointly with Samsung Engineering and Tecnicas Reunidas, has been awarded a US\$4.2bn contract from Bahrain Petroleum Company (Bapco) for the Bapco modernisation programme (BMP).

The project is located on the eastern coast of Bahrain and entails the expansion of the capacity of the existing Sitra oil refinery from 267,000 to 360,000 bpd.

The partnership is expected to improve energy efficiency and valorise the heavy part of the crude oil barrel with the aim to enhance the products slate and meet environmental compliance.

The project will be executed on an engineering, procurement, construction and commissioning (EPCC) lump sum turnkey basis and is slated for completion in 2022, said TechnipFMC.

Main units include: Residue Hydrocracking Unit, Hydrocracker Unit, Hydro Desulfurisation Unit, Crude Distillation Unit, Vacuum Distillation Unit, Saturated Gas Plant, Hydrogen Production Unit, Hydrogen Recovery Unit, Sulphur Recovery Unit, Tail Gas Treatment Unit, Sour Water Stripper Unit, Amine Recovery Unit, Bulk Acid Gas Removal Unit, Sulphur Solidification Unit and Sulphur Handling Facilities.

The BMP project is seen to capitalise on the vast experience of the joint venture partners in Bahrain as well as in the region.

Nello Uccelletti, president of onshore offshore business at TechnipFMC, stated, "This award is one of the strategic early engagement achievements, following the successful completion by TechnipFMC of the FEED contract."

The company is looking forward to successfully execute the contract and aims to build a long-term partnership with Bapco to strengthen its presence in the refining sector.

## Saudi Aramco's Jazan refinery project to be completed by mid-2018

AMIN NASSER, PRESIDENT and CEO of Saudi Aramco, has visited the company's Jazan refinery to receive progress updates on the Jazan Economic City (JEC) and refinery and terminal mega-projects in Saudi Arabia.

During the site visit, Nasser said that the project is expected to herald the beginning of a historic new economic era for both the region and the Kingdom.

The company's corporate management visit the Jazan refinery and terminal mega-project.



Image Credit : Saudi Aramco

At the Jazan Project Management office, corporate management received a comprehensive progress update by Khalid S Al-Gazlan, manager of the Jazan Integrated Gasification Combined Cycle (IGCC) Projects Department.

Nasser added that he also had discussions with the corporate management team on the project and underlined the company's support for the work of the Jazan project management team.

He further noted that the complex is scheduled to be completed by mid-2018, with full operation to be achieved by 2019.

The Jazan project aims to enable an industrial springboard to achieve the vision of a diversified economy under Kingdom's strategic Vision 2030 economic road map.

The 106 sq km JEC will host the refinery complex as its anchor tenant, and is viewed as pivotal to deliver economic transformation in the region, while attracting foreign investment.

"It's a shared effort," Nasser said. "We need to continue to move ahead as we are in the midst of creating a new and thriving era in Jazan."

The corporate management delegation also toured the under-construction port, where massive dredgers could be seen at work, and were briefed on the progress of complex engineering and construction packages that are expected to be integrated to reach the processing capacity of more than 400,000 bpd of crude oil. Nasser said that this could provide fuel for domestic and international customers.

"The complex will be entirely self-sufficient and provide power to locally owned manufacturing and service companies," Aramco noted.

Nasser thanked to the Jazan management team for their effort in addressing and overcoming several challenges as the programme accelerates toward completion.

He said, "Jazan is a major project, considering the size of other facilities that we have built, and we have good teams working here to deliver the project successfully."

The Middle East premier trade show for the metal working, metal manufacturing and steel fabrication industry

**STEEL FAB**  
Machinery, Equipment & Tools

**15-18**  
January 2018

EXPO CENTRE DUBAI  
UNITED ARAB EMIRATES

FEATURING PIPE & TUBE ANNEALING UNIT

WELDING & CUTTING PAVILION BY

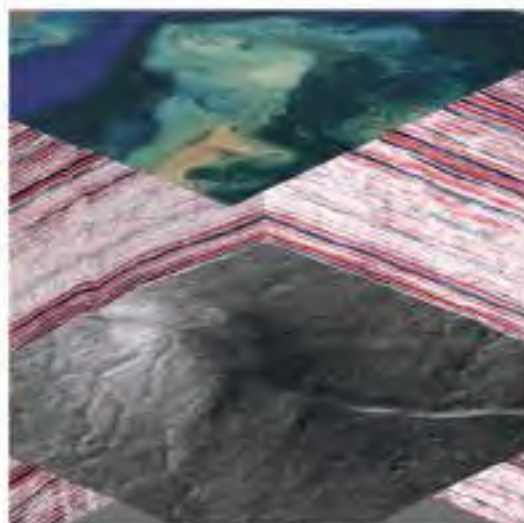
Fasteners Middle East

www.steelfabme.com

Tel: +971-4-5270000 • Email: steel@expo-centre.ae

- Surface Preparation and Finishing
- Grinding & Cutting
- Welding & Clutting
- Machinery & Tools
- Pipe Construction

# Providing Superb Seismic Data Quality While Preserving the Environment



*Data courtesy of ARMOG and EGS*

## Regional Expertise - Industry Leading Performance

Seabed Geosolutions' ocean bottom seismic data acquisition teams have set new safety, data quality and efficiency standards for shallow water and transition zone surveys in the U.A.E. With a commitment to protecting vulnerable species in the U.A.E. coastal habitat, Seabed Geosolutions continues to lead the market in OBS acquisition performance and data quality.

To learn more, contact us at [eame@sbgs.com](mailto:eame@sbgs.com).



Visit us [seabed-geo.com](http://seabed-geo.com)

# Moving ahead with petrochemicals production

Saudi Arabia is emerging as a significant player in the global chemicals market, says Moin Siddiqui, economist.

**T**HE PETROCHEMICALS INDUSTRY of today is fundamental to other key industrial sectors, producing a wide range of products including cosmetics, paint, gels, pharmaceuticals, polar solvents, plastic, rubber, dyne liquids, detergents, textiles, fibres, resins, elastomers and lubricants. Including the pharmaceutical sector, the chemical industry generates over US\$4 trillion of revenue globally. The 21st century has seen a marked shift from west to east in the petrochemicals business, with the GCC region emerging as “the foremost global petrochemical hub,” according to Dow Chemical. Major consumption centres are shifting to emerging Asia, driven by robust demand in China and India.

Saudi Arabia accounts for two thirds of the GCC’s chemical capacity, which in 2016 totalled 150mn tonnes, according to the Gulf Petrochemicals and Chemicals Association (GPCA). The region’s chemical production grew faster than the global average of 2.2 per cent in 2016 due to new capacity added in Saudi Arabia. GPCA figures show that GCC chemicals capacity utilisation has exceeded 90 per cent over past five years – surpassing the global utilisation average of 78 per cent. Between 2020 and 2024, eight million tonnes of new capacity is expected online in the region.

“Despite higher energy prices, Saudi producers remain the most competitive globally”

The Kingdom’s petrochemical sector – contributing 10 per cent of total exports – received US\$150bn in total cumulative investments by 2016. Saudi Basic Industries Corporation (SABIC) ranks among the world’s top five chemicals companies (Table 1). SABIC is one of the biggest producers of polyethylene, ethylene glycol, propylene, polyolefin and polycarbonate, among others. By 2020, SABIC is projected to produce over 135mn tonnes, up from 98.8mn tonnes in 2016.

The heavy usage of ethane and liquid petroleum gas (LPG) as feedstock means production of olefins such as ethylene and methanol largely dominates Saudi capacity; whilst aromatics obtained from oil derivative (naphtha) comprises under one fifth of total output. Furthermore, the lack of chemical conversion units in Saudi Arabia and other GCC states implies output is geared mainly towards basic commodity chemicals with low downstream capabilities (i.e. more sophisticated products). Despite higher energy prices, Saudi producers

**Table 1: The top 10 chemical companies ranked by 2016 sales**

Company	Country	Sales	(US\$mn)				Workforce
			Operating profits	Total assets	R&D	Capex	
BASF	Germany	60,557	6,639	80,493	1,960	4,606	113,830
Sinopec	China	48,225	2,970				
Dow Chemical	USA	48,158	5,075	79,511	1,584	3,804	56,000
SABIC	KSA	35,415	7,140	84,492		3,492	35,000
INEOS	UK	32,870	4,652				
Mitsubishi Chemical Holdings	Japan	30,296	2,590	40,055	1,133	1,853	69,291
Lyondell Basell Industries	Holland	29,183	5,060	23,442	99	2,243	13,000
ExxonMobil Chemical	USA	26,058	5,917	30,053		2,207	
DuPont	USA	24,594	4,640	39,964	1,641	1,038	46,000
Air Liquide	France	19,083	3,220	46,423			67,000

Source: ICIS Chemical Business September 2017

remain the most competitive globally. In early 2016, feedstock prices for ethane and methane were raised to US\$1.75 and US\$1.25 per million British thermal units (Btu) from US\$0.75/mn Btu. The costs of electricity and water also rose by 40 per cent.

## Downstream speciality

Saudi Aramco aims to become a major global integrated energy/chemicals firm by 2020 and to rank among the top three aromatics producers in 2018. It plans to invest US\$100bn over 10 years in downstream sectors. New sophisticated projects bode well for the Kingdom’s strategy to diversify its economy. These include the US\$20bn Sadara Chemical joint venture between Saudi Aramco and the USA’s Dow Chemical, PetroRabigh 11 (JV between Saudi Aramco and Japan’s Sumitomo Chemicals) and the US\$3.4bn Kemya Elastomers facility, an affiliate of SABIC and Exxon Chemical Arabia. The latter is the first synthetic rubber plant in Saudi Arabia, producing 400,000 tonnes/year of rubber, thermoplastic speciality polymers and carbon black.

Sadara at Jubail is the world’s largest integrated chemicals plant ever built in a single phase, with 26 manufacturing units utilising multi-feed cracker (the first in the Gulf) to produce 3.2mn tonnes/year of chemicals (previously imported). These include pygas, pyoil, isocyanates, amines, polyols, propylene glycol and PE/elastomers. The JV is beneficial for both partners; Aramco gains access to Dow Chemical’s proprietary technology, whilst Dow gains from subsidised feedstocks. Sadara is forecast to yield annual revenues of US\$10bn by 2020.

Meanwhile, the expanded PetroRabigh 11 complex (costing US\$7bn) is near completion also at Jubail, which has a 2.4mn

# UNIQUE

ALWAYS & EVERYWHERE



## NEW GENERATION SYSTEMS FOR CRUSHING AND RECYCLING

Quarries and Mines | Piping and Excavation | Road works and Urban job sites | Demolitions | Recycling | Tunnels and Enclosed spaces

**WORLDWIDE LEADER** For over 15 years MB CRUSHER has been researching and developing advanced machinery and solutions for road works, demolition and recycling sectors. Next-generation products, applicable to any heavy machine, to transform it into a crusher or enhance its performance while optimizing on-site resources.

**MB**  
THE CRUSHING EVOLUTION



[info@mbcrusher.com](mailto:info@mbcrusher.com)

[www.mbcrusher.com](http://www.mbcrusher.com)

EVOLVED

VERSATILE

STRONG

tonnes/year of petrochemicals capacity plus 400,000 bpd of refined petroleum capacity.

A planned mega project is the 'Oil-to-Chemicals' complex in Yanbu (at a reported cost of US\$30bn). SABIC and Aramco agreed to conduct a feasibility study on an integrated plant to process crude directly into chemicals, cutting out the costly intermediate link in the production of plastics and diversifying the feedstock mix.

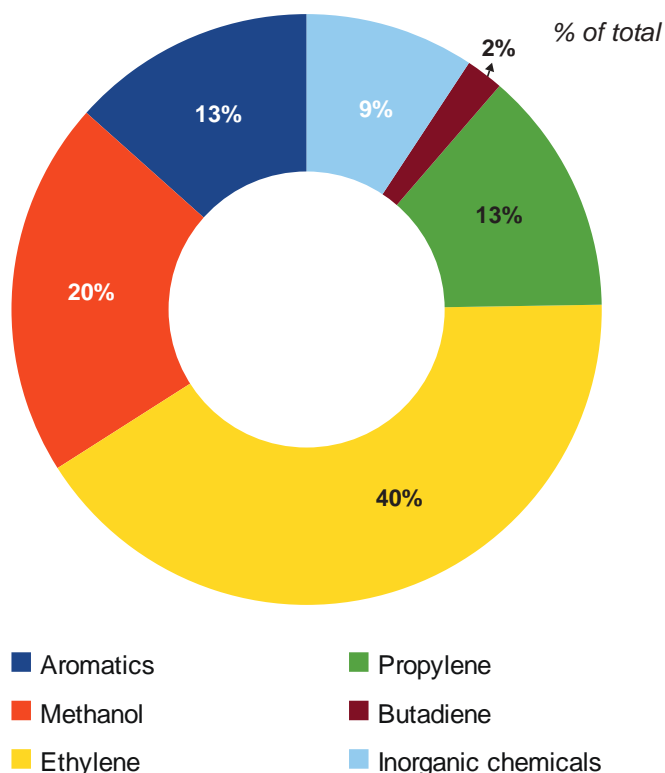
### Challenges for Gulf producers

Riyadh-based Jadwa Investment explained, "The creation of a downstream specialty and end-product sector is vital not only for establishing a higher value adding manufacturing base, but also for pushing the Kingdom's non-oil exports." Hence the need for greater specialisation and innovation in the sector. New technologies have helped global chemicals firms to reduce output cost and gain product superiority, while achieving a higher return on assets.

S&P Global Platts noted, "For the Saudi Arabian petrochemical industries to be a real global competitor, the authorities might need to assess the overall industry and take the appropriate measures, such as merging entities. This (if well planned and well executed and monitored) will make Saudi petrochemical industries a global player and not a follower."

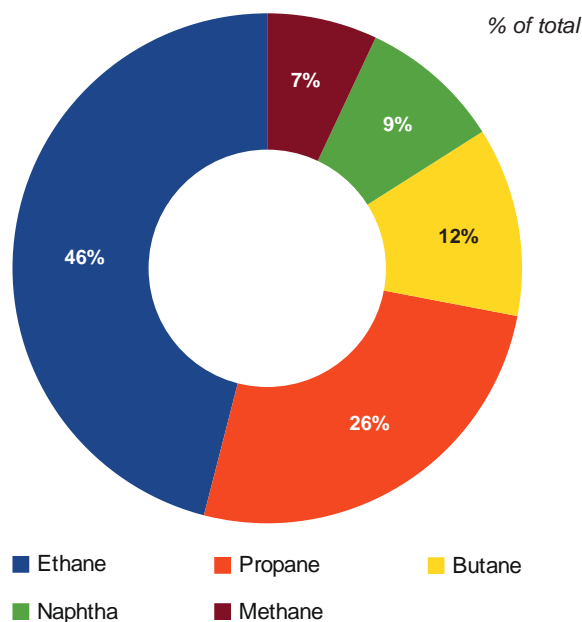
Value-added specialty chemicals require developing or acquiring the requisite technology and know-how. According to GPCA, the Gulf countries accounted for just two per cent of global chemicals research and development spending in 2015. Experts suggest moving up the value chain into more complex derivative products could increase returns from US\$500 to around US\$2,000/tonne by 2040 and boost employment. In fact, each direct job created in the chemicals sector can potentially create four additional indirect jobs, according to GPCA estimates.

**Chart 1: KSA petrochemical capacity 2016**



Source: Jadwa Investment Research February 2017

**Chart 2: Saudi petrochemical feedstock usage 2016**



Source: Jadwa Investment Research February 2017

The next decade is likely to see a significant hike in global petrochemicals capacity. US chemicals firms are helped by cheap and abundant feedstock supply, thanks to the shale gas boom. Between 2007 and 2016, US natural gas output rose nearly two-fifths to 749.2bn cubic metres – making the country the number one gas producer (BP figures). Concurrently, ethane/propane prices saw steep falls in recent years – leading to more investment in supply chain infrastructure. The Energy Information Administration (EIA) expects a 40 per cent surge in US ethylene capacity during 2017-18, or one-fifth of global ethylene capacity.

The development of coal-based technologies such as methanol-to-olefins (MTO) and coal-to-olefins (CTO) can boost future petrochemical supply. China, number one coal producer (with the third largest global reserves) – is investing into alternatives in order to compensate for relatively modest hydrocarbons resources and satisfy domestic demand. Industry sources predict steep hikes in MTO and CTO capacities of China from three million tonnes in 2015 to 10mn tonnes by 2025.

Iran – the world's largest holder of gas reserves – plans to double petrochemicals capacity (which totalled 60mn tonnes in 2014) by 2021, according to National Petrochemical Co. This ambitious target depends on attracting foreign direct investment estimated at US\$7-10bn/year and new technologies to upgrade infrastructure and build new units after decades of decay caused by international sanctions. Some European and Asian companies have expressed interest in investing in the sector.

### Full value chains

To remain competitive in regional and global markets, Saudi Arabia devised a new initiative 'National Industrial Clusters Development Programme' aimed at exploiting the value-added potential of local resources. It targets investment and growth in five key industries: plastics/packaging, metals/minerals, automotives, home appliances and solar energy. These sectors rely in some way on chemicals – hence benefiting from ample raw materials and cheap energy supply.

The non-oil sectors are being encouraged to grow horizontally into various conversion industries. A 2014 report by American Institute of Chemical Engineers (AIChE) highlighted the importance of the chemicals sector in the industrialisation of the Kingdom; for example:

- The plastics packaging sector requires a polymer-conversion industry;
- Home appliances need upgraded polymers, such as acrylonitrile

butadiene styrene (ABS) and nylon for casings and other assorted components;

- Carmakers use huge volumes of plastics and composites in vehicles to reduce weight and for essential components (tyres);
- Solar panels contain polymers such as ethylene vinyl acetate (EVA) film;
- Downstream processing of metals requires processing fluids, which are oil and chemical-based to produce higher value products.

**Table 2: Saudi Arabian ethylene feedstocks (%)**

	2015	2024
Naphtha	11	17
Ethane	62	57
Propane	25	25
Butane	1	1

Source: S&P Global Platts

“The government has, and still is, investing heavily in the sector, encouraging investor participation and supporting Saudi-foreign joint ventures for new petrochemical projects. Ultimately, sustainable growth for the sector over the long term can really only be achieved by moving down and across the petrochemical value chain, and this is currently beginning to take place in the Kingdom,” noted Jadwa Investment in its February 2017 report.

In sum, refinery/petrochemical integration and building new plants for producing specialty chemicals will enable Saudi producers to compete more effectively with their European and US counterparts. As

part of the “Vision 2030”, the petrochemical industry is poised to expand three-fold over the next decade.

**Notes**

\*Petrochemicals are chemical products derived from petroleum. Some chemical composites are also derived from other fossil fuels like natural gas, coal or renewable sources such as sugar cane or corn. The two most typical petrochemical classes are olefins and aromatics. Oil refineries produce both substances by fluid catalytic cracking of petroleum fractions.

\*Chemical production is classified into two distinct categories: ‘Specialty chemicals’, which are more expensive and produced by fewer manufacturers. ‘Basic chemicals’ and intermediaries are often produced in large volumes by commodity manufacturers, but lower in value compared to specialty chemicals.

\*Polymers and plastics are the main chemical products, comprising around four fifths of the industry’s production volume. Ethylene and its derivatives are also widely used products. China is the largest single consumer of ethylene. The chemical industry is the second largest consumer of energy in the manufacturing sector.

\*Gas produced in Saudi Arabia is mostly ‘wet’, which in addition to methane and ethane also contains natural gas liquids (i.e. propane and butanes). Proved gas reserves (excluding the Neutral Zone) at end-2016 were 8.4 trillion cubic metres, with an estimated 16.9tn cubic metres of unconventional shale gas. Dry natgas output in 2016 was 3.9 trillion cubic feet (EIA figures). Aramco plans to double gas output capacity in a decade, including shale gas developments to provide feedstock to the petrochemical industry and limit oil usage in power generation. ■



PIPELINE INTERVENTION  
 HOT TAPPING • PIPE FREEZING • LINE STOPPING  
 ON-SITE MACHINING • LEAK SEALING • PIPELINE REPAIR CLAMPS

M-01, Lulu Bint Building, P. O. Box: 106310, Abu Dhabi, UAE  
 Tel: +971 2 845 0006, Fax: +971 2 8749913 Email: info@transasia-pts.com

ELDB Office No. E-20F-20, Hamriya Free Zone, Phase II, PO Box : 51135, Sharjah, UAE  
 Tel: +971 6 526 9166 Fax: +971 6 526 9167 Email: info@transasia-pts.com



UAE | SAUDI ARABIA | KUWAIT | QATAR | OMAN | SINGAPORE | INDONESIA | INDIA

www.transasia-pts.com

*Saudi Aramco is focusing increasingly on downstream development, in line with Vision 2030 aims to diversify the economy, boost investment and create jobs*



Image Credit : Chalermchai/Adobe Stock

# Saudi Aramco gears up for a big year

Times are changing for Saudi Aramco, Saudi Arabia’s state oil giant, with an IPO lined up for 2018 and huge new investment plans being rolled out, says Martin Clark.

**T**HESE ARE EVENTFUL times for all at Saudi Aramco. Perhaps the most significant change of all, however, is the national oil champion’s proposed listing on the stock market during 2018. It has been estimated that this could value the flagship company at a staggering US\$2 trillion.

The proposed sale is a centrepiece of Vision 2030, an ambitious government-backed reform plan to diversify the Saudi economy beyond crude oil exports.

Plans are still taking shape, but officials insist that the initial public offering (IPO) – which will only offer around five per cent of the company to investors – is still on track for next year, although there remains much work to do. That includes a decision on where the IPO will be listed, with Saudi officials looking at both domestic and international stock exchanges such as New York, London, Tokyo and Hong Kong.

The fact that a decision on which exchange will secure the listing is yet to be made has inevitably fuelled speculation in the markets that the IPO could be delayed beyond 2018 – or even shelved – amid concerns about the feasibility of an international listing.

International markets have been queuing up to court Saudi officials in a bid to secure the deal. The UK, for instance, has said it will provide US\$2bn in credit guarantees to Aramco so it can buy British goods more easily.

The timing of the IPO could also be influenced by the oil price, currently below US\$60 per barrel. Nonetheless, Saudi Arabia’s Crown

Prince Mohammad bin Salman insists that the deal will go ahead in 2018 as scheduled. He hopes to raise cash from the IPO sale to finance investments to help wean the kingdom off its dependency on oil exports, another key strategy in the nation’s long-term economic plans.

## Massive investment

In some ways, this is already taking place, irrespective of the planned Aramco IPO. For years, the company has been rolling out massive investments in its downstream capacity, working alongside foreign investors, and also nurturing the nation’s gas sector.

Most recently, Aramco agreed to join a US\$20bn venture to convert crude oil to chemicals, in partnership with petrochemicals producer Saudi Basic Industries Corp (SABIC). The crude oil to chemicals (COTC) complex will process 400,000 bpd of oil, to produce nine million tons of chemicals and base oils annually. It is expected to start operating in 2025.

Aramco’s president and chief executive Amin H. Nasser called it a vital new strategic direction for the group.

“COTC will also help expand our downstream portfolio, reducing our focus on the transportation sector and securing new and promising commercial opportunities.”

The venture also sits well with Saudi’s Vision 2030 blueprint, by boosting investment, diversifying the economy and creating new jobs for Saudi nationals. The complex is expected to create an estimated 30,000 direct and indirect jobs by the time it opens. Aramco and SABIC – the two largest Saudi global entities – estimate that by 2030 the COTC complex will boost the nation’s gross domestic product (GDP) by as much as 1.5 per cent. It marks the first time the country’s two largest economic entities have entered into a strategic partnership to develop a pioneering and innovative new technology; it also hedges the enormous cost and associated risks.

Once completed, the project will be the largest crude oil to chemicals complex in the world, and spin off a new outlet for Saudi

“Aramco has been rolling out massive investments in its downstream capacity”



A large industrial refinery or chemical plant at night, illuminated by numerous lights. The scene features several tall distillation columns, complex piping, and structural steel frameworks. The lighting is a mix of warm yellow and orange tones from the facility's lights, set against a dark, twilight sky.

# GET THE GLOBAL LEADER ADVANTAGE IN GAS TREATMENT

**Dow's world-leading expertise gives you the edge at every step in bringing gas to the market more efficiently and profitably.**

- Achieve optimal Mercaptan removal and higher performance by reliable amine management with UCARSOL™ Specialty Amines.
- Extend your gains with simpler and more cost-efficient NGL using UCASORB™ NGL Adsorbents
- Reap the returns over years with long-lasting thermal stability enabled by our exceptional range of Heat Transfer fluids including DOWTHERM™ and SYLTHERM\*

™ Trademark of The Dow Chemical Company or an affiliated company of Dow

\* SYLTHERM is a trademark of Dow Corning Corporation

For more details visit [dowoilandgas.com](http://dowoilandgas.com)

Aramco's immense oil production. A final investment decision is anticipated by the end of 2019, although it could be the first of more projects to come, according to Nasser.

"It's a starting point," he told Reuters. "There will be others in the future as we develop our technologies to shift or turn more barrels of crude into chemicals. We are looking at chemicals as a very attractive market for diversification."

### Upstream initiatives

That does not mean Aramco has taken its eye off the ball when it comes to its core upstream activities, which continue to bankroll the economy. As well as being the world's greatest oil producer, this also means continued strengthening of the gas sector.

Aramco recently confirmed a clutch of agreements with local and international contractors for major upstream projects worth nearly US\$4.5bn as it seeks to upgrade infrastructure on key gas fields [see box]. Nasser said that these works form a part of the group's natural gas expansion plans, to add about one billion standard cubic feet per day (scfd) to overall production.

"This reflects our commitment to introducing new supplies of clean-burning natural gas," he said. "These new supplies will help reduce domestic reliance on liquid fuels for power generation, enable increased liquids exports, provide feedstock to petrochemical industries, and reduce carbon emissions." Saudi Arabia is still a heavy user of oil in its power plants, although there is a clear shift to gas.

And there are more ambitious plans shaping up too. The company continues to push new frontiers upstream, including mapping its offshore Red Sea territory – an area of almost 200,000 sq km – an exercise that first began a decade ago. Just like the Eastern Province in

### Saudi Arabia oil, gas and petrochemicals

	2013	2014	2015	2016
Crude oil & condensate reserves (bn barrels)	260.2	261.1	261.1	260.8
Crude oil production (mn bpd)	9.4	9.5	10.2	10.5
Crude oil exports (mn barrels)	2,677.0	2,544.0	2,603.0	2,799.0
Gas reserves (trillion scf)	288.4	294.0	297.6	298.7
Raw gas processed (bn scfd)	11.0	11.3	11.6	12.0
NGL from hydrocarbon gases (mn barrels)	455.9	471.3	474.4	497.5
Total NGL sales (mn barrels)	320.7	329.9	331.2	365.5
Refined products production (mn bbl)	494.0	561.0	641.0	665.0
Refined products export (mn bbl)	121.0	168.0	232.0	296.0

Source: Saudi Aramco

the early 1940s, the Red Sea was, and still largely is, frontier territory – but Aramco chiefs hope it could one day be a catalyst to spur growth and industry in the country's Western Region.

Early 2D seismic data revealed positive signs for the presence of hydrocarbons in geological traps. More recently, this prompted a large-scale hydrographic survey to better understand seafloor conditions, and help support any future oil field operations, including rig movements, laying of pipelines and the routes of supply vessels. This was followed by more precise 3D mapping of the Red Sea, which is still in full swing but yielding "unprecedented results", according to company sources.

It is early days and not clear yet what the potential of this area is – nor when any first drilling might commence – but it is an exciting new play for Aramco to test its skills when ready. Like the push into new markets, such as chemicals, or even the financial markets, it holds great promise for the future. ■

**M.A. QAISER**  
INDUSTRIETECHNIK GMBH

Quality.  
Integrated Solutions.  
Reliability.

We are looking for importers & distributors.  
Contact: info@maqaiser.com

Your partner for cutting & grinding discs, high power brushes, welding equipment & PPE.

**M.A. Qaiser Industrietechnik GmbH**  
Dönningstrasse 41 | 21339 Lintzow – Germany | Tel: +49 4175-1234  
E-Mail: info@qaiser-industrie.de | www.qaiser-industrie.com

### Saudi Aramco: current upstream projects

**North, South and Satellite Gas Compression Plants:** improving and sustaining gas production from the Haradh and Hawiyah fields by reducing wellhead choke pressure. The programme will also boost production by around 1.3bn standard cubic feet per day, supplementing sales gas and condensate production. Contracts awarded to Técnicas Reunidas.

**Hawiyah Gas Plant (HGP) Expansion:** provide additional gas processing facilities to process 1,070mn standard cubic feet per day of raw sweet gas, to be on stream by June 2021. Once completed, the project will make Hawiyah one of the largest gas processing facilities in the world. Contract awarded to Snamprogetti.

**Free Flow Pipeline Contract:** installing 450 km of pipelines by early 2019 to allow for free flowing gas from the Haradh field to the Hawiyah Gas Plant to ensure a sustained gas production from Haradh and Hawiyah fields until the completion of compression plants. Contract awarded to China Petroleum Pipelines (CPP) Company.

**Zuluf Field Development Programme:** will provide facilities to process Arab heavy crude from the Zuluf offshore field. The scope of work includes water injection and oil wellhead platforms, tie-in platforms, trunk lines and flowlines. EPC contract awarded to Jacobs Engineering Inc.

**TP 21, Trunklines 14 & 15 at Safaniyah Field:** one tie-in platform (jacket and deck) to serve as an additional gathering hub for future oil wellhead platforms at the Safaniyah field. It will also provide an additional power supply for the Safaniya field via a 20 km subsea cable. Contract awarded to Abu Dhabi-based National Petroleum Construction Company (NPCC).

**Slipover Platforms & Electrical Distribution Platform, Safaniyah Field:** installation of 10 new slipover platforms in the South Safaniya field to enhance the crude oil production, plus a new electrical distribution platform to serve as an offshore power substation. Contracts awarded to McDermott Middle East (Dubai).

# Zonal Isolation.



Sometimes, separation is a good thing. When it comes to your well, proper cement distribution is key to achieving life-long zonal isolation. Volant's CST-2000 Cement Swivel allows you to bypass the top drive and cement directly into your string at up to 10,000 psi while rotating. Volant's HydroFORM™ Centralizers maintain standoff without disrupting cement flow in both crimp-on and floating applications. Two solutions to help you keep things where they belong. One more way Volant provides the right tools for the job.



Doing more with less.



[sales@volantproducts.ca](mailto:sales@volantproducts.ca) [volantproducts.ca](http://volantproducts.ca) | [sales@volantooltoolsUS.com](mailto:sales@volantooltoolsUS.com) [volantooltoolsUS.com](http://volantooltoolsUS.com)

# Increasing the local contribution

A new report from APICORP assesses the progress of Saudi Arabia's In-Kingdom Total Value Add (IKTVA) programme.

**T**HE PROMOTION OF local content in Saudi Arabia has gained prominence ever since the launch of the IKTVA programme in 2015, which seeks to maximise participation and value for Saudi nationals and companies. IKTVA applies to every Saudi Aramco supplier.

When it was launched, Saudi Aramco's Local Content Requirement (LCR) stood at 30 per cent. The target is 70 per cent by 2021. Saudi Arabia's IKTVA programme also aims to export 30 per cent of its output from local energy goods and services industries by 2021, and over the long-term, deliver 500,000 direct and indirect jobs for Saudis. To put this into perspective, Saudi Arabia's average spend on oilfield services alone over the past five years has been approximately US\$23bn. A 70 per cent target would crudely translate into a US\$16bn benefit per annum back to Saudi Arabia.

The promotion of local employment opportunities also provides broader economic benefits to the country. IKTVA mandates preference for qualified nationals where costs and skillsets are comparable to non-nationals. An increase in local jobs will also enhance overall economic activity through greater consumption and investment.

An example is the two joint ventures set up with US firms Rowan and Nabors in 2016, providing opportunities to localise the drilling industry and enhance domestic capabilities. The aim is to invest between US\$6-7bn on onshore rigs and offshore jackups manufactured locally, to maintain in-country spending. The total initial value of the JVs is estimated at US\$2.2bn and could lead to the creation of up to 5,000 jobs.

Saudi Aramco is pursuing an integrated programme to encourage suppliers to procure their goods and services locally, evaluating the existing IKTVA scores of its top suppliers and creating five-year plans to help them improve their ratio.

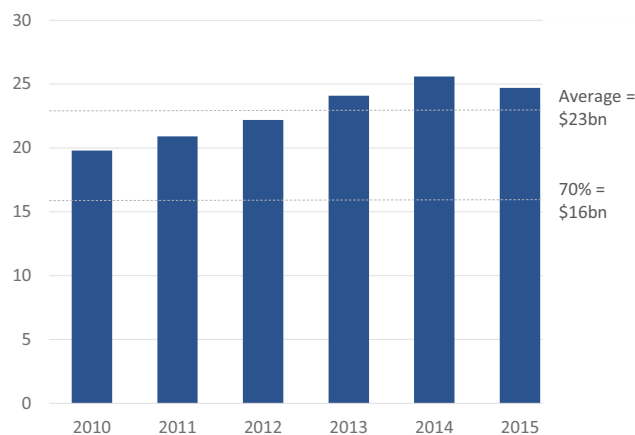
## Local sourcing is key

Mandating companies to source locally manufactured equipment and machinery – where price and quality are comparable to those available internationally – will accelerate technical progress, the report argues. Saudi Aramco has outlined plans to spend US\$300bn on its supply chain over a 10-year period, to boost local manufacturing, and by December 2016, over US\$16bn worth of contracts were signed in compliance with IKTVA, with companies being given awards in categories such as Saudi workforce training and development, in recognition of their contribution towards IKTVA goals. Saudi Aramco also signed agreements with Jubail Energy Services and ArcelorMittal to develop the local manufacture of tubes used in oil and gas production, which could also represent a cost saving for IOCs.

Foreign firms are often required to bring some level of technology and perform R&D to boost competitiveness, encourage start-ups and increase technology patents. Saudi Arabia and Siemens, for example, have negotiated joint R&D agreements on renewable energy and digitisation as part of the Kingdom's efforts to diversify beyond fossil fuels, as well as bringing in advanced analytics and the latest cloud technology.

The report argues that there are challenges to the implementation of LCR policies. For example, measures need to be provided to provide

Saudi Aramco spend on oilfield services (\$bn)



Source: Rystad Energy

## Saudi Aramco spend on oilfield services (US\$bn)

companies and their workforces with the means to grow and develop, such as in ensuring adequate training is provided. IKTVA has partnered with the Technical and Vocational Training Corporation to increase the number of national training centres from 12 to 28 by 2030. Secondly, some flexibility is needed to create the right incentives. And thirdly, the role of government and its ongoing support and engagement with operators, both domestic and foreign, is crucial.

## Ensuring success and sustainability

The report argues that key to the successful implementation of a local content policy will be the creation of an enabling environment for both local and foreign firms. Localisation plans need to be coordinated and reflect the current state of the industry. Therefore, targeted investment from both government and foreign investors is required to ensure the development of human capital as well as technical progress. The success of the programme will hinge on the establishment of effective monitoring institutions, with tools needed to measure progress, demonstrate results and communicate them publicly.

IKTVA has laid the foundation, APICORP argues, by establishing clear targets, creating a registration process and pooling together local suppliers. It has already partnered with several international firms in a series of joint ventures that will see a greater proportion of locally manufactured goods, investments into R&D to help accelerate technological progress, and supporting employment of locals by developing specific and industry-focused jobs. Effective monitoring will ensure that where there are gaps in capacity, they can be addressed, including the alignment of talent development initiatives with employment needs. This will help put firms, particularly foreign firms, at ease, knowing that the country has the domestic capabilities required. ■

See the full report at [www.apicorp-arabia.com/research](http://www.apicorp-arabia.com/research).



## KARCHER HOT WATER HIGH PRESSURE CLEANER

Efficient with high pressure.  
Even more efficient with hot water.

Hot water high-pressure cleaners (HDS) eases the effort in cleaning stubborn dirt with efficiency and with better cleaning results. Kärcher HDS machines are the superior solution, particularly for contamination with oils and lubricants.



HDS 9/50  
(Trailer or Stationary)



By Kärcher Germany

# KÄRCHER

makes a difference

## GEO 2018: shaping the energy landscape

THE BAHRAIN INTERNATIONAL Exhibition and Convention Centre is set to play host to a critical exchange of oil and gas insights during the 13th Middle East Geosciences Conference and Exhibition (GEO 2018) from 5-8 March 2018.

Held under the patronage of the Prime Minister of Bahrain HRH Prince Khalifa bin Salman Al Khalifa, more than 3,500 geoscientists and petroleum industry professionals from 50+ countries will gather to debate and shape the future of the industry, build skills, network with peers and purchase products and services that will take their E&P programmes to the next level.

The biannual event, established 24 years ago, incorporates a four-day high-level conference under the theme 'Pushing the Technical Limits: Shaping the Energy Landscape' organised by the world's three largest professional geoscience associations (AAPG, EAGE and SEG) and a parallel three-day exhibition organised by UBM.

GEO 2018 is also supported by an organising committee of NOCs, IOCs and major service providers.

Pre-registration for GEO 2018 opened in October at [www.geo2018.com](http://www.geo2018.com). An early bird discount is offered on conference fees up until 5 February 2018.

"The conference will host a number of executive sessions led by technical influencers and we encourage professionals to take this opportunity to participate and share valuable ideas and knowledge. The conference will focus on geological studies, reservoir challenges and the role of geoscience in the environment, safety, risk management and innovation," said Ahmad Al Eidan,



Image Credit: UBM

GEO 2018 general chair and deputy CEO – Drilling & Technology Directorate, Kuwait Oil Company.

"We are certain that GEO 2018 will be an extraordinary platform which will provide all participants with unlimited benefits and will open new frontiers for the current oil industry challenges," he continued.

A three-day exhibition of oil and gas products and services will run parallel to the conference from 6-8 March. Set to feature over 120 exhibitors from 20 countries, the exhibition covers all areas of the oil and gas exploration industry.

For further information, see the website at [www.geo2018.com](http://www.geo2018.com).

## Intersec 2018 to drive safety improvements in the oil and gas industry

SAFETY AND SECURITY is imperative in the oil and gas industry. With ever-growing challenges in the field and unforeseen threats to infrastructure, security needs constant reinforcement. Modern-day science and the industrial culture of security at the workplace drive industry experts in safety to keep all aspects of oil and gas protected, be it onshore, offshore, pipelines or distribution channels.

Intersec 2018 will bring together the very best brands in oil and gas security featuring their new products and services, with specialists who will cover a diverse spectrum of issues faced by the industry. Visitors will be able to connect with the top brands in security and fire protection at the show, which celebrates its 20th anniversary this year.

The leading international trade fair for security, safety and fire protection, Intersec 2018 takes place at the Dubai International Convention and Exhibition Centre from 21-23 January. It will occupy 60,000 sq m across 13 halls, with the show's seven sections covering Commercial Security, Homeland Security, Fire & Rescue, Perimeter & Physical Security, Information & Cyber Security, Safety & Health, and Smart Home & Building Automation.

New developments include a Drones Pavilion and an indoor Drone Zone, while returning features include the Safety Design in Buildings Pavilion in the Fire & Rescue section, as well as an Outdoor Demonstration Zone of the latest fire rescue applications in action.

A comprehensive three-day conference programme will be spearheaded by Dubai's Security Industry Regulatory Agency (SIRA) Forum, while other topics will cover cyber security, drones, artificial intelligence, commercial security and fire protection.

Intersec 2018 is held under the patronage of His Highness Sheikh Mansoor bin Mohammed bin Rashid Al Maktoum, and supported by Dubai Police, Dubai Civil Defence, the Dubai Police Academy, SIRA, and Dubai Municipality.

More information is available at: [www.intersecexpo.com](http://www.intersecexpo.com).



Image Credit: Messe Frankfurt



مجموعة محمد العجمي  
MOHAMMED AL-OJAIMI GROUP



**41**  
Years of trust  
in the Kingdom

**Mohammed Al-Ojaimi Cont. Est.**  
Electrical Works  
Mechanical Works  
Civil and Site Development Works  
Telecommunication Works

**Al-Ojaimi Energy Services**  
Testing and Commissioning Services  
Automation and Control Services  
Engineering Services  
Trading Services

**Al-Ojaimi Industrial Group**  
Distribution Transformers  
Transformer Substations  
Distribution Panel Boards  
Package and Unit Sub-Stations  
LV Current Transformers  
Cable Lugs & Connectors | Link Boxes  
Insulated Wires | Copper Conductor



**MATCO**



Tel.: +966 13 8221800/8325064 - es.info@alojaimi.com - www.alojaimi.com

# Developing skills of Kuwaiti engineers

A programme organised jointly by Fluor and the Kuwait Fund for Arab Economic Development is providing practical training for Kuwaiti graduate engineers.

**R**EPRESENTATIVES FROM THE Kuwait Fund for Arab Economic Development (Kuwait Fund), recently visited Fluor's UK office to monitor its ongoing training initiative for Kuwaiti engineers.

The engineers are spending six months in the UK working with Fluor's engineering teams as part of a one-year training programme organised jointly by Fluor and the Kuwait Fund.

"Fluor is proud of its long relationship with the Kuwait Fund and role in training Kuwaiti graduate engineers so that they can work effectively in the engineering and construction sector to bring knowledge and experience back to Kuwait," said Al Collins, president of Fluor's Energy & Chemicals business in Europe, Africa and Middle East. "This collaboration has been beneficial for all involved, as seeing young engineers develop their technical skills as well as witnessing their personal development is extremely rewarding."

Fluor UK's involvement in this training programme began in 2013 when the company hosted the first Kuwaiti engineers at Fluor's Farnborough office.

The graduates, holding degrees in engineering disciplines including chemical, electrical, mechanical, telecommunications and civil engineering, travelled to Fluor's Farnborough office for the six-month practical experience training period. Training and development plans were created for each trainee who were assigned an experienced mentor to manage the training content, including the use of Fluor's systems and tools as well as software to simulate real-time engineering tasks.

"Fluor is a valuable partner in the success of the training programme for Kuwaiti newly graduated engineers and architects," said Nedhal Al Olayan, director of the Training Center Department at Kuwait Fund. "Our programme provides many opportunities for high-performing graduates to enhance their knowledge in engineering and to provide them with skills required by the private sector in the



**Nedhal Al-Olayan, Kuwait Fund director of Training Center Department; Ashley Rees, managing director and vice president of Fluor in the UK; and Basel Abdulrahim, Kuwait Fund training coordinator**

shortest period possible. Fluor has been instrumental to the success of meeting this objective and has played a major role in working with the UK Government and other

regulatory establishments to meet required procedures."

One of the earliest graduates was Noura Almansour, a recently qualified chemical engineer, who travelled to the UK in 2013 for her first experience of living abroad and independently. In addition to undertaking training relevant to her core process engineering skills, Almansour was an active member of Fluor's Graduates Advancing towards Professionalism (GAP<sup>SM</sup>) organisation. Almansour said, "Participating in the GAP events allowed me to meet many interesting people from different backgrounds and origins which enriched my knowledge and inspired me to pursue higher education, as most GAP members have post-graduate degrees. I found the experience fulfilling as it has had a positive impact on my life."

A more recent graduate, Meshal Adel Abdulsalam, a civil engineering trainee in the Kuwait Fund programme, has just completed his assignment with Fluor and said, "I joined the civil, structural and architectural team in Farnborough, and working with my mentor, I enhanced my knowledge from an academic approach to that of a professional engineer. Upon completion of my training I will take up a job offer from one of Kuwait's national petroleum companies where I will put my experience to good use for my new employer."

After the trainees have completed a six-month assignment, they join companies based in Kuwait, including Fluor's office, for the final three-month on-the-job training element of the programme. Graduates are provided with the opportunity to implement their acquired knowledge and experience to work on actual projects.

"Fluor's office in Kuwait is proud to have been involved with the Kuwait Fund trainees during their final phase of on-the-job construction training as part of Fluor's projects with Kuwait Oil Company, as well as projects for Kuwait National Petroleum Company," said Zouzou Khalil, Fluor programme project director in Kuwait. ■

Image Credit : Fluor

“ Training and development plans were created for each trainee ”



**Ansell**

# Understanding Workers' Needs: **DRILLING & PRODUCTION**

## **HIGH CUT & IMPACT PROTECTION FOR HAZARDOUS AND UNPREDICTABLE ENVIRONMENTS**

The ActivArm<sup>®</sup> 97-325 glove is packed with effective protection features like back-of-hand impact protection covering 85% of the hand's areas that are most prone to injury and with a cut level C liner (EN 388:2016), no matter if the danger comes from working with tools or sharp edges.



➤ For more information and product samples, please visit  
[protection.ansell.com.au/extraction](https://protection.ansell.com.au/extraction)

**ACTIV/ARMR**

# A multi-dimensional rental company

Byrne Equipment Rental is pursuing a two-pronged growth strategy which sees it expanding its geographical footprint as well as its rental fleet. Pat Fallon, Byrne's COO, spoke exclusively to *Oil Review* at ADIPEC.

**F**OUNDED IN THE UAE in the early 1990s, Byrne has grown to become one of the largest plant and equipment rental companies in the Middle East, with more than 800 employees and 15 offices covering the UAE, Qatar, Saudi Arabia, Bahrain, Kuwait and Oman. The business focuses on the rental needs of a wide range of industries, providing a diverse range of equipment including power generation, compressed air, welding equipment, temporary buildings and operated plant.

2017 has been a good year for Byrne, says Fallon, despite the changing economic landscape of the last few years. "The last year or 18 months has been a settling-down period of getting used to the 'new normal' of lower oil prices," he comments. "This year we've seen strong growth in business generally. When you have a downturn you have people who would normally buy rather than rent looking for an alternative to a capex spend, and that's where we come into play, as we provide exactly that solution.

"That trend still prevails, because this recovery from the recent downturn has been slower and steadier than previous recoveries. The idea of presenting your customer with an opex solution when they have traditionally been used to a capex solution is gaining tremendous traction, more so now than ever before."

Outlining the company's growth strategy, Fallon explains that it has a two-pronged approach – growth in terms of geographical coverage, and growth in its product lines. Over the past two years the company has accelerated the pace of growth geographically. "We closed 2016 with 13 depots across four countries; we're going to close 2017 with 15 depots in six countries," he says. "So by this year we'll have expanded into two new countries, Kuwait and Bahrain. In Bahrain, we are re-entering the market – we were there in the mid-1990s on a contract providing temporary power to visiting navy vessels – because there are specific projects we are pursuing there. We stood back from Kuwait for many years, keeping it under close review, but we feel that now the time is right to enter this market. Elsewhere, UAE is looking very steady, Oman and Qatar are somewhat slower and behind expectations, while Saudi Arabia has been a tremendous area of stable growth in the course of 2017. 2018 is looking promising, as we've clear visibility on reasonable business until the late second quarter of next year." In addition 2018 could see the company expanding beyond the GCC, to Asia or Africa, he adds.

“Over the past two years the company has accelerated the pace of growth geographically”



Pat Fallon, COO of Byrne Equipment Rental, at the Byrne stand at ADIPEC

As for the expansion of product lines, Fallon goes on to say that the company is now pursuing a new initiative by developing the oil and gas business beyond the traditional lines of the last 25 years. "Through the development of a whole suite of new products, we're delving into new areas where offshore ATEX products are coming into play. We've also developed a strong business in blast-rated buildings for operating in hazardous areas typically in the oil and gas space. These buildings are built to protect human life and assets in the event of explosion. The oil and gas industry and others have become increasingly conscious of the need for such solutions. Oil and gas is a business that's driven by safety. The new range of ATEX products we're rolling out at the moment is something which we see as a growth area for the company.

"Another area we are focusing on at the moment is inflatable habitats, which provide an airconditioned, clean working environment allowing specialised work to be carried out where protection is needed against, for example, the sun, contamination, or hazardous areas."

Over the past 14 months the company has also recently added hoist and mast climbing work platforms to its rental fleet supplied by the global market leader, Alimak Hek. "These have typically been used for high rise buildings in the course of construction, but nowadays we deploy them in other areas like refinery stacks for repairs and

# Maximum Quality and Reliability

for the Oil & Gas Industry

KAESER instrument air skid packages provide users with a dependable, efficient and continuous supply of high quality compressed air – even under the toughest conditions.



OILFREE.AIR

## MOBILAIR M 500-2 – The king of portable oil-free compressors

Under the hood of this two-stage dry-running rotary screw compressor hides the very latest compressed air technology and, as you'd expect from KAESER, it combines exceptional power and versatility with environmentally responsible design. The M 500-2 comes as standard with a spark arrestor and motor shutoff valve for installation in refineries and is mounted on a supporting chassis with parking brake so that it can be quickly and safely positioned anywhere. Furthermore, it is a perfect team player and can be easily integrated into compressor stations.

Variable FAD: 28.8 up to 45.8 m<sup>3</sup>/min, variable pressure: 4.0 up to 10.3 bar

## Kaeser Kompressoren FZE

P.O. Box 17485 – Jebel Ali Free Zone – Dubai – United Arab Emirates – Tel: +971 4 805 0000 – Fax: +971 4 805 0077  
E-Mail: [info.dubai@kaeser.com](mailto:info.dubai@kaeser.com) – [www.kaeser.com](http://www.kaeser.com)

maintenance,” comments Fallon. “It’s an interesting departure and a real growth area for us. Finally our newly added ATEX Zone 1 electric lighting and power distribution systems also offer growth potential.”

“We’ve sought to build a multi-dimensional rental company serving multiple industries across multiple geographies”

To what extent does the company try to keep ahead of the game in terms of technology development? “Since the establishment of the business, we’ve sought to build a multi-dimensional rental company serving multiple industries across multiple geographies,” says Fallon. “We carry what we define as proven high-end, recognised international brands, and keep up to date in as far as is possible with the latest in terms of what technology has to offer, for example using equipment tracking systems and remote monitoring. That helps not only with the preventive maintenance and corrective maintenance side of things but also with security. If high-value assets are moving out of an area they should be in, we know about it straight away. It also enhances our ability to manage our people. We employ as a group collectively more than 800 people, many of whom are in the field, so tracking them enables us to know where they are at any given time of the day or night.

“I should also emphasise that one of the core principles of the business, is that each year around 15-20 per cent of our total fleet, which comprises more than 10,000 items of plant, comes up for

replacement, which forms a natural progression in remaining updated in terms of fleet. Standing still is a recipe for disaster, because our customers are constantly looking for new ways of doing things and new solutions. For example, 10 years ago we wouldn’t have heard of blast-rated buildings in the Middle East, but because that became established technology and a solution in the western world, it has gradually now moved across the GCC. The oil and gas industry in our region follows health and safety standards that are every bit as stringent as any mature energy market.

“The mantra that our business operates by is ‘Enabling operational efficiency through equipment rental and lease solutions,’” concludes Fallon. “If we want to continue to be the leader in providing equipment rental and lease solutions in the Middle East market and beyond, we have no option but to continually grow our fleets and our geographies.” ■



*Byrne services the needs of a wide range of industries, providing a diverse range of equipment*

**GEAR UP.**  
IT'S TIME YOUR FLEET GOT AN UPGRADE

Sullivan-Palatek offers the industry's widest range of portable air compressors up to 1800 cfm, with pressures up to 500 psi. Available engines include CAT, Cummins, Isuzu and John Deere, depending on the model. For more information, contact our Regional Sales Director, Rajesh George, at [rgeorge@palatek.com](mailto:rgeorge@palatek.com).



For more information: [www.Sullivan-Palatek.com](http://www.Sullivan-Palatek.com) | +97150 6268709 | [rgeorge@palatek.com](mailto:rgeorge@palatek.com)

# Tackling the cyber security threat

Strategies to combat complex cyber and critical infrastructure security threats were the focus of a session at the ADIPEC Security in Energy conference in November.

**I**N AN OPENING address to delegates, Ibrahim Al Shamrani, executive director of Operations at Saudi Arabia's National Cyber Security Center, said 300 new malware samples were being discovered each day, and that his organisation was facing a growing number of attacks on the energy industry.

"The energy sector is trending to be the second most targeted sector in the country in 2017, behind the government and ahead of the financial and telecommunications sectors," Al Shamrani said. "However, attackers are three times more successful in compromising energy companies than they are in the financial sector. In this era, if oil and gas companies think they haven't been attacked, or even compromised, I can tell them, "You are not looking hard enough."

Recent figures from McAfee estimate the global cost of cyber-related crime, or illicit activity, is between US\$375bn and US\$550bn per year.

In a keynote address, Don Randall, former head of security and chief information security officer, Bank of England, said, "When we look at the types of issues that could affect the oil and gas or energy industries, the three principles are still hacking, phishing and false identity. It doesn't matter if you're in the financial sector, in energy, utilities, the government, or anything else – the cyberattack will be the same, it's just the consequences that are different." For those making attacks, the chances of getting caught are low, he added.

“ If oil and gas companies think they haven't been attacked, or even compromised, I can tell them, "You are not looking hard enough"”

"I think we have to be quite radical in how we structure the responsibility and role of those who are there to police cyber activities," Randall went on, posing the question "Who is policing your IT? Is it the same person as the one who is managing and maintaining it, and possibly covering it up?" While the CIO (chief information officer) and CISO (chief information security officer) should work in harmony, the two functions should be independent, he argued, whatever the type of organisation.

In his Bank of England role, Randall helped develop new security protocols, including the creation of a specific Information Security division, headed by himself as the chief information security officer, reporting directly to the board. That model is now widespread in banking, completely separating the department that runs the IT infrastructure, from the team responsible for recognising and responding to threats.

Randall also advised that companies should have a single point of intelligence gathering, interpretation and response, and that attention should be given to geopolitical analysis.

He highlighted the need for collaboration and partnership between the public and private sector to tackle the cyber security threat. "Law enforcement bodies can't deal with this on their own, the enforcement agencies need to talk to each other, private companies need to talk to each other." Sharing information is critical, he said, adding "the key word is trust."

Educating staff on cyber and fraud could reduce the risk of fraud by 80 per cent, he said, advising, "Share with your staff the basic philosophies and practices."

**SURAJ**  
India's Leading Manufacturers of  
Stainless Steel Austenitic, Ferritic, Martensitic, Duplex,  
& Nickel Alloys.  
Seamless & Welded Pipes, Tubes, 'U' Tubes, Foil, Coil,  
Flanges & Fittings with Electropolishing

Fast response, Guaranteed Quality. In a large Stock & Production Range.  
Deliver Customized Near Net Shape & Finish with Smaller to Large Quantity.  
All Required Testing Facility Available in-house.  
We are Supplying under all Customer & Third Party Inspection Agencies.

**SURAJ LIMITED**  
Serving World Wide Oil, Gas & Power Industries

**RAJCO OFFICE** (SURAJ HOUSE)  
OPP. DUSHMAMPURA GARDEN  
ASHRAM ROAD, AHMEDABAD - 380 014  
GUJARAT (INDIA)  
PHONE : 079 - 27548725, 27548721  
FAX NO : 0791 - 78 27548723  
E-Mail : suraj@surgroup.com

**MUMBAI OFFICE**  
314/317, BLOCK NO 3, 1ST FLOOR,  
KARLA BAMBOLLA, S.V.P. ROAD,  
MUMBAI - 400 004 (INDIA)  
PHONE : 0661 - 22 23921443, 66382304  
FAX NO : 0661 - 22 23929578  
E-Mail : suraj@mumbai.surajgroup.com

www.surajgroup.com  
Progress Is Life

Cyber security should be a board level concern, he concluded.

Following on from Mr Randall's keynotes address, delegates heard from Mohamed Al Jneibi, representing the UAE's Global Defense Centre, Alfio Rapisarda, senior vice president of security, Eni, and Dr Zhang Jian, chief technology officer, CNPC.

**Data security critical**

The moderator, Irene Copruz, section head, planning and IT security, Western Region Municipality, said that data security is "very critical" because of the risk of exposure for "billions of dollars worth of information".

"The systems we use for our workers to work remotely are the same systems the hackers are using," she said.

Mr Al Jneibi said that the UAE's oil and gas industry was the first priority for cyber security protocols and that the "convergence of both OT and IT was our area of concern".

Mr Rapisarda said that he had the "crazy idea" of putting IT and security together because "nobody was looking after why we are attacked or when we are attacked." He said this means of intelligence-gathering has proven to be "very effective, very efficient".

"We are embedded in the system and we are at board level," said Mr Rapisarda, reflecting Mr Randall's comments in regard to ensuring that cyber security leaders are represented at board level for all organisations.

Mr Rapisarda said that without taking into account all considerations, including geopolitical, financial, technical, industrial and environmental factors along with security, operators will only achieve "compliance without being effective". He also advocated cooperation between private and public sector players rather than "fighting one against the other". He said that this was not an option when dealing with cyber security threats.

Dr Zhang said that the challenges presented by CNPC working with the UAE were considerable because of ambitious targets, such as 70 per cent oil recovery. One of the main challenges is meeting human resources requirements, according to Dr Zhang. He stressed the importance of finding the right people and developing a strong talent pool.

"The first step to a more oil and gas-specific set of standards is to establish working groups with oil and gas," said Dr Zhang. He echoed the sentiments of Mr Randall and Mr Rapisarda when he said that private and public cooperation was essential.

Referring back to the need for a strong talent pool, Dr Zhang said that he had found that often government employees are "behind internationally recognised standards and need to catch up".



Image Credit : Wallis

**Ibrahim Al Shamrani, executive director of operations at Saudi Arabia's National Cyber Security Center**

He added that working in the Middle East present its own challenges because "it is in a unique position geographically" and geopolitical events are a consideration for all cyber security systems.

A risk-based approach with a focus on cooperation and rapid integration was advocated by Dr Zhang to ensure public and private stakeholders are all engaged.

"Geopolitical instability makes cyber security more complicated," said Dr Zhang. "We always talk with local authorities in each of the countries where we operate." ■

## GASKET INSULATION KITS

FOR CRITICAL APPLICATIONS.....

Confirms to LR Type Approval System by Lloyd's Register

 <p style="font-size: 8px;">GASKET KIT-PS (Steel) with 20mm thickness with 10mm gasket</p>	 <p style="font-size: 8px;">GASKET KIT-PS (Steel) with 20mm thickness with 10mm gasket</p>	 <p style="font-size: 8px;">GASKET KIT-PS (Steel) with 20mm thickness with 10mm gasket</p>	 <p style="font-size: 8px;">GASKET KIT-PS (Steel) with 20mm thickness with 10mm gasket</p>
---	---	---	---



SAUDI ARAMCO APPROVED

INMARCO FZC, P.O. Box # 120284 SAIF Zone Sharjah, UAE.  
Tel: +971 6 5578375 Fax: +971 6 5578948  
Web: [www.inmarco.ae](http://www.inmarco.ae) E-mail: [info@inmarco.ae](mailto:info@inmarco.ae)

**Benefits:**

- Stable reliability and insulation performance in severe condition
- Withstand extremely corrosive condition such as CO<sub>2</sub>, H<sub>2</sub>S and produced water line
- Reinforced metal core applicable on ASME Class 2500.
- Better compressive strength and heat resistance by using NEMA 4LL.
- Protection for electrical corrosion in dissimilar metal connection
- High strength of sealing retainer prevents damages from excess compression
- Stable performance with double sealing structure of serrated gasket
- Certified API RP 571 Fire Test



Experience  
***the Sabin difference***  
for PGM catalyst recovery  
and refining.

We turn science into art for highest  
possible returns and added value.

The "**science**" of recovering and refining precious metal catalysts is straightforward: *state of the art technology*. The "**art**" of this process, however, is what makes Sabin different from all others: that's the knowledge, experience, and expertise gained from seven decades of successfully serving thousands of organizations around the world. *We'd be pleased to count you among them.*



Learn more at  
[sabinmetal.com](http://sabinmetal.com)

 **sabin**  
METAL CORPORATION



# Evacuation monitoring & mustering solutions

Zahir Abji, president and CEO, GuardRFID, discusses technological advancements in evacuation monitoring and mustering systems.

**W**HILE EXHIBITING AT the Abu Dhabi International Petroleum Exhibition and Conference (ADIPEC) last year, I met vice presidents, division managers and engineers from oil and gas companies including ADCO, ADMA, GASCO and ARAMCO. All of them expressed a desire for continued enhancement of their safety systems using the latest technologies available, and to move away from legacy systems that did not fully meet expectations.

When an emergency or disaster strikes, accounting for all personnel is of paramount importance. Paper-based rosters have long been the staple for this activity. In the last decade or so, electronic means of collecting this data has been employed, using either passive or active Radio Frequency Identification (RFID), Real-time Location Systems (RTLS), or SMS messages on cell phones. Systems that require any sort of manual intervention, such as paper or electronic rosters, or even personnel having to present their badge at designated readers, are error-prone, and therefore not very accurate. In this day and age, systems that offer automatic detection of personnel exiting a site, and arriving at a muster point, is the preferred method for accounting of personnel during emergencies. There are three technological advancements to consider in finding a mustering solution that delivers a higher standard of safety and compliance.

## Continuous real-time perimeter and assembly point detection

Active RFID technology lends itself well to such applications, as it offers long range detection, and can therefore monitor the movement of tagged personnel in real-time, without any manual intervention. Dual-frequency active RFID systems go a step further, by augmenting the long-range capabilities with proximity detection, which can be used at choke points such as at exit gates, to confirm entry and exit of personnel. Furthermore, the combination of the long range and proximity detection capabilities can be utilised at muster points for automatic roll-call of personnel arriving at these locations.

Unlike a system that merely records the arrival of personnel, active RFID systems provide continuous presence detection, ensuring that anyone straying from the immediate vicinity is immediately identified. We have deployed a trial system at a refinery in Abu Dhabi, for automatically detecting personnel exiting at a gate during a mustering exercise, and confirming their arrival at a single assembly point. Two choke points are created at the gate, to sense the direction of motion,

“Such a basic system can provide accurate real-time demographics of personnel”



Zahir Abji, president and CEO, GuardRFID

as detection at a single choke point does not unequivocally signify passage through the choke point, significantly enhancing the accuracy of the data. A mustering solution must account for where people are in real-time in order to reduce the magnitude of workplace emergencies.

## Effective response times for tagged personnel

Such a basic system can provide accurate real-time demographics of personnel, identifying who managed to exit the facility, those that arrived at the assembly point, and personnel who remain within the facility. However, active RFID technology offers much more than just automatic perimeter and assembly point detection, which are key to effective mustering. Its long-range detection capabilities can be put to use by employing readers within the facility to enable Real-Time Location (RTLS), and thus monitor and manage tagged personnel and equipment in real-time.

RTLS can enhance the demographic information obtained from the system during a mustering event by providing the location of personnel remaining within the facility, or specifying their last known location, making response activities more effective. In an evacuation, a mustering solution must be equally adept at monitoring people that are



not at choke points but remain in the facility, or whose last-known whereabouts can be quickly discovered.

## Day-to-day facility safety concerns

In addition to this, RTLS can also allow real-time monitoring and management of day-to-day safety concerns within the facilities, hence increasing the scope of ROI outside of evacuation and emergency situations. Virtual zones can be created within the facility, to control access to them; the tragic incident at Shah Field in the UAE in 2009 when three people died as a result of exposure to H<sub>2</sub>S gas, occurred at a corrosion coupon pit, where a foreman and five labourers proceeded to work without obtaining a work permit. Some RTLS systems can be configured to create warnings or alarms if personnel are detected venturing into zones for which they are unauthorised or not certified.

“ Technological advancements are meeting the demand for a higher bar of safety and compliance”

The system can also be used for hands-free access control into the site, or into specific zones, and to provide automatic time and attendance records. Active RFID tags carried by personnel can be paired, for detecting proximity of buddies, or escorts and their visitors, to each other, and alarms created in the event they are separated beyond a predefined distance. Badges that incorporate buttons can be used by personnel to call for help, with the location of the signal being identified by the system. The system can also be set up to provide warnings or alarms when motion sensors within a tag fail to detect movement for a configurable period, perhaps indicating a motionless worker, or alerting security when a fall is detected. Maximum dwell times for personnel can be set up, so that security and safety staff can be immediately alerted if this time is exceeded. Assets, such as equipment and vehicles, can be tagged for continuous real-time visibility and location, saving time and preventing loss.

## Not all RFID systems are created equal

Environmental Health and Safety (EHS) rules and regulations in the Middle East continue to be updated and enhanced, in an attempt to reduce workplace injuries and productivity losses, and promote a safe environment. Technological advancements in evacuation monitoring and mustering solutions are meeting the demands for a higher bar of safety and compliance, whether this is for indoor or outdoor installations in emergency scenarios or in day-to-day operations.

In addition to technological advancements to be aware of, there are several factors to consider when choosing an evacuation monitoring and mustering system most suitable for a site. Oil and gas operations require equipment to be Ex certified, with a Class 1 Division 1 rating for items such as tags entering Zone 0 environments. Some locations, such as muster points located outside the facility, may not have access to power or network connectivity. The natural question to ask, for these type of sites, is whether the system can offer self-powered and wireless readers that can be used in those locations, given that it is a mission critical system. It is also important that it operates on a dedicated network, rather than a shared one, to avoid being undermined. User-carried items (tags and badges) should not require regular maintenance, such as frequent battery charging, as this can be a point of failure at the most critical time.

Every second counts in an evacuation, and systems that remove dependency on manual interventions can provide the most accurate information. This visibility can also extend into facility operations in order to enhance safety procedures and meet regulatory compliance. Real-time visibility is critical during emergency events, to ensure the safety of the most valuable asset of all – the people. ■

# Hi-Force

## HYDRAULIC TOOLS



### HYDRAULIC CYLINDERS



- Choice of 129 standard single and double acting cylinder models
- Capacities from 4.5 to 1012 tonnes
- Stroke lengths up to 457 mm
- Maximum working pressure 700 Bar

### HYDRAULIC PUMPS



- Manually operated steel or aluminium pumps
- Choice of air, battery powered, electric or petrol driven pumps
- Oil reservoir capacities up to 150 litres
- Maximum working pressure 700 Bar





HEAD OFFICE: Hi-Force UK  
Dorchester, UK  
Tel: +44 (0)1371 201 000  
Email: [info@hi-force.com](mailto:info@hi-force.com)

Hi-Force PSC  
Dorset, U.K.E  
Tel: +971 4 330 880  
Email: [usa@hi-force.com](mailto:usa@hi-force.com)

www.hi-force.com

# Driving the global energy transformation

Part of Abu Dhabi Sustainability Week, the annual World Future Energy Summit (WFES) is the foremost global platform dedicated to advancing renewable energy and clean technology.

**H**OSTED BY MASDAR, WFES 2018 takes place from 15-18 January at the Abu Dhabi National Exhibition Centre (ADNEC), and is co-located with Solar Expo, Energy Storage & Batteries Expo, Energy Efficiency Expo, International Water Summit, Smart Water Expo and Eco Waste Exhibition.

WFES brings together thousands of global industry leaders, decision-makers, policy-makers, investors, project developers and experts from 175 countries to source cutting-edge technologies, network with solution providers, do business and discover new solutions to the world's growing energy challenges.

The WFES exhibition brings together more than 639 leading technology providers, innovators, manufacturers and suppliers to showcase the latest solutions in the sector.

The four-day educational conference will see international government and business experts come together to discuss critical global and regional sustainability issues. The extensive programme includes in-depth panels, breakout sessions and expert talks, providing attendees with access to the best thinking, best practices and innovations in clean energy deployment. Attended by over 3,500 delegates – from world leaders and policymakers to business leaders, scientists and academics – the 2018 conference will focus on energy efficiency in buildings, digitalisation in renewable energy, urbanisation, the rapidly evolving storage landscape, and project plans in the region's major economies.

A wide range of technical seminars will cover topics including advanced PV technologies, innovations in CSP and storage and solar panel maintenance.

New this year is the Mobility Conference, where key players in the mobility industry will discuss the future of low emission vehicles in the UAE and GCC, focusing on the barriers, enablers and subsequent opportunities for the market to accelerate and take off.

As regional businesses and governments increase their focus on achieving energy efficiency, Energy Efficiency Expo introduces



*The show will provide a forum for doing business and debating global energy challenges*

the latest cost-efficient technologies aligned to the rapidly evolving needs of fast-growing cities in the region. It also hosts the new Energy Efficiency in Buildings Forum. With a strong focus on retrofitting of buildings, this will demonstrate how a stronger alliance between engineering and design at the architectural stage can improve sustainability outcomes and minimise costly changes over time.

With solar power set to dominate the world energy supply in the next 15 years, the Solar Expo will show how the latest solar technology innovations will impact the way we create, consume, store and distribute solar energy globally.

While the co-located International Water Summit, the leading event for promoting water sustainability in arid regions, will provide a unique opportunity for stakeholders to learn more about the latest innovative technologies impacting the industry. Hosted in partnership

with ADWEA (Abu Dhabi Water and Energy Authority), it aims to build knowledge, expertise and partnerships to execute the massive investments in water infrastructure being made in the region. This year's conference focuses on the impact of big data on water management, improving water re-use, developing more efficient desalination, GCC water and waste water projects, and the role of smart software monitoring systems in water provision.

Smart Water Expo, the region's first event dedicated to smart water networks, water efficiency and distribution solutions, will showcase the impact of smart data, automation and connectivity with IoT technologies on water consumption and the efficiency of supply. ■

*For further information see the website at [www.worldfutureenergysummit.com](http://www.worldfutureenergysummit.com).*



شركة المصنع العالمي لأنظمة المباني المحدودة  
INT'L BUILDING SYSTEMS FACTORY CO. LTD.

## International Building Systems Factory Co. LTD. (IBSF)

We Design, Manufacture, Deliver & Erect Quality Steel Buildings / Structures For Customer To Own At Economic Costs

- Pre-Engineered Buildings (PEB)
- Structural Steel
- Steel Tanks • Cladding



Waad Al-Shamal Integrated Solar Combined Cycle Power Plant, KSA

2nd Industrial City, Riyadh  
P.O Box: 1737 Riyadh 11441  
Tel: + 966 11 265 0004  
Fax: + 966 11 265 1756  
Email: mail@ibsf.com  
www.ibsf.com



Member of Astra Industries Group

# Positive vibes at ADIPEC 2017

The atmosphere at ADIPEC was decidedly upbeat, with exhibitors optimistic about business prospects in the region.

**H**ELD UNDER THE theme ‘Forging Ties, Driving Growth’, ADIPEC’s 20th edition was the largest yet, with an exhibition bringing together more than 2,200 exhibiting companies, 27 country pavilions, and 100,000 trade professionals from more than 125 countries.

For the first time, the exhibition and conference included the downstream petroleum industry, including refining and petrochemicals, alongside its established focus on upstream and midstream businesses, reflecting the increasingly diversified operations of NOCs and IOCs as they move to generate revenue from multiple layers of the petroleum value chain.

ADIPEC’s strategic and technical conference programmes featured more than 900 speakers, in 185 conference sessions, with more than 82 ministers and industry leaders speaking at the event.

This year’s event was held against the backdrop of global oil prices topping US\$60 per barrel for the first time in more than two years, and the prospect of continued cooperation between OPEC and key non-OPEC producers to shore up prices. At the same time, the industry is now benefiting from sustained and significant efforts to improve operational efficiencies and diversify operations as it adjusts to a changing energy landscape.

Speaking at the opening ceremony, HE Dr Sultan Ahmed Al Jaber, UAE Minister of State and ADNOC Group CEO, said, “The fundamentals of the global economy are positive, the future is promising, and the state of our industry is very strong. Despite this positive outlook, we cannot ignore the shifting



Image Credit : Wallis

**ADIPEC 2017 was the biggest edition of the show yet**

dynamics of global energy use. We must act nimbly, think creatively, and challenge our traditional business models.”

The minister took the opportunity to confirm ADNOC’s intention to issue the first-ever IPO for ADNOC Distribution, one of its subsidiary companies, and discuss ADNOC’s new, expanded partnership model.

HE Suhail Mohammad Faraj Al Mazrouei, UAE Minister of Energy, said, “Today I am optimistic about the whole of 2018. I think it is going to be a very strong recovery year, and we will see more investments coming to the region.” He added that the industry needs to take advantage of new technologies such as artificial intelligence to make it smarter, more efficient and cost-effective.

There was plenty of opportunity to discuss new technologies at ADIPEC, with digitalisation, IIOT, cloud technology, automation being strong themes at the conference and at the stands of industry giants such as Emerson, Rockwell Automation, BHGE, Honeywell and Siemens.

As in previous years, a number of

companies took the opportunity to launch or showcase new products and services. Weir Oil & Gas introduced its WMSS10 mudline suspension system for offshore, as well as debuting its mobile iron RFID asset solution. Parker Hannifin introduced its new clearcurrent PRO SP+ cartridge filter for gas turbines protection, designed specifically for the harsh environment of the Middle East, and Halliburton launched its new high-speed telemetry service.

Exhibitors were positive about business prospects in the region, and the openness to new technologies. Nicholas Kjaer, general manager of Churchill Drilling Tools in the Middle East, which is expanding its presence in the UAE and introduced its SFF Trigger™ float system at ADIPEC, said the company is receiving a ‘record demand’ for its products and services. “Whenever we introduce new equipment or new technology to the market, we receive great interest from clients, even in this price conscious environment. If we can help them improve their operations and drill faster and safer, they are ready to listen.” ■

“ It is going to be a very strong recovery year, and we will see more investments coming to the region ”



# WAVE-4

Your safest crew  
transfer option at  
the lowest price

#WAVE4 | #CrewTransfer

+971 52 294 7526  
info@reflexmarine.com  
www.reflexmarine.com

 reflexmarine

## KRAL steps up Middle East business development activity

AUSTRIA-BASED KRAL AG, which specialises in pumps and flow measurement, is looking to boost growth in its oil and gas business with the launch of a new twin screw pump next year.

Speaking to *Oil Review Middle East* at ADIPEC, Matthias Kaufmann, head of Business Unit Pumps at KRAL, said that the company had taken the decision to exhibit at the show as it is stepping up its business development activities in the Middle East, and has been focusing on applications for oil and gas over the past five years or so.

“We are just starting out in the region and have received a few orders already. We believe the market will develop well for us, especially with the introduction of a new twin screw pump next year,” said Kaufmann. He explained that the new product will be particularly suitable for oil and gas industry applications, due to the higher capacities and technical parameters. This type of pump is typically used in tank farms and also as cargo pumps for tankers, he said.

“I think it is good timing for KRAL to enter the market because there are big changes in the way the pump industry is going at the moment.”

Kaufmann said that while the company has



Matthias Kaufmann at the KRAL stand at ADIPEC

dealers in Iran and Pakistan, it mainly does business direct in the Middle East, through EPC contractors. However, KRAL is now looking to intensify its presence in the region, and is open to other sales models.

“We’ve hired a new sales engineer for the Middle East, and we’re definitely looking either to establish a subsidiary here in the UAE or look for a sales partner. We have not made a final decision yet; we need to acquire more market knowledge before we do so.”

He stressed that the launch of the new twin screw pump to take place at the AICHEM Exhibition 11- 15 June 2018 in Frankfurt is an important new milestone for the company, as KRAL is known for three screw pumps rather than twin screw.

“We have invested a lot in engineering and sales capacity in the last eighteen months, almost doubling the number of staff in sales and engineering. We really want to grow the company now, and we are investing in business development.”

“It’s a very interesting time for KRAL,” he concluded.

Image Credit : KRAL

## ALAA FOR INDUSTRY MAINTENANCE, REPAIR, OVERHAUL

*At Alaa For Industry, we know that our job doesn't stop after the sale. This is why we strive to provide our customers with continuous support, which includes servicing, maintaining, and repairing your hydraulic systems and other machinery. Whether you need a simple fix or complete overhaul, our highly trained technicians will get the job done on time and on budget.*



**With our extensive knowledge in hydraulics, pneumatics, weighing, transportation, & loading arms, we offer special maintenance & shutdown programs. With a fleet of mobile workshops, we also provide various on-site services, including:**

- Hydraulic, pneumatic, grease tubing, piping & pressure testing
- Shutdown maintenance of hydraulic, pneumatic, & lubrication installations
- Hot oil flushing of hydraulic & grease lines
- Hydraulic oil filtration and water separation
- Installation or overhauling of marine & truck loading arms
- Troubleshooting of industrial hydraulic & pneumatic systems
- Annual maintenance contracts on weigh bridges & industrial weighing scales
- Calibration of weigh bridges, weighing scales & crane safe load indicators
- Loading arm repair & overhaul



+966 13 853 8000 info@afi.com.sa www.afi.com.sa www.onlinestore.afi.com.sa

**Service, Solutions, Success... since 1984**

**AES**



4216 WATER AND WASTEWATER  
SOLUTIONS 2023

[info@aesrabia.com](mailto:info@aesrabia.com)

## COMPLETE WATER AND WASTEWATER SOLUTIONS

OIL & GAS / POWER / INDUSTRIAL / MUNICIPAL



# Bringing firefighting technologies to the Middle East

Tutku Ağsakal, international sales and marketing manager at VOLKAN, discusses prospects for the company's business in the Middle East.

## How do you view the Middle East market for your firefighting equipment?

Strengthening commercial relations with the Middle East and positive economic developments have turned the region into an attractive market for Turkish companies. Investors and exporters are playing a more active role in that market, which is located in close proximity to our country. Taking all these factors into account, it is clear that the Middle East has opened its gates wide open to Turkish industry, and trade between Turkey and the region is increasing day by day. With political, cultural and economic developments, as well as the readiness and dynamism of Turkish companies, Turkey is an example for Middle East countries. Founded in 1974, VOLKAN, which specialises in firefighting technologies and is one of Turkey's leading companies, has attracted great attention and won recognition in Turkey. We are looking to develop our business with major Middle East markets such as Iran, Iraq, UAE, Kuwait, Oman, Qatar and Saudi Arabia.

## How are you looking to develop your business further in the region?

We have supported our international sales and marketing team with new and dynamic members in order to increase our activities in the Middle East and other international markets. With our new team, we aim to play a more active and aggressive role in foreign markets and attend exhibitions held in the region, listening to the needs of users and producing solutions for their problems, thereby increasing VOLKAN's international activities.

## Which of your products are the most popular?

Our leading products that show VOLKAN culture in the best possible way are LION Aircraft Rescue Fire Fighting Vehicles (ARFF) and Aerial Ladder Fire Fighting Vehicles. Totally different from other manufactured fire fighting vehicles, the LION ARFF family of vehicles is designed by engineers at VOLKAN and is mounted on a VOLKAN chassis. LION ARFF, which is currently being used in a



The LION ARFF vehicle

number of airports, is attracting great interest in foreign markets too. The structure of this vehicle, which is available in many variations, makes it possible for it to be easily adapted to the needs of the customer. Furthermore, our Aerial Ladder Fire Fighting Vehicles set us apart from other companies; VOLKAN is one of the three pioneering companies in the world to supply Aerial Ladder Fire Fighting Vehicles that have the ability to access 55 metres in height. Additionally, VOLKAN manufactures complementary components for firefighting vehicles, which makes it a preferred manufacturer for end users.

## How much importance do you attach to providing the latest technologies and innovations?

We established the VOLKAN Research and Development Centre in 2015 to be competitive and innovative, being aware of the significance of technology and innovation. With approximately 30 engineers, we have many research projects underway in order to develop rapid and effective firefighting technologies. We are also co-operating with

universities in Turkey with the aim of keeping both VOLKAN and the new generation up to speed with the new age of technology.

## What do you think is the secret of your company's success?

High quality products which have the same quality as European products but are available to customers at a lower price. VOLKAN products are more attractive when compared with others. Also, given the geographical location of Turkey, after-sales services can be provided in a quick and effective manner.

## How have you benefited from exhibiting at ADIPEC?

At ADIPEC we aimed to present solutions with industrial firefighting vehicles and equipment that we manufacture to companies active in the field of oil and gas. During the show, we had the opportunity to negotiate with many companies and to present information to them about VOLKAN products, purchasing processes and after-sales services. ■



# Oil & Gas Rental Solutions in the GCC



**Rental experts** offering a full range of equipment designed to fulfill your specific needs and the pressures of the industry, **safely** and on time.

From Hi-Spec oil & gas camps and blast resistant modular buildings to power, boilers and compressors, Byrne deliver a **first class service** along with our technical advice and onsite support.

UAE | KSA | Kuwait | Qatar | Oman | Bahrain



[byrnerental.com](http://byrnerental.com)

*Enabling operational efficiency through equipment rental and lease solutions*



**NEW!  
STAUFF  
Connect**

## Endless Opportunities

### Tube Fitting Technology by STAUFF

24° tube fittings and accessories made from carbon steel complement the extensive range of original STAUFF components for fluid power applications from sun development and manufacturing.

Due to the careful selection and processing of materials, pressure ratings as defined in the DEN/ISO standards can even be exceeded; the premium Zinc/Nickel coating sets a new benchmark in terms of corrosion protection.

Get yourself convinced of outstanding product quality and increased operational safety and reliability for your machines and equipment, and experience the advantages of single-sourcing all hydraulic pipework components from the manufacturer.

Learn more at:  
[www.stauffconnect.com](http://www.stauffconnect.com)



## Protecting against crush and pinch injuries

CRUSH AND PINCH injuries can be extremely serious, with significant morbidity.

Extraction sites are hazardous places. Crush, pinch and impact injuries to hands cause bruising and bone fractures that not only put workers in the hospital, but can also have severe long term effects. Despite these potential consequences, 81 per cent of injured workers say they weren't wearing gloves at the time of the injury, according to a study in the Journal of Occupational and Environmental Hygiene.

The requirements and hazards involved in oil and gas-related work call for hand protection equipment that helps workers get the job done and stay protected against serious injuries. Fatigue, poor grip and poor visibility can all lead to impact, crush and pinch injuries of the hand. And that translates to increased down time and decreased productivity, lost revenue and higher costs. In the oil and gas industry, and particularly on drilling rigs, 'stuck-by' and 'caught between objects' injuries account for 56 per cent of all recordable incidents, according to a study published in Occupational Health & Safety magazine.

Impact protection solutions from Ansell can help protect workers against serious impact, crush and pinch injuries without compromising the grip and dexterity. Targeted protection helps reduce injuries in the most vulnerable areas of the hand. Our extensive field research shows us precisely the types of injuries oil workers sustain most frequently, and we turn that insight into user-driven solutions.

The ActivArm® 97-125 glove is packed with effective impact protection. With lab-certified (EN 388:2016) back-of-hand impact protection covering 85 per cent of the hand's most prone area to injury, the hands are safeguarded from shocks, crushes, impacts and pinches, while the innovative bumper design with perforations allows the fingers to bend naturally.

For more information and product samples, please visit [protection.ansell.com.au/extraction](http://protection.ansell.com.au/extraction).



The ActivArm® 97-125 glove

Image Credit : Ansell

## Leading in integrated steel production

LEADING TURKISH STEEL producer Tosal Group's affiliate, Tosçelik Spiral Pipe Production Industry Co, participated at ADIPEC for the second time, to explore the potential for developing its business in the Middle East market.

Giving some background to the Tosal Group, Can Bahadan, deputy general manager of Tosçelik Spiral Pipe Production says, "We have integrated mills located in Osmaniye, southeast Turkey, in Oran, Algeria, and in Serbia and Montenegro. In total we have 15 group companies and more than 30 mills, all providing carbon steel products, which export to more than 80 countries.

"In our Turkey facilities located in Osmaniye and Iskenderun we have our own steel making shop – EAF, where we process steel from scrap, integrated rolling mills to perform flat products and final product with an integrated ERW longitudinal pipe mill, with a capacity of three million tonnes a year, where we are the leader in Turkey and the Mesopotamia region. We also have a 400,000 tonne capacity spiral pipe mill located in the same complex, from which we have executed the Trans-Anatolian gas pipeline project (TANAP)."

Bahadan points out that while Tosçelik is a long-established steel company, its involvement in the oil and gas business has been relatively recent. "We have been producing for the oil and gas sector for just seven years, but in this short period we have executed one of the largest pipeline contracts in the world, worth more than US\$315mn," he says, referring to the 1,800km Transanatolian natural gas pipeline project. Tosçelik is the major supplier, executing a 500 km high pressure X70M gas pipes supply.

The company's Algeria plant currently focuses on production of rebars and wire rods, with a production capacity of four million tonnes. A spiral pipes mill to focus on the oil and gas sector and supply Sonatrach group projects will start production in February 2018, with a 400,000 tonne capacity.

"One of our most interesting investments is the Oran plant, which will be operational in 2018, with direct reduced iron technology, where we will produce steel from pure iron. After completion we will put in another rolling mill for coil and plate, and in that facility we can target the automotive and oil and gas industry with the ability to produce materials up to any steel grade, such as X80-X100 API grades. It will be an integrated mill for oil and gas pipes. With completion of all scheduled investments, the Algeria facilities will reach a production capacity of eight million tonnes a year in total.

"We also have an ongoing investment in south east Turkey to make shipments from integrated mills, starting shortly, with a targeted production level of 10 million tonnes by 2023," he continues. This date is significant for Turkey, he explains, as it marks the centenary of the foundation of the Republic.

Another ongoing project in Turkey is a facility to produce LSAW pipes, starting in 2019-2020, which will service the offshore sector, complementing



The group's facilities in Osmaniye

the spiral and longitudinal product range which is suitable for onshore projects. This represents a breakthrough in pipe production, as these pipes have not been produced before in Turkey.

"We are also considering another possible investment in Algeria in seamless pipes," adds Bahadan.

Turning to the steel market, he comments, "2017 was a good year for us as a result of Chinese government policies to reduce pollution and decrease steel production and exports. This, along with the increase in the oil price, has boosted demand for steel, and the price has started to rise." He expressed the hope that the oil price would rise further to enable exploration and large-scale projects to go ahead, particularly in Algeria, which requires an oil price of more than 70 /bbl for this to be economic.

As far as business in the Middle East goes, the company is starting to investigate the market, says Bahadan, and is exploring local partnership or distributorship options, but needs to acquire more experience before making an investment. The company is also hoping to start business with Syria, Iraq and Libya as these countries are very close to its production locations, and will require post-war reconstruction. "We also see a future for the company in Africa, and are investigating the possibility of investing in sub-Saharan as well as North Africa, because every government now is supporting national production," he adds.

Bahadan's view is that the company's success is due to its ability to offer quality at a competitive price. Integration is key, he says. "Our people are very experienced in the steel and pipe business, and with integration we can give the best price." He adds that one of the best mills in the world is an operation where they have integrated a rolling coil and plate mill. "This is what we plan to do in Turkey and Algeria."

The Group's aim is to provide a complete product portfolio and integrated solution to serve the oil and gas sector and the steel market, he concludes.



**SHREE STEEL OVERSEAS FZCO**  
STOCKIST OF PIPES, FITTINGS, FLANGES, GASKETS AND STUD-BOLTS



Plot No 550807, Jebel Ali, Free Zone (South)  
P.O. BOX 17729, Dubai-United Arab Emirates

TEL: +9714-8865119 / FAX: +9714-8865118  
Emergency Contact No: 0097150-3752010

Web: [www.shreesteeloverseas.com](http://www.shreesteeloverseas.com)  
Email: [sales@ssso.ae](mailto:sales@ssso.ae) / [info@ssso.ae](mailto:info@ssso.ae)



# 88<sup>TH</sup> EDITION

## CELEBRATING 7 YEARS OF OFG

30<sup>TH</sup> November 2017 | 12:30 – 3:30PM

**BRINGING INDUSTRY LEADERS TOGETHER FOR 6 YEARS**  
**THE LEADING OIL & GAS NETWORKING EVENT**

OFG delivers an unparalleled opportunity to mingle with like-minded senior level professionals, while enjoying a relaxed and informal environment. The award winning Ruth's Chris Steak house provides attendees with a hearty three-course meal, as well as beverages throughout the day.

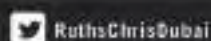
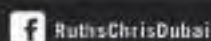
Entry admission for the OFG event is AED 300 per person including lunch and drinks.

As there are a limited number of places pre-registration is advised.



**THE ADDRESS DUBAI MARINA**

CONTACT NUMBER : +971 4 454 9538 | EMAIL : [marisa@ruthschris.ae](mailto:marisa@ruthschris.ae)



[www.ruthschrisdubai.ae](http://www.ruthschrisdubai.ae)

## ADSB expands into oil and gas industry despite low oil prices

ABU DHABI SHIP Building (ADSB), provider of construction, repair and refit services for naval, military and commercial vessels, has expanded its services portfolio to the oil and gas industry. This is the company's first foray outside of the naval, marine and defence sector, as it opens up to opportunities beyond its traditional industries of focus.

Khaled Al Mazrouei, CEO of ADSB, said, "With ADSB's strong performance and recent win on providing marine support services for the UAE's naval fleet, we are leveraging our relationships with our core government clients in the region to move into a new industry, as we feel that oil and gas has the potential to grow our business beyond ship building."

The instability in oil prices since early 2014 has led the oil and gas majors into rethinking their capital expenditures, a move that has benefitted companies like ADSB, according to Al Mazrouei.

"Today, the supermajors and national oil companies are tightening their spending. Investments into new offshore and onshore assets are being put on hold, and they are instead funnelling their spending into routine maintenance work – a core ADSB capability,



Image Credit : ADSB

*Khaled Al Mazrouei is the CEO of ADSB*

"When the oil and gas industry finally gathers its momentum for major refurbishments and upgrades, there will be a huge demand on shipyards like ours. Our move into this sector demonstrates that we are gearing ourselves to

meet this challenge," he explained. "In the near to medium term, analysts have predicted that oil companies will spend tens of billions in refurbishment, upgrading and purchasing new offshore and onshore assets, meaning that we have a unique opportunity to grow our portfolio in this sector."

Over the last year, the company has completed six oil and gas projects from regional, national and international companies. Its local client base has grown to 135 from 31 UAE entities within the last three years, with its international customer portfolio growing tenfold in the same period, announced Al Mazrouei.

The shipyard is tapping into new revenue streams in the merchant and offshore sectors, and has partnered with international marine sales services and agents in 17 countries that promote new build and repair services on behalf of the company. Al Mazrouei added, "We have the expertise and experience in the given sectors. We are confident that our 1,200-strong team can expand our capabilities to ensure the longevity of our organisation, while helping our customers realise their business goals."

**HOERBIGER**  
Leading performance solutions

**SERVICE YOUR PROFITS**  
pix.hoerbiger.com

Constantly changing market conditions demand new approaches. That's why we offer tailored services to tackle your evolving challenges. The goal: to make your plant even more profitable. The name says it all: PerformanceXperience®

## MESC looks beyond oil and gas, forays into renewable energy industry

AT ADIPEC 2017, Saudi Arabia-based Middle East Specialized Cables Company (MESC) showcased its instrumentation cables for the global oil and gas sector. Tamer Salama, vice-president for sales and marketing, also talked about the reorganisation of MESC's structure for better business efficiency.

Speaking with *Oil Review Middle East*, Mr Salama said that the company has been supplying instrumentation cables globally for 25 years to the oil and gas sector, with more than 35,000 types, thus also customising to suit the clients' requirements.

"Our strong R&D department also ensures that we constantly innovate on cabling solutions, and now we are looking to cater to sectors beyond oil and gas." Elaborating on this, he added that the company manufactures cables for the transportation sector as well as nuclear and renewables industries.

"We have seen a dynamic economic change in the Saudi Arabian market over the past two years. Until the end of 2016, it was still heavily dependent on the oil and gas. Now with Vision 2030 in place, the market dependency is diversifying from oil and gas. Saudi Arabia's oil and gas market is starting to become saturated, but other sectors like renewable energy, transportation and manufacturing are developing much faster. So, we are adapting our portfolio to address such segments as solar and nuclear."

Mr Salama pointed out that the cables for nuclear projects are mainly instrumentation and control cables but a very specific

requirement from clients is to address radiation issues. So MESC is doing advanced R&D on producing such cables so that they can be a part of a nuclear power plant in Saudi Arabia, he noted.

Transportation is another sector that MESC is involved in a big way in Saudi Arabia, being part of all major projects like Haramain High Speed Rail and Riyadh Metro for signalling cables. "We are already manufacturing such cables, and have global certifications from VDE Germany, which can be sold anywhere worldwide."

Besides working on all major Saudi Aramco projects, the company has recently secured a supply contract with the Kuwait National Petroleum Company's (KNPC) new refinery for instrumentation and control cables for the main processing unit.

Even as the company continues to procure contracts, the Middle East's economic downturn has had a major impact on the business of MESC. And Mr Salama's first job after his appointment as a V-P in October 2015 was to restructure the sales and marketing organisation, to be "customer centric", and better serve MESC customers.

"I have created a new sales support organisation, which handles all after sales-related issues so that our sales team can focus more on the customers. We also have an R&D centre in Saudi Arabia with an extended support team in Ras Al Khaimah, UAE."

Mr Salama reiterated that MESC's strategy will continue to focus on oil and gas, while expanding its cabling business for other industries, and further geographies beyond the MENA region.

## Advancing women in the oil and gas workforce

THE ADIPEC WOMEN in Energy conference, held on the closing day of ADIPEC, highlighted the growing importance of women in the oil and gas workforce, with participation from leading industry role models.

More than 200 delegates attended the event, which featured a full day of discussions aimed at promoting diversity and inclusion within the global oil and gas industry. It focused on the contribution women are making in the industry, both in terms of how women can be further empowered towards achieving their career ambitions, and by offering space for women to share their own professional expertise with their peers.

Speakers included women working at several international and local companies, including Petronas, Lukoil, Nova Chemicals and Tatweer Petroleum, sharing their knowledge and experience, and exploring strategies for promoting diversity across the board.

In the conference's keynote address, Marcelle M. Wahba, former US ambassador to the UAE, and now president of the Arab Gulf States Institute in Washington, said many industries continued to have a built-in bias that men were better suited to certain roles.

"This is the glass ceiling that women contend with in male dominated professions or industries," Wahba said. "When it comes to glass ceilings, I understand that there's none tougher to crack than the one that women face in the oil and gas industry."

Women in Energy includes an emphasis on supporting a new generation of female



Speakers at the ADIPEC Women in Energy Conference

Image Credit : Wallis

professionals seeking careers in scientific or technical roles.

Research by the Boston Consulting Group, for the World Petroleum Council, has found that fewer than a fifth of oil and gas workers are female. The disparity is particularly acute in offshore and marine, refining, and petrochemicals, in which women hold just 15 per cent of entry-level technical and field positions. By comparison, female graduates hold half of entry-level office and business-support positions.

"While the number of women enrolling in the science and technology programmes at university level is very high, the number of women entering the STEM workforce is not accelerating at the same pace," commented Wahba. "Some social stigmas and stereotyped gender roles persist, and

those jobs are often viewed as more demanding or more dangerous. That's true not only in the UAE, it's also true in other countries, in Europe and in the United States."

While noting that the glass ceiling is faced by women worldwide, Wahba added that it is cracking, and praised the UAE for its commitment to expanding the role of women in both business and government.

"The UAE leadership has for decades championed women's issues from education to employment, and everything in between," she said. "The progress is very visible, and also quite unique, not only for this part of the world, but globally. I believe the role of women in the UAE demonstrates the progressive vision of this society and its leaders."

## Raccortubi Middle East looks forward to continued growth

FOLLOWING ADIPEC, WHICH is such an important exhibition for the Middle East region, coinciding with the end of the year, it is timely for Raccortubi Middle East to present its post-event review in light of its plans for 2018.

Sunzeev Swami, Raccortubi Middle East managing director, commented that ADIPEC 2017 proved to be a success for the company. "We had a large number of interesting customers visiting our stand from the whole Middle East area, including EPCs, end users and fabricators," he stated. This was the fifth year that the company participated in ADIPEC as an exhibitor,



with a focus on reinforcing relationships with existing clients as well as developing new contacts with potential customers.

"In 2017, when the market scenario has continued to be challenging, we have seen year over year growth for our Middle East business thanks to our business model, which is very attractive for our customers," Swami continued, adding that the company experienced growth in duplex stainless steel (DSS) and super duplex stainless steel (SDSS) requirements.

Turning to Raccortubi's plans for 2018, Swami expressed confidence that the company can consolidate its strong presence in the region. "We are planning to keep customers highly satisfied, as customer service has always been the main focus of our business strategy, irrespective of the market scenario," he said.

A subsidiary of Italian Group Raccortubi, manufacturer and stockholder of piping materials for critical applications such as chemical and petrochemical plants, oil and gas applications, power plants, shipyards, fertilizer and desalination plants, Dubai-based Raccortubi Middle East acts locally as a



The Raccortubi stand at ADIPEC

stockist and supplier to serve clients in the area directly. It has a significant stock availability of pipes, tubes, fitting and flanges in austenitic stainless steel, duplex, superduplex, 6Mo, nickel alloys and titanium.

## Delivering fluid handling systems worldwide

DESPITE EXPERIENCING A decline in oil and gas market demand in recent years, the Middle East remains an important region for

Afagomma, the leading global manufacturer of hydraulic and industrial fluid handling systems.

"Moreover, lately we have been noticing some encouraging signs of recovery, too," says Danilo A. Ferrari, sales manager at Afagomma.

Ferrari adds that Saudi Arabia is currently the company's main target, and that it generally does business through specialised distributors.

Commenting on the company's experience at ADIPEC, Ferrari says, "We have been participating at ADIPEC for a long time through our distributor Al Masood. This year we have found the exhibition particularly busy and have received many relevant visits to our stand."

What is the secret of Afagomma's success? "I would chose two words: stability and innovation," says Ferrari. "Since 1956 Afagomma has manufactured and delivered top quality products worldwide. During this long time we are just constantly growing in sales volume, employees and product portfolio. At the same time, we continue to be the same approachable Italian family company, small enough to minimise bureaucracy and assure a fast response. In terms of innovation, Afagomma is constantly oriented to continuous new product research and development, technical innovation and, last but not least, customised solutions with innovative and reliable integrated systems."

Headquartered in Italy, Afagomma provides hydraulic industrial integrated fluid handling systems for a wide range of sectors including oil and gas, industry, agriculture, construction, petrochemicals, shipbuilding and mining, with the strategy to be a single source integrated system supplier.





**Dolphin Heat Transfer L.L.C.**  
P.O. Box 20478, P.O. Box 305, New Industrial Area, Ajman, U.A.E.  
Tel: +971-6-7482204, Fax: +971-6-7482204  
Email: dol@heattransfer.com  
Web: www.dolphinheattransfer.com | www.dolphinllc.com



### Shell & Tube Heat Exchangers

Design & Manufacture  
Erecting Drying works



### Fin Fan Coolers

Design & Manufacture  
"Building Solutions Together"



### PHE's, Boilers & Cooling Towers

Design & Manufacture of PHE's & Cooling Towers  
Supplying & Erection of PHE's of any make or make  
Providing Cooling Solutions in:  
WWT, Paper, Alumina, Iron  
Sugar, Food, Chemical Industry, Petrochemical  
Refineries, Acid Recovery



### Finned Tubes

We manufacture Finned Tubes in favour of the tubes  
in every size of V-String Machine.

Fin Types:

- HD Fin
- ANL Fin
- HL Fin
- Extended High Fin
- Low Fin





Digitalisation can significantly improve business processes

# Transforming innovation through digital disruption

Rafi Hattar, VP Middle East & Africa, Hexagon PPM, discusses the impact of digitalisation and disruption on the execution of capital projects.

**E**VEN THE MOST committed techno-sceptics understand that digitalisation has the potential to deeply reshape the way enterprises interact and serve their customers.

The impact of digitalisation depends on the type of business, industry and work processes, but it drives to one common consequence: disruption. Disruption should be seen as a positive force that interferes with the existing way of doing business not to distract, but to improve the prevailing processes. Digital disruption transforms innovation and radically changes consolidated business models.

Companies often fail in moving to a digital business model due to different circumstances, but the indications are that problems originate more from management errors than technology failures.

Some key issues to consider are:

1. Not all digital technologies and innovations bring real value to a company.
2. Digital disruption provides value as soon as:
  - a. it enables real breakthrough in the way people work;
  - b. it facilitates cooperation and faster collaboration among stakeholders;
  - c. it breaks communication silos;
  - d. it allows digital synergies among companies as well as internally;
  - e. It enhances management enabling faster, wider and deeper control on business critical work processes, so that more informed – and therefore better – decisions can be taken.

The capital project industry is a good example when discussing digitalisation and disruption. At least three drivers deserve attention: internet connectivity and cloud experience; data-centric technology; and data analysis and mobile solutions.

## Internet connectivity and cloud experience

Over the past few years, the cost of internet connectivity has significantly dropped, while bandwidth availability has grown

exponentially. This process has come together with the need for decreasing total costs of ownership in maintaining complex system infrastructures. Due to this, sophisticated software is now available to a wider spectrum of users to optimise complex operations, e.g. in project control, supply chain and construction management domains.

A real-world example of such software is EcoSys EPC™ Enterprise Planning & Control. It is a fully web-based projects and costs control platform, which is fully configurable to enable the widest span of control on costs, budgets, and progress, from the lowest and smallest cost element up to enterprise level. It comes complete with a large collection of web-services, restful APIs, gateways, and software adapters, providing smooth integration to virtually any third party system. Should the user require bringing or delivering information from/to other project stakeholders, appropriate integration and communication links are ready to be digitally configured.

This capability constitutes a significant disruption, and a game changer since it immediately allows either project control or costs control engineers to remove low-level actions from their daily practice. First, this gives more time for executing higher-level actions in cost-sensitive and mission critical disciplines, such as controlling project performance. Secondly, it empowers stakeholders to forecast 'Estimate to Complete' and 'Estimate at Completion' in several "what if" scenarios, so that risks can be analysed in advance and remedial actions can be undertaken before given problem will escalate.

Another example of innovative software is Intergraph Smart@ Materials Supplier Portal by Hexagon PPM. This is e-procurement and SRM (Supplier Relationship Management) software, providing a digital approach to a traditionally manual process as a fully web-based system. The main disruption here is the ability to cooperate and share the execution of important work processes in real time that would take days and weeks instead of hours and days, if not using a digital solution. This provides a significant improvement with respect to the



traditional customer-supplier experience.

In both of the examples mentioned above, all that a user needs is a web browser, which allows them to access the system from anywhere in the world.

### Data-centric technology

The decreasing costs of new data processing and data storing technologies have boosted the need and the ability to deliver data-centric software, also known as “Smart Technology”. Data-centric technology delivers full coverage of work process requirements; it provides comprehensive and consistent data structures, and allows effective storage of all relevant information.

The data-centric approach provides the ability to utilise very granular and detailed information and secondly, enable flexible data modelling by means of smart, fully configurable functions with no customising required.

Digital disruption from adopting Hexagon PPM and EcoSys data-centric technology provides companies and stakeholders with several benefits:

**Objects correlation**, which is a digital ability to recognise objects in the system and automatically understand how they work together

**Multi-discipline coordinated consistency**: as soon as all the data describing given objects is in the standard database, the system can recognise whether a component (any physical object having a virtual representation in 3D) in the project is same among several tools. This is a key feature to maintain and reuse consistent information across different disciplines and functions.

**Multiple objects design change implication**: as soon as a design change has to be executed on a given component, the database will know and point out which objects will be impacted, supporting the 3D designer accordingly.

**Automatic roll up and drill down**: the ability to aggregate results with the possibility at the same time to link details in the background that originate given summary.

**Work sharing over internet or on the cloud on a global basis**, therefore maximising cooperation and collaboration among all stakeholders. It enables a huge productivity increase for the engineering side and massively reduces coordination costs.

**Automation**, which enables automatic rule-based data processing to either execute transactions or get outputs from a system, such as reports or notifications. The consequence? Powerful execution control, with no additional costs, fewer risks, less error-prone manual executions and an enormous decrease in contingencies amounts.

**Change tracking and management in real time**, which is key in executing and controlling detailed design, especially with today's fast track projects.

### Dynamic analysis on data and HTML 5-based mobile execution

A data-centric approach to developing digital applications has actually created an increased need for storing and processing data. Thus, an important part of these new technologies is analytics and new data processing capabilities.

Depending upon both business and work processes, analytic data processing might be either real-time or a-synchronous. Real-time analytics and advanced process control enable errors and quality lapses to be picked up immediately. A-synchronous analytics typically work at a higher level, to define and deliver important performance parameters, which, in most of the cases, go to management. Good examples of digital disruption by means of dynamic analytics come with implementation of either EcoSys EPC or Smart Materials Business Intelligence Reporting. EcoSys EPC is changing the game by providing dynamic data processing on reported figures, so that the whole set of analysed data can be subject for additional analysis.

The next level of disruption comes from adopting HTML 5 protocol to develop and then deliver relevant functionality on mobile devices, regardless of the operating system on which these devices are actually running, delivering key information to relevant stakeholders with unprecedented speed and accuracy.



Figure 1: EcoSys EPC – Enterprise Planning & Control - Project Dashboard

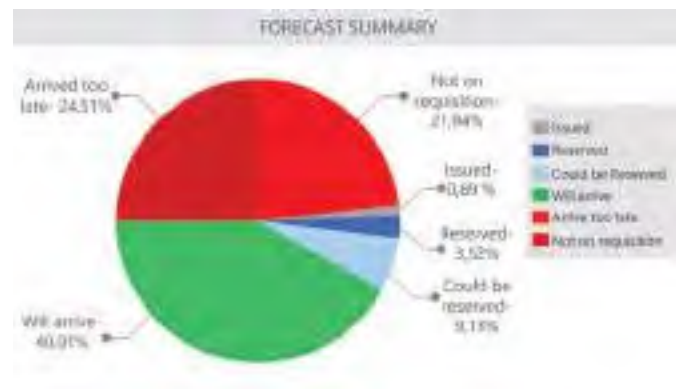


Figure 2: Smart™ Materials Business Intelligent Reporting

### Conclusion

Digitalisation requires collaboration between all departments to capture joint benefits for the whole business. Moreover, because digitalisation has a major impact on how people work, it is essential to anticipate concerns and build a business case for employees. No organisation achieves a successful digital transformation without a thoughtful approach to change management: the people who apply the technology in their daily jobs are those who will create the additional value.

The pace of innovation and the ability to benefit from the disruption that digitalisation is generating are becoming key success factors in global competition. This increases the pressure on enterprises, and opens up new business opportunities at the same time.

To survive disruption and thrive in the digital era, incumbents need to become digital enterprises as well. This requires that management has to rethink every element of the business, and assign relevant priority to each of those elements.

Management should identify the technologies and applications that will have the greatest potential impact. As far as companies focusing on project execution are concerned, investing in a project control and costs control platform should be one of the top priorities. Similarly, enterprises willing to improve materials, procurement, sub-contracting, and construction management would benefit from exploring solutions such as Smart Materials.

Finally, those who wait too long to embrace the digital disruption run the risk of becoming obsolete. ■

*Intergraph Smart Technology is Intergraph brand identifying all tools supporting engineering and design, materials procurement, sub-contracting, and construction management.*

*Hexagon PPM is the world's leading provider of asset life cycle solutions for design, construction, and operation of industrial facilities. [hexagonppm.com](http://hexagonppm.com)*



Overview of the Khazzan Project

# Award for BP Khazzan Project

BP Oman has won the ‘Advancements in Asset Performance’ category in Bentley’s *Be Inspired Awards* programme, for the Khazzan Gas Production project in Oman.

**B**P OMAN HAS won the prestigious BIM Advancements in Asset Performance of Utilities and Industrial Facilities category in Bentley’s *Be Inspired Awards* programme. The announcement was made during Bentley’s annual *Year in Infrastructure* Conference, held in Singapore in October.

The Khazzan Project in Oman is one of BP’s seven major projects in 2017, and started its production in September 2017. BP Oman was selected as a finalist from more than 400 nominations of projects around the world, and as the winner out of the three finalists in its category.

BP Oman has created a Central Information Store (CIS) to manage and maintain information needed for operations, including all documents, tags, associated metadata and 3D model visualization. It identified the Bentley solution, as it enables seamless migration of all this information from the project CIS, that is supporting the capital project process, to the operations CIS in an efficient way to support safe and reliable operations. With safety at the heart of all operations, BP ensures it continuously maintains the integrity of operational information.

BP is leveraging its many years of experience using Bentley’s AssetWise for engineering content management. The solution is deployed in projects around the

world, and BP Oman is the first operating company to deploy AssetWise to support operations. The CIS supports the BP operations in Oman and its support offices, as well as certain third parties with whom they contract work.

The CIS maintains the integrity of BP asset information to provide an accurate, up-to-date, and comprehensive digital baseline for configuration. It shortens approval times when changes are required and ensures the latest information is always available. It also provides a master set of information that supports information sharing across both the project and operations teams.

“The AssetWise deployment was a global first for BP operations”

Dave Campbell, COO and VP Operations, BP Oman, said, “I’m delighted we have received this award, which recognises the robust and integrated information management solution we have put in place to manage and maintain the integrity of our information, in support of safe and reliable operations, at our new Khazzan facility in Oman.”

He added, “We have approximately 60,000 documents and 160,000 tags, so the

deployment of AssetWise gives me the assurance we have the right tool in place to manage this scale of information, and provide easy access, 24/7, for my operations team.”

Bentley’s Process Industry marketing director Anne-Marie Walters, said, “BP’s Khazzan project stands out for its degree of complexity, scope, and innovation in replacing handover with seamless migration of asset lifecycle information—from the design phase through construction and into operations. Using a Microsoft Azure-based cloud deployment of Bentley’s AssetWise, the project team delivered information integrity to support a safe, reliable, and efficient operation throughout the life of their assets.”

Andy Hunter, operations information manager for BP Oman, advised: “It was essential to deliver on our mandate of implementing a fully integrated information management solution, that will ensure information integrity, in support of the Khazzan Operations Readiness Plan. The AssetWise deployment was a global first for BP Operations, and needed a ‘One Team’ approach to ensure successful delivery, which we have achieved, and winning this award is a solid endorsement that the team got it right.” ■

*BP has implemented Bentley’s connected data environment through AssetWise on Microsoft Azure.*

# Your Roadmap to Operational Readiness and Superior Asset Performance



Risk	Likelihood	Confidence
High	High	High
Medium	Medium	Medium
Low	Low	Low

Assess risk based on failure severity, likelihood scores and confidence assessment



Visually navigate assets.

## Achieve business goals with a risk-based approach to asset management. Bentley will help get you there.

Leveraging 30 years in design and visualization innovations, Bentley combines best practice engineering with performance based asset management. Bring your 2D/3D plant models and point clouds together with operational information to get the most out of your assets. Bentley's enterprise platform is designed for the entire asset lifecycle, bringing together engineering and operations for better performing assets.

Our visually oriented solution supports both greenfield and brownfield operations; bridging the gap between CAPEX and OPEX and enabling a sustainable business strategy for operational excellence and safety.

Learn more at [www.bentley.com/assetwise](http://www.bentley.com/assetwise)

Or contact our local offices in U.A.E. +971 4 382 6000 | K.S.A. +966 13 865 2393



## An Enterprise Platform for Asset Integrity, Reliability, and Performance:

- Asset strategy development
- Asset lifecycle information management
- Integrity and corrosion management
- Risk-based inspections
- Reliability-centered maintenance
- System reliability and process safety
- Operational analytics
- Asset health indices and dashboards
- Risk assessment and work prioritization
- ISO 55000 implementation



## Blended source ocean bottom seismic data, offshore Abu Dhabi

BLENDED OR SIMULTANEOUS seismic sources have been successfully applied onshore in the Middle East with dramatic improvements in both operational performance and data quality. Using blended sources to acquire ocean bottom seismic (OBS) data can significantly reduce the duration of an OBS survey without compromising the source effort. One of the challenges in applying this technology offshore Abu Dhabi, however, is the very high level of spatially aliased, shot generated guided wave energy which dominates the seismic data recorded in the area's shallow water hard seabed conditions.

Following the successful application of pseudo-random shot spaced blended sources in areas with "soft" seabeds, tests were undertaken offshore Abu Dhabi during the start-up phase of a non-blended survey to examine the effectiveness of applying this approach to blending sources. Pre-determined pseudo-random shot intervals provide a robust and repeatable way of randomising both shots from different source

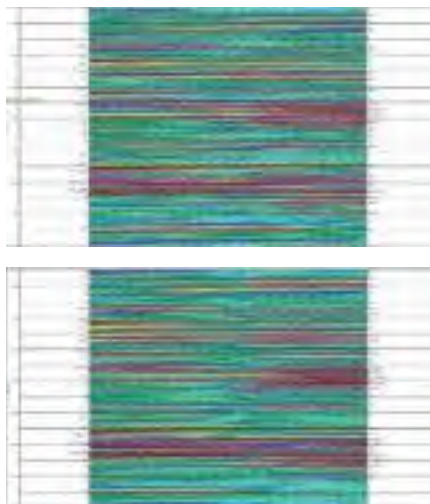


Figure 1 - Robust AVO intercept displays (Above - unblended, below - de-blended)

vessels and also subsequent shots from the same vessel which is essential for successful de-blending.

The results from these tests are very encouraging. Initial AVO intercept and gradient comparisons of unblended and de-blended data, as seen in Figure 1, show that blending/de-blending has minimal, if any, impact on the AVO characteristics of the "raw" data. This leads us to believe that further studies, examining the impact of post de-blending residual interference on high resolution reservoir characterisation for instance, will show that simultaneous source acquisition can allow the increased shot density and consequently improved spatial sampling necessary to deliver the higher quality data needed for enhanced appraisal and development in this area.

**Dr Chris Walker, Seabed Geosolutions**  
Thanks are due to ADNOC for allowing us to present these results

## Bringing the latest in fluid sealing products to the Middle East

INMARCO, A LEADING manufacturer of fluid sealing products, is developing its business with the Middle East through partnerships with Alpha Associates Europe GmbH and JEIL E&S, through which it has successfully achieved brand awareness and brought high quality products to the region.

Inmarco entered the Middle East in 2006 to extend technical support for the region's existing customer base. From modest beginnings, Inmarco has grown 10 times since its inception. With manufacturing operations in Sharjah and a sales office in Abu Dhabi, Inmarco has a wide network of distributors and sales agents across the GCC. Today it is an approved supplier for leading companies across the oil and gas sector in the Middle East, such as ADNOC, PDO and QP. Inmarco has always focused on bringing the latest innovations in fluid sealing and thermal innovations to the market, which have been implemented in many industries. Its latest eco-friendly solvent-free gasketing sheets and high performance gasket insulation kits have won orders from prestigious companies and projects such as EMAL Phase 2, Saudi Aramco, Dubai Hills, and a specialised rehabilitation hospital. Furthermore, the company is the only producer of compression packing in the region.

Inmarco has recently entered into partnership with a leading global manufacturer of thermal insulation, Alpha Associates Europe GmbH, based in Moers, Germany, which was founded as a manufacturer of specialty materials for the US Space Programme. Alpha offers the full range of product development and manufacturing capabilities, including thermal insulation, welding protection, expansion joints and PTFE-coated fabrics, providing innovative, cost-effective solutions for challenging insulation and protection requirements. Its core technologies are available to create high-performance fabrics, laminates and composites for critical energy conservation, safety and process-specific applications. Many of its highly specialised products have been developed in response to customer specifications and requirements, including significant breakthroughs in flexible industrial ducting and removable insulation blankets.

In 2012 Inmarco was identified as a prospective representative for the Middle East region by JEIL E&S, a gasket manufacturer which provides dedicated support to South Korea-based shipbuilding and EPCs including Hyundai, Samsung, GS E&C and SK. Inmarco now brings in all recent technological advances made by JEIL, which now has a large manufacturing base and research centre in the Yangsan industrial area in South Korea. It recently brought to the market the latest solvent-free gasket, branded



*Inmarco products are used throughout the oil and gas industry in the Middle East*

Image Credit: Christian Lagerek/Shutterstock

LEAKBLOK® manufacturing technology together with high performance dielectric corrosion resistant gasket insulation kits, the STARTEC® series. In 2016 JEIL was approved by Saudi Aramco, and now through an extensive marketing network, these gasket kits are supplied globally to major oil and gas companies such as Total, BP, Shell, Aramco, NPCC, Petrofac, Petronash and KOC/KNPC. Other innovations introduced by JEIL include high performance valve covers, which are currently undergoing testing in harsh conditions at various installations.

## Well-Centric introduces new milling tool

WELL-CENTRIC, A leading independent specialist in well integrity and production technology solutions for the oil and gas industry, has launched a new compact milling tool.

The Well-Centric Gate Valve Milling Tool is a milling tool designed to provide access to restricted wells by drilling through stuck gate valves or other blockages. Stuck valves can result in a well being out of action for months, if not years, with lost production potentially amounting to millions. The Gate Valve Milling Tool helps reinstate production safely, quickly and efficiently with minimal operator downtime.

Mill bits can be changed out for magnets, brushes or scrapers, providing additional clean-out capability. Additional drill rods can also be added to reach deeper into the well, past the Xmas tree, to mill obstructions at the tubing hanger.

The Gate Valve Milling Tool can be used both onshore and offshore and boasts a modular design, small footprint and extended stroke to reach deeper into the wellbore. Lubricators are not required to install drill rods, enabling more efficient rig-up and a reduced overall footprint.

With a powerful hydraulic motor and safer operation, thanks to fewer exposed rotating parts, the Gate Valve Milling Tool means demanding jobs are completed quickly and efficiently, milling out a gate valve in under three hours.

Matt Manning, Well-Centric's engineering manager, said, "The Gate Valve Milling Tool is a major success story not only for Well-Centric, but for the industry as a whole. Our team has worked tirelessly from the initial stages of research and development through to testing and bringing the tool to market.

"As the sector adjusts to operating in a lower oil price environment, innovation is vital. Solutions must be developed which enable continued or enhanced production at a cost-effective price, whilst maintaining safe and efficient operation."



*The Well-Centric Gate Valve Milling Tool*

## Drilling Systems launches training simulator package

DRILLING SYSTEMS, A leading expert in simulation solutions, has announced the release of its new "On the Rig" (OTR) portable work-site simulator package. This advanced simulator provides flexible multi-discipline training modules and many other features to enable comprehensive training, development and personnel assessment in a fully mobile solution.

In an offshore environment, safety is of paramount importance. Operators face the challenge of ensuring skills and competencies are up to date and HSE targets met, while trying to meet increasing efficiency and operational performance goals. The OTR simulator addresses this challenge by providing high quality training without the need to leave the rig. Designed in a modular form, the system assesses and trains at every level of capability and can be used on multiple platform types across various operational disciplines.

The OTR system offers comprehensive training and competence modules for operations including well control, drilling practices, BOP landing, lower marine rising packages (LMRP) disconnects, managed pressure drilling, drill-well-on-sim (DWOS), complex lifts, banksman, human factors/CRM, operational readiness, lifting and deck operations. With 3D simulation and an easy to use learning management interface, the system provides both self-led or instructor supported learning in a way that helps personnel better retain information and learn how to apply theoretical knowledge.



*The simulator provides high quality training without the need to leave the rig*

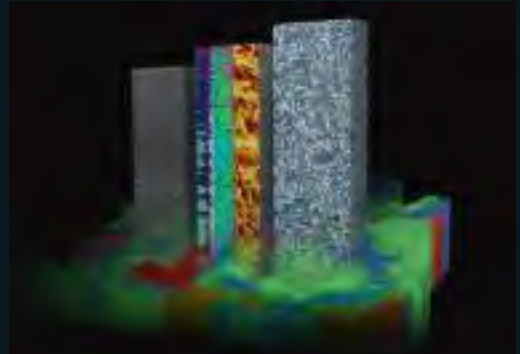
## Schlumberger launches expanded reservoir rock and fluid analysis lab

SCHLUMBERGER HAS INAUGURATED the newly expanded reservoir rock and fluid analysis laboratory in Houston, Texas.

The laboratory enables petrotechnical experts to better leverage physical and digital rock and fluid analysis for comprehensive reservoir characterisation. The integration of data and insight from field and lab measurements in the DELFI cognitive E&P environment enhances collaboration across exploration and production teams to realise the potential of data and science in optimising oil and gas assets.

"Digital technology is changing the way the E&P industry works," said Hinda Gharbi, president, Reservoir Characterization Group, Schlumberger. "The expansion of the Houston Reservoir Laboratory accelerates our customers' access to our proprietary technologies, digital models and petrotechnical domain expertise to overcome technical challenges across the life of the field."

The 123,000 sq ft facility is staffed by scientists, engineers and technicians working on the reservoir rock and fluid analysis.



*The Schlumberger Reservoir Laboratory provides a comprehensive range of physical and digital rock and fluid analysis services for the life of the reservoir*

## Middle East & North Africa

The Baker Hughes Rig Count tracks industry-wide rigs engaged in drilling and related operations, which include drilling, logging, cementing, coring, well testing, waiting on weather, running casing and blowout preventer (BOP) testing.

Country	THIS MONTH			VARIANCE	LAST MONTH			LAST YEAR		
	Land	OffShore	Total	From Last Month	Land	OffShore	Total	Land	OffShore	Total
<b>Middle East</b>										
ABU DHABI	38	14	52	2	35	15	50	29	21	50
DUBAI	0	2	2	0	0	2	2	1	3	4
IRAQ	52	0	52	-3	55	0	55	42	0	42
JORDAN	0	0	0	0	0	0	0	0	0	0
KUWAIT	49	0	49	-4	53	0	53	48	0	48
OMAN	54	0	54	-1	55	0	55	64	0	64
PAKISTAN	20	0	20	-6	26	0	26	21	0	21
QATAR	3	5	8	-2	4	6	10	5	7	12
SAUDI ARABIA	101	20	121	4	99	18	117	110	16	126
SUDAN	0	0	0	0	0	0	0	0	0	0
SYRIA	0	0	0	0	0	0	0	0	0	0
YEMEN	0	0	0	0	0	0	0	0	0	0
<b>TOTAL</b>	<b>317</b>	<b>41</b>	<b>358</b>	<b>-10</b>	<b>327</b>	<b>41</b>	<b>368</b>	<b>320</b>	<b>47</b>	<b>367</b>

### North Africa

ALGERIA	55	0	55	5	50	0	50	53	0	53
EGYPT	20	3	23	0	18	5	23	18	5	23
LIBYA	0	1	1	0	0	1	1	0	1	1
TUNISIA	0	0	0	0	0	0	0	1	1	2
<b>TOTAL</b>	<b>75</b>	<b>4</b>	<b>79</b>	<b>5</b>	<b>68</b>	<b>6</b>	<b>74</b>	<b>73</b>	<b>7</b>	<b>79</b>

Source: Baker Hughes

## Weld overlay cladding - catering to future demands

WITH THE DEMAND for weld overlay cladding increasing day by day, especially in the Middle East region with more and more pipes, vessels and BOPs to be cladded, Fronius International GmbH introduced its latest technology for cladding in the 'Materials Performance and Welding Technology Conference' organised by Saudi Aramco in Dammam in September 2017. The company's high performance TIG Hot Wire Twin and TIG Hot Wire Advanced technology was introduced by Nitin Raheja, key account manager Perfect Welding, during the conference.

Fronius International GmbH has been serving the weld overlay cladding industry for many years with the latest technological innovations, and has been a market leader for weld overlay systems, being a total solution provider for the industry. The company's state of the art R&D facility in Austria understands the needs of the future and is continuously working to develop new and advanced processes to cater to the needs of the cladding industry.

With the latest technological solutions, Fronius ensures that its processes are capable of significantly increasing productivity and reliability.

## A leader in carbon steel wire ropes

BHARAT WIRE ROPES Ltd (BWRL) is making great strides in the manufacture of all types of high carbon steel wire ropes.

One of the world's largest manufacturers of steel wire ropes, the company has a state of the art plant in Chalisgaon, near Mumbai, with a capacity of 80,000MT, the largest ever investment in India in the field of wire rope manufacturing. BWRL caters to a wide range of industries including shipping, railways, oil and gas, mining,

cranes, defense, infrastructure and fishing. It is accredited by British Standard Institute and ANSI.

The company has a track record of exporting to more than 40 countries across the globe, including USA, Canada, Germany, Netherlands, Spain, Belgium, Denmark, South Africa, Egypt, Uganda, Dubai, Oman, Kuwait, Singapore, Australia, Poland, Vietnam and Italy.

The efficient team of professionals is capable of executing all kinds of wire rope requirements.

The Production and Quality Management System has been designed and is accredited by BSI-UK for ISO9001:2015.

The plants are fully equipped to manufacture to various national and international specifications such as IS2365, BSEN12385-Part5, API9A, ISO4344 and JIS-G-3525.

It is the company's aim to provide the highest level of quality and efficiency to its customers, at an unmatched value proposition.

# Project Databank

Compiled by Data Media Systems

## OIL, GAS AND PETROCHEMICAL PROJECTS, SAUDI ARABIA

Project	City	Facility	Budget (US\$)	Status
Advanced Petrochemical Company - Jubail - Pyoil & Pygas Plant	Jubail	Industrial Production	580,000,000	Project Announced
Aramco - Berri - Gas-Oil Separation Plant Expansion	Berri	GOSP	1,700,000,000	FEED
Aramco - Manifa Oilfield Upgrade	Manifa	Oil Field Development	500,000,000	Engineering & Procurement
Aramco - Ras Tanura Pipeline	Ras Tanura	Oil	270,000,000	Construction
Aramco - Safaniyah IV Expansion	Safaniyah	Offshore Platform	1,427,000,000	Construction
Bahri - Very Large Crude Carriers (VLCCs) Construction	Various	Very Large Crude Carriers (VLCCs)	1,000,000,000	Construction
Dow - Jubail - Polymers Production Facility	Jubail	Polymers	100,000,000	Feasibility Study
Farabi Petrochemicals Company - Yanbu Linear Alkyl Benzene (LAB) Plant	Yanbu	Linear Alkyl Benzene (LAB)	450,000,000	Construction
Maaden - Sabic - Mosaic - Waad Al Shamaal Phosphate City - Sulphuric Acid Plant & Power Plant	Ras Al Khair	Sulphuric Acid	1,500,000,000	Commissioning
Pan Asia - Jizan City for Basic & Downstream Industries - Purified Terephthalic Acid (PTA) Plant	Jizan	Petrochemical Plant	3,800,000,000	Feasibility Study
Petro Rabigh Refinery & Petrochemical Complex Expansion - Phase 2 (Overview)	Rabigh	Aromatics	5,000,000,000	Construction
Petro Rabigh Refinery & Petrochemical Complex Expansion - Phase 2 - Common Facilities (UO2) & Tank Farm Package (UO3)	Rabigh	Naptha	500,000,000	Construction
Petro Rabigh Refinery & Petrochemical Complex Expansion - Phase 2 - Clean Fuel - Naphtha Hydrotreater and SRU	Rabigh	Sulphur Recovery	150,000,000	Engineering & Procurement
Petro Rabigh Refinery & Petrochemical Complex Expansion - Phase 2 - Clean Fuel Package	Rabigh	Naptha	950,000,000	Construction
SABIC - ARAMCO - Yanbu - Crude Oil To Chemicals (COTC) Complex	Yanbu	Petrochemical Complex	20,000,000,000	FEED ITB
Sabic - Debottlenecking and Expansion of Petrokemya Butadiene Extraction Plant	Jubail	Butadiene	450,000,000	Construction
Saudi Aramco - Yanbu to North Jeddah NGL Pipeline	Yanbu	Gas	600,000,000	Construction
Saudi Aramco - Annual Onshore Maintain Potential Program (MPP)	Red Sea	Maintenance	5,000,000,000	Construction
Saudi Aramco - Arab Heavy Pipeline to Yanbu Crude Oil Terminal (YCOT)	Various	Oil	250,000,000	FEED
Saudi Aramco - Arabiyah and Hasbah Gas Field Development	Arabiyah	Gas Field	3,000,000,000	Construction
Saudi Aramco - Bapco - AB Pipeline	Abqaiq - Sitra	Oil	350,000,000	Construction
Saudi Aramco - Fadhili Gas Plant (Overview)	Eastern Region	Gas Treatment Plant	6,600,000,000	Construction
Saudi Aramco - Fadhili Gas Plant - Downstream Packages	Eastern Region	Gas Processing	650,000,000	Construction
Saudi Aramco - Fadhili Gas Plant - Main Processing Facilities (Package 1)	Eastern Region	Gas Treatment Plant	2,500,000,000	Construction
Saudi Aramco - Fadhili Gas Plant - Sulphur Recovery Unit SRU (Package 2)	Eastern Region	Gas Treatment Plant	2,500,000,000	Construction
Saudi Aramco - Haradh Gas Increment Program (Overview)	Haradh	Gas Compression	1,200,000,000	Engineering & Procurement
Saudi Aramco - Haradh Gas Increment Program - Freeflow Pipelines	Haradh	Flowlines	470,000,000	Engineering & Procurement
Saudi Aramco - Haradh Gas Increment Program - North Haradh Field Gas Compression Facilities	Haradh	Gas Compression	1,200,000,000	Engineering & Procurement
Saudi Aramco - Haradh Gas Increment Program - Satellite Gas Compression Facilities	Haradh	Gas Compression	1,200,000,000	Engineering & Procurement

# Project Databank

Compiled by Data Media Systems

Project	City	Facility	Budget (US\$)	Status
Saudi Aramco - Hasbah Field Increment II	Hasbah	Gas Field	1,600,000,000	Construction
Saudi Aramco - Hawiyah Gas Plant Expansion	Hawiyah	Gas Processing	1,200,000,000	Engineering & Procurement
Saudi Aramco - Jizan Export Refinery (Overview)	Jizan	Oil Production	2,100,000,000	Construction
Saudi Aramco - Jizan Export Refinery - Crude Distillation Unit / Vacuum Distillation Unit, Flare & Pipe Rack Complex	Jizan	Crude Oil Distillation Unit	500,000,000	Construction
Saudi Aramco - Jizan Export Refinery - Hydrocracker Unit	Jizan	Hydrocracker	250,000,000	Construction
Saudi Aramco - Jizan Export Refinery - Naphtha Processing and Aromatics Complex	Jizan	Hydrotreating	1,040,000,000	Commissioning
Saudi Aramco - Jizan Export Refinery - Sour Water Stripper & Amine Regeneration Unit	Jizan	Oil Production	500,000,000	Construction
Saudi Aramco - Jizan Export Refinery - Tank Farms	Jizan	Oil Storage Tanks	1,500,000,000	Construction
SSaudi Aramco - Khurais Arabian Light Crude Increment Program	Eastern Region	Oil & Gas Field	3,000,000,000	Construction
Saudi Aramco - King Salman International Complex Maritime Industries & Services	Ras Al Khair	Ship Yard	4,000,000,000	Engineering & for Procurement
Saudi Aramco - King Salman International Complex for Maritime Industries & Services - Marine Works	Ras Al Khair	Dredging/ Reclamation	850,000,000	Engineering & Procurement
Saudi Aramco - King Salman International Complex for Maritime Industries & Services - Phase 2	Ras Al Khair	Port	4,000,000,000	EPC ITB
Saudi Aramco - Liquefied Natural Gas (LNG) Receiving Terminal	Jeddah	Liquefied Natural Gas (LNG)	1,000,000,000	Project Announced
Saudi Aramco - Marjan - Oil Field Expansion	Marjan	GOSP	5,000,000,000	FEED
Saudi Aramco - Marjan, Berri, Zuluf and Safaniyah IV Expansion - (Overview)	Various	Oil & Gas Field	7,000,000,000	Construction
Saudi Aramco - Master Gas System Expansion (MGSE) (Overview)	Various	Natural Gas Liquefaction (NGL)	4,050,000,000	Construction
Saudi Aramco - Master Gas System Expansion (MGSE) - Phase II - Package 1 - Western Region Pipeline	Western Region	Gas	830,000,000	Construction
Saudi Aramco - Master Gas System Expansion (MGSE) - Phase II - Package 3 - Eastern Region Pipeline	Eastern Region	Gas	374,000,000	Construction
Saudi Aramco - Master Gas System Expansion (MGSE) - Phase II - Package 2 - Central Region Pipeline	Central Region	Gas	367,000,000	Construction
Saudi Aramco - Master Gas System Expansion (MGSE) - Phase I	Various	Gas Pipeline	1,650,000,000	Construction
Saudi Aramco - Master Gas System Expansion (MGSE) Phase II - Booster Compressor Stations	Dammam	Compressor Station	800,000,000	Construction
Saudi Aramco - Midyan Gas Processing Plant	Tabuk	Gas Processing	800,000,000	Commissioning
Saudi Aramco - New Energy Industrial City	Abqaiq	City	4,400,000,000	Project Announced
Saudi Aramco - Offshore Maintain Potential Programme (MPP)	Various	Oil & Gas Field	7,000,000,000	Construction
Saudi Aramco - Qassim to Hail Pipeline	Various	Flowlines	300,000,000	EPC ITB
Saudi Aramco - Ras Tanura Refinery - Clean Fuels Project	Ras Tanura	Aromatics	2,000,000,000	Construction
Saudi Aramco - Shedgum to Yanbu Natural Gas to Liquids (NGL) Pipeline (SHY 1 Loops 4 & 5)	Shedgum	Liquefied Petroleum Gas (LPG) Pipeline	500,000,000	Construction
Saudi Aramco - Unconventional Gas Program - Tight Gas Production Systems A and B (Overview)	Turaif	Gas Field Development	3,500,000,000	Construction
SAUDI ARAMCO - Yanbu Refinery And Petrochemical Complex	Red Sea	Petroleum Oil Refinery	20,000,000,000	Feasibility Study
Saudi Methacrylates Company (SAMAC) - Alpha 2 Project [Polymethyl Methacrylate {PMMA} Plant / Methyl Methacrylate {MMA} Monomer Plant]	Jubail	Dimethyl Ether (DME)	1,150,000,000	Commissioning



# Stay one step ahead of your competitors with the DMS Projects Matrix

A critical and essential **business intelligence** tool, updated daily to ensure you are constantly at the top of your **commercial strategies**, allowing you to **maximise your returns** in today's ever **growing global market**.



## REGIONS COVERED

- Asia Pacific
- Middle East
- Latin America
- North America
- Central America
- Russia & CIS
- East Africa
- North Africa
- West Africa
- India
- China
- Europe

## SECTORS COVERED



**SUBSCRIBE TODAY**  
or contact us for further information

- [www.dmsprojects.net](http://www.dmsprojects.net)
- [info@dmsglobal.net](mailto:info@dmsglobal.net)
- +973 1740 5590 (Bahrain Headquarters)
- +971 249 161 71 (UAE office)



التطور السريع لمصادر الطاقة المتجددة يعود إلى الدعم الحكومي القوانين الخاصة بالمحافظة على البيئة

ويتلقى الكثير من الدعم عن طريق التطور الذي تشهده تكنولوجيا شحن الغاز الطبيعي المسال. وفي الوقت عينه، يتسع نطاق تكنولوجيا الطاقة المتجددة ذات الأسعار التنافسية (مثل طاقة الرياح أو الطاقة الشمسية)، على الرغم من إنتاجها المنخفض للغاية، وهي تهدف لأن تحل محل مصادر الطاقة القائمة على الهيدروكربونات بشكل جزئي. فضلا عن ذلك، تكتسب السيارات الكهربائية، التي تظل عاملا صغيرا في سوق اليوم، ميزة تنافسية كبيرة، وقد تهدد بتقليل حصة النفط في قطاع النقل على المدى البعيد. كل هذه التطورات التكنولوجية تقضي إلى التغيير وأيضا إلى الغموض، وهي تتيح الفرص لمن يتبناها وتضع من لا يتبناها في خضم المخاطر. ذاك بالتحديد هو نوع البيئة التي وُضع من أجلها تخطيط السيناريوهات، حيث يتيح لشركات النفط والغاز إعداد استراتيجيات أفضل لتوقع المستقبل، والاستعداد لما قد يحمله من مخاطر لرفع مستويات القيمة.

وتخطيط السيناريوهات هذا لا يزال أداة لا تحظى بالفهم الجيد، لا سيما عندما يتعلق الأمر بالتعامل مع الفرص والمخاطر المسببة للاضطراب وغير المتوقعة. وكثيرا ما يتم التعامل مع هذا الأمر على أساس أن كل شيء جائز، ويؤدي ذلك، في نهاية المطاف، إلى وضع عدد كبير من السيناريوهات غير القابلة للإدارة ظاهريا بهدف أن تشمل كافة أوجه التطوير المستقبلية الممكنة تصورها، غير أنها - مجتمعة - لا تؤدي سوى إلى القليل من المعرفة القيمة. وعلى الجانب الآخر، فإن الفهم الجيد للآليات، التي تعزز الابتكار في العالم الواقعي، يسمح باستبعاد أغلب السيناريوهات غير المحتملة، والتركيز على مجموعة صغيرة ومتسقة ومنطقية منها تعطي إدراكا حقيقيا بالمخاطر والفرص التي يجب أن تنال الاهتمام من خلال خطة استراتيجية شاملة.

يعلمنا التاريخ أن هناك ثلاث محفزات أساسية تدعم عملية الابتكار:

1- زمن التطوير: قد تبدأ الاختراعات من مجرد ومضات ملهمة، غير أن تحولها إلى إبداع تطبيقي يستغرق بعض الوقت، لاسيما في الصناعات ذات الدورات الطويلة مثل الطاقة، وقد يطول هذا الوقت. ويعتبر النفط الصخري مثلا جيدا على ذلك. إذ أن أصول تكنولوجيا النفط الصخري تعود إلى بحث يرجع تاريخه إلى ثمانينيات القرن الماضي أُجري برعاية الحكومة الأمريكية حول مصادر الهيدروكربونات غير التقليدية، وأغقبته طرق الحفر الأفقي التي تم تطويرها في مطلع تسعينيات القرن الماضي.

الطريق للابتكار في قطاع الطاقة. إذ يجب أن تتوفر الجدوى الاقتصادية بشكل حتمي.

3- البيئة المواتية: وأخيرا وليس آخرا، ينتعش الابتكار فقط في البيئات المواتية. وليست مصادفة تطوير تكنولوجيا النفط الصخري لأول مرة في الولايات المتحدة (وتكنولوجيا المياه شديدة العمق في خليج المكسيك)، مستفيدة في ذلك من الأطر التنظيمية المباشرة بالنجاح، وتوافر مصادر رأس مال المخاطرة، والتوجه السائد لإدارة المشاريع.

نحن نتعلم من التاريخ مدى أهمية هذه المحفزات الثلاثة لإحداث الابتكار المسبب للاضطراب، ومن ثم تقييد نطاق السيناريوهات المستقبلية المنطقية إلى حد كبير، وبخاصة في قطاع النفط والغاز، حيث الدورات التي تستغرق الكثير من الوقت وتتطلب الاستثمارات، الرأسمالية الضخمة. ويساعد الفهم الجيد لهذه المحفزات، على التخطيط والاستعداد لعدد من السيناريوهات الواقعية القابلة للإدارة، وهو شرط أساسي حتى يحقق التخطيط للسيناريوهات الفائزة المرجوة. في نهاية المطاف، يمكن اعتبار الابتكار المسبب للاضطراب عملية حيوية تحتاج بذورها إلى الوقت وكثير من الماء، وإلى أرض خصبة للإنبات. ولا يجب أن ننسى ذلك عند تخطيط السيناريوهات، فهو يلعب دوراً أساسياً في تطوير سيناريوهات واقعية ومستنيرة ومفيدة من أجل الاستعداد للمخاطر، واقتناص الفرص التي تلوح في الأفق.

ومن هذه النقطة انطلقت تكنولوجيا النفط الصخري نحو التطوير الذي كان بطيئا في بادئ الأمر ثم ازدادت سرعته تدريجيا. وفي مطلع القرن الحادي والعشرين، حيث سنوات ارتفاع أسعار النفط، شهدت هذه التكنولوجيا نموا كبيرا وباتت قادرة على تغيير قواعد اللعبة كما الحال اليوم.

2- الجدوى الاقتصادية: لن ينجح الابتكار من دون وجود جدوى اقتصادية واضحة. وتعتبر صناعة الطاقة، بمخاطرها الجمة ومشاريعها الاستثمارية الهائلة، أبرز مثال على ذلك. فمنذ بدء استخدام الحفارات التي تعمل بالبخار في سبعينيات القرن التاسع عشر، وحتى تطوير تقنيات حفر المياه شديدة العمق والنفط الصخري في أوائل القرن الحادي والعشرين، شهد الابتكار في مجال النفط والغاز تحسناً ملحوظاً عندما كانت أسعار النفط السائدة مرتفعة. غير أنه يحدث، في بعض الأحيان، ألا تكون الجدوى الاقتصادية مدفوعة فقط بأحوال السوق وإنما قد تكون بتحفيز حكومي. فعلى سبيل المثال كان التطور السريع الذي شهدته مصادر الطاقة المتجددة ذات التكلفة التنافسية خلال العقدين الماضيين يعود إلى وضع الكثير من التنظيمات، وتوجيه الكثير من الإعانات المالية للمحافظة على البيئة. وأفضى ذلك إلى تحفيز الابتكار في هذا المجال، والذي حقق نجاحا ملحوظا. وعلى أية حال، لا تكفي الأفكار الإبداعية وحدها لجذب الاستثمارات (الكبيرة والمحفوفة بالمخاطر في الغالب) والتي تُعبد

# THE MIDDLE EAST & AFRICA'S LEADING INTERNATIONAL TRADE EVENT FOR THE POWER INDUSTRY



POWER GENERATION

TRANSMISSION & DISTRIBUTION

LIGHTING

SOLAR

ENERGY STORAGE & MANAGEMENT



**MIDDLE EAST  
ELECTRICITY**  
ENERGISING THE INDUSTRY

6 - 8 MARCH 2018  
DUBAI, UAE

The region's leading platform for the power industry to conduct business, network and discover the latest trends.

**REGISTER ONLINE NOW  
FOR FREE ENTRY**

Co-located with



GLOBAL  
SMART ENERGY  
SUMMIT

+971 (0) 4 336 5161 info@middleeastelectricity.com www.middleeastelectricity.com

HOSTED BY

UNITED ARAB EMIRATES  
MINISTRY OF ENERGY



الإمارات العربية المتحدة  
وزارة الطاقة

STRATEGIC PARTNERS



GOVERNMENT OF DUBAI



DUBAI MUNICIPALITY



الهيئة العامة للتخطيط  
الاقتصادي

SMART UTILITY PARTNER



شركة كهرباء دبي  
Dubai Electricity & Water Authority

EXHIBITION  
PARTNER



POWER GENERATION  
SPONSOR



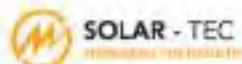
PLATINUM SPONSORS



GOLD SPONSORS



INFORMA ENERGY EVENTS



CO-LOCATED WITH



ORGANISED BY





أصبحت تكنولوجيا النفط الصخري قادرة على تغيير قواعد اللعبة

## حين يكون الابتكار سبباً في اضطراب قطاع النفط والغاز!

في هذا المقال، يقول كلٌّ من إدوارد جارسيا، المدير في شركة إيه تي كيرني، وشون ويلز، الشريك في إيه تي كيرني، إن الابتكار المسبب للاضطراب يُغيّر وجه صناعة النفط والغاز بوتيرة وحجم غير مسبوقين. ويقولان إن هناك محفزات ثلاثة تدعم عملية الابتكار؛ هي زمن التطوير، والجدوى الاقتصادية، والبيئة المواتية، وإن علينا أن نتعلم من التاريخ مدى أهمية هذه المحفزات الثلاثة، ومن ثم تقييد نطاق السيناريوهات المستقبلية المنطقية إلى حد كبير، وبخاصة في قطاع النفط والغاز.

بوصفها المنتج الأول للنفط والغاز، وهو ما يعد الآن أكبر التحديات التي تواجه منظمة «أوبك» منذ إنشائها. أما على جانب الطلب، فتعمل الضغوط الرامية لتقليل انبعاثات الكربون على تغيير سلسلة القيمة لقطاع الطاقة. إذ يستحوذ الغاز، بوصفه وقوداً نظيفاً، على حصة من السوق آخذة في التزايد على حساب النفط والفحم،

وأوقات تسليم أطول لأكثر من قرن من الزمن. وأصبح بإمكان الشركات العاملة في مجال النفط الصخري تكييف إنتاجها سريعاً ليلتزم أحوال السوق، مع المحافظة على انخفاض تكاليف الإنتاج لكل برميل بما يكفي لإكسابها ميزة تنافسية حتى مع انخفاض الأسعار بالسوق. وقد ترتب على ذلك أن استعادت أمريكا الشمالية مكانتها

على مدى العقد الماضي، أحدث الابتكار تغييراً هائلاً في طبيعة قوى العرض والطلب مما كان له أثرٌ في خلق واقع جديد لقطاع النفط والغاز. فعلى جانب العرض، دفعت تكنولوجيا الغاز الصخري دورة هذا القطاع للمضي بسرعة أكبر بعد أن كانت كافة أوجه الابتكار في مجال النفط والغاز تتوجه لتحسين الإنتاج بنفقات رأسمالية أعلى

# intersec 2018

Register online today  
[www.IntersecExpo.com/R](http://www.IntersecExpo.com/R)

January 21 – 23, 2018

Dubai, UAE

The leading trade fair for **Security, Safety and Fire Protection.**

## Show Highlights


- 1,300+ Exhibitors
- 84% International Exhibitors
- 15 Country Pavilions
- 10 World's Top Security Companies
- 5 Specialised Pavilions

[www.IntersecExpo.com](http://www.IntersecExpo.com)

## 7 Show Sections

- Commercial Security
- Cyber / Information Security
- Smart Home & Building Automation
- Fire & Rescue
- Safety & Health
- Homeland Security & Policing
- Perimeter & Physical Security



 messe frankfurt

## شركات الطاقة تتعهد بخفض انبعاثات الميثان

تعهدت شركات بريتش بتروليوم وإيني وإكسون موبيل ورييسول وشل وستاتويل وتوتال وونترشال بخفض انبعاثات الميثان التي تصدر عن أصول الغاز الطبيعي التي تديرها هذه الشركات في مختلف أنحاء العالم. واتفقت شركات الطاقة أيضا على تشجيع كافة الأطراف الأخرى العاملة في سلسلة القيمة للغاز الطبيعي، من مراحل الإنتاج إلى المستهلك النهائي، لأن تحذو نفس الحذو. وقد تم تدشين هذه المبادرة في إطار الجهود الأوسع نطاقا التي يبذلها القائمون على صناعة الطاقة العالمية للتأكيد على استمرار الدور المحوري الذي يلعبه الغاز الطبيعي في تلبية احتياجات الطاقة المستقبلية، ومواجهة مشكلات تغير المناخ، وحيث يعد غاز الميثان، المسبب للاحتباس الحراري، هو المكون الرئيسي للغاز الطبيعي، فإن دوره في التحول المستقبلي إلى خفض انبعاثات الكربون سيتأثر بمدى خفض انبعاثات الميثان. وقد وقعت شركات الطاقة الثماني وثيقة للمبادئ الإرشادية تركز على مواصلة خفض انبعاثات الكربون، وتعزيز الأداء عبر سلاسل القيمة للغاز، إلى جانب تحسين دقة البيانات الخاصة بهذه الانبعاثات، وتبني السياسات واللوائح الجيدة بشأن انبعاثات الميثان، هذا فضلا عن زيادة مستويات الشفافية. وقد تم تطوير المبادئ الإرشادية بالتعاون مع صندوق الدفاع عن البيئة، والوكالة الدولية للطاقة، واتحاد الغاز العالمي، ومبادرة استثمارات المناخ في مجال النفط والغاز، ومعهد «روكي ماونتنتز»، ومعهد الغاز المستدام، ومعهد الطاقة والموارد، وبرنامج الأمم المتحدة للبيئة. من جهته، قال تيم جولد، رئيس شعبة التوريد في تقرير توقعات الطاقة العالمية الصادر عن الوكالة الدولية للطاقة: «أظهر تحليلنا في الوكالة الدولية للطاقة أنه يتعين اتخاذ إجراء جدير بالثقة لتقليل انبعاثات الميثان لتحقيق الأهداف العالمية المتعلقة بالمناخ، وتعزيز مستقبل استخدام الغاز الطبيعي». وأضاف: «يعد التزام الشركات بالمبادئ الإرشادية خطوة مهمة للغاية، وتنتظر لأن تشهد نتائج تنفيذها وتطبيقها على نطاق واسع. إن لدينا فرصة كبيرة، إذ أن تطبيق جميع إجراءات خفض انبعاثات الميثان المجدية من حيث التكلفة في جميع أنحاء العالم، سيكون لها نفس التأثير على التغير المناخي على المدى البعيد، مثل إغلاق جميع مصانع الطاقة الحالية التي تعمل بالفحم في الصين».



شركات الطاقة ستخفض انبعاثات الميثان التي تصدر عن أصول الغاز الطبيعي



## مفكرة رجال الاعمال ٢٠١٨

### يناير/كانون الثاني

١٥ - ١٨ ... القمة الدولية لطاقة المستقبل

أبو ظبي

٢١ - ٢٣ ... معرض إنترسك

دي

### فبراير/شباط

١٢ - ١٤ ... مؤتمر ومعرض مصر الدولي للبترول

القاهرة

### مارس/آذار

٥ - ٨ ... مؤتمر ومعرض الشرق الأوسط لعلوم

الأرض - GEO 2018

المنامة

٦ - ٨ ... معرض كهرباء الشرق الأوسط

دي

## إيمرسون تتبرع بتراخيص برمجيات للجامعة الأمريكية بالقاهرة

تبرعت شركة إيمرسون بتراخيص برمجيات «روكسار آر إم إس»، ومجموعة «روكسار تمبست»، و«روكسار ميتي»، الخاصة بتحديد خصائص وهندسة أماكن النفط والغاز، للجامعة الأمريكية بالقاهرة. وتأتي هذه الخطوة ضمن مبادرة شركة إيمرسون لتعزيز مجالات العلوم والتكنولوجيا والهندسة والرياضيات (STEM) في مختلف الصناعات والأكاديميات والمجتمعات على مستوى العالم. وذكرت إيمرسون أن هذه البرمجيات تهدف إلى المساعدة في تنمية مهارات الجيل التالي من المهندسين للتعامل مع تكنولوجيا بناء نماذج المحاكاة. وسيتم تثبيت هذه البرمجيات على أجهزة مختبرات الجامعة كجزء من المناهج الدراسية. وستوفر مجموعة كاملة من أدوات الهندسة والمحاكاة ذات الصلة بالمكامل. وسوف تساعد طلاب كلية الهندسة في الجامعة الأمريكية بالقاهرة على استخدام أحدث وحدات البرمجيات التي تركز على تفسير البيانات الزلزالية، وتفسير وربط سجلات الآبار. هذا إلى جانب رسم الخرائط وبناء النماذج الجيولوجية والتشبيك. وفضلا عن ذلك، ستنظم شركة إيمرسون تدريبا أوليا على استخدام البرمجيات، وستطور برنامجا يتيح للطلاب الفرصة لخوض فترة تدريب في شركة إيمرسون. من جانبه، قال مارك داتون، نائب رئيس حلول التدفق لشركة إيمرسون أوتوميشن سوليوشنز بمنطقة الشرق الأوسط وإفريقيا: «إن تزويد الأجيال القادمة من المهندسين بأحدث الأدوات المطلوبة لفهم التخصصات الحيوية للجيولوجيا والجيوفيزياء، هو أحد الأهداف الرئيسية التي نحرص على تحقيقها في هذا القطاع المتنامي». وقال أحمد النبي، رئيس قسم هندسة البترول والطاقة في كلية العلوم والهندسة بالجامعة الأمريكية: «من دواعي سرورنا الحصول على تراخيص هذه البرمجيات التي ستؤدي دورا حيويا في تدريب طلابنا في بيئة ذات معايير موحدة على مستوى الصناعة، الأمر الذي سيساعد في تعزيز مهاراتهم في هذا المجال قبل انخراطهم في ميدان العمل».



طلاب الجامعة الأمريكية بالقاهرة سيستفيدون من البرمجيات



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



# EGYPS

EGYPT PETROLEUM SHOW

12 – 14 February 2018

Egypt International Exhibition Center

SUPPORTED BY



Ministry of Petroleum  
& Mineral Resources

**REGISTER FOR NORTH AFRICA'S LARGEST TECHNICAL CONFERENCE**  
[egypts.com/conferenceregistration](http://egypts.com/conferenceregistration)

## UPSTREAM, MIDSTREAM, DOWNSTREAM TOPICS IN FOCUS



**1,000+**

CONFERENCE DELEGATES



**150+**

INDUSTRY EXPERT SPEAKERS



**31**

TECHNICAL SESSIONS

**11** TECHNICAL CATEGORIES



ESP-Geoscience (GEO)



Gas Processing Technology and Operations (GPTO)



Power Generation Technology and Operations (PGTO)



Operational Excellence, Maintenance and HSE (OEMH)



Oil, Gas, and Unconventional Field Developments (OGUFD)



Offshore Technology and Operations (OTO)



Downstream Refining, Petrochemicals and Fertilizers Technology and Operations (DRPFO)



Drilling and Completions (DC)



Project Management, Engineering Technology and Implementation (PMEI)



Marketing and Distribution of Refined Products (MDRP)



Connected Performance Technology and Services (CPTS)

## WHY ATTEND THE EGYPS TECHNICAL CONFERENCE?

### BENEFIT

from 31 sessions across upstream, midstream and downstream segments, divided into 11 technical categories, over 3 days

### LEARN

about new trends, solutions and technical innovations from your peers

### NETWORK

with key technical decision makers, contractors, suppliers and key technical personnel in the industry

## 4 EASY WAYS TO REGISTER

Abu Dhabi: +971 2 697 0517 Cairo: +20 22 753 8401 +971 4 438 0361

[www.egypts.com/conferenceregistration](http://www.egypts.com/conferenceregistration) [egypts.conference@dmgeventsme.com](mailto:egypts.conference@dmgeventsme.com)

**CONFIRM YOUR SEAT TODAY!**

SUPPORTED BY



EGPC



EGAS



EGIT



Echem

DIAMOND SPONSORS



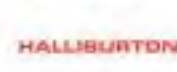
PATHEM SPONSOR



GOLD SPONSORS



SILVER SPONSOR



BRONZE SPONSOR



OFFICIAL HOTEL



OFFICIAL FREIGHT FORWARDER



OFFICIAL TRAVEL AGENT



OFFICIAL PUBLICATIONS



EGYPS IS CO-ORGANISED BY



## توقيع مذكرة تفاهم لتطوير مجمع للكيماويات في السعودية



المشروع يعزز جهود أرامكو في الاستثمار الأمثل في الصناعات التحويلية

رائد في المملكة. ووفقا لخبراء الصناعة، تعتمد الرؤية على أربعة محاور أساسية؛ وهي تعزيز قيمة إنتاج النفط الخام في المملكة عبر التكامل الشامل في سلسلة الصناعات الهيدروكربونية، وذلك لدعم الصناعات التحويلية وتعزيز قدرتها على إنتاج مواد جاهزة للاستهلاك وشبه جاهزة، وتطوير وابتكار تقنيات متقدمة، ومواءمة النمو المستدام مع برنامج التحول الوطني للمملكة.

وقعت كلٌّ من أرامكو السعودية وسابك مذكرة تفاهم لتطوير مجمع متكامل لتحويل النفط الخام إلى كيماويات في المملكة العربية السعودية، بهدف إدارة تنفيذ التصاميم الهندسية الأولية قبل اتخاذ القرار النهائي بشأن الاستثمار. ومن المتوقع أن يعالج مجمع تحويل النفط الخام إلى كيماويات ٤٠٠ ألف برميل يوميا من النفط الخام لإنتاج ما يقرب من تسعة ملايين طن من الكيماويات والزيوت الأساسية سنويا. ومن المقرر البدء في أعمال التشغيل في ٢٠٢٥.

وقال أمين الناصر، رئيس أرامكو وكبير إدارييها التنفيذيين: «يعزز هذا المشروع جهود أرامكو في الاستثمار الأمثل في الصناعات التحويلية وعدم حصرها في قطاع النقل واستغلال الفرص التجارية الكثيرة والواعدة». وتأتي هذه المذكرة بناء على الاتفاق المبدئي الموقع في يونيو/حزيران ٢٠١٦ بين الشركتين، والذي يضع إطارا لدراسة جدوى بشأن تطوير مجمع متكامل لإنتاج البتروكيماويات في المملكة. ومن المتوقع أن يُوفّر المشروع ٣٠ ألف فرصة عمل مباشرة وغير مباشرة، بهدف الإسهام في التنوع الاقتصادي في المملكة.

وقال يوسف عبد الله البنيان، نائب رئيس مجلس إدارة سابك والرئيس التنفيذي: «ستسهم هذه الخطوة في تحقيق محور مهم من محاور رؤية السعودية لعام ٢٠٣٠، الذي يركز على تحقيق اقتصاد مزدهر عبر تطوير أدواتنا الاستثمارية، وتنوع اقتصادنا، وتوفير فرص العمل للشباب السعودي». علما بأن هذا المشروع يتواءم مع برنامج التحول الاقتصادي في إطار رؤية المملكة لعام ٢٠٣٠، وسيقدم فرصا لبناء قطاع صناعات تحويلية

تشهدها أدنوك. وهي تعطي إشارة البدء للمرحلة التالية في تنفيذ استراتيجيتنا لعام ٢٠٣٠، والتي تهدف إلى تعزيز القيمة من كل مواردنا، وخلق فرص جديدة للاستثمارات المشتركة، وتعزيز قدراتنا على تنوع مجموعة منتجاتنا، والوصول إلى أسواق جديدة تمتاز بمعدلات نمو مرتفعة». وفيما تمضي أدنوك في تطوير استراتيجيتها ٢٠٣٠، تواصل أيضا تحسين عملياتها في قطاع التنقيب والإنتاج، وتقديم الحلول التي تعمل على تعزيز استخلاص النفط، مع السعي إلى تطبيق الطرق المجدية من حيث التكلفة لاكتشاف وتحديد فرص استثمار الموارد غير المستغلة، والاستفادة من وفورات النطاق التكنولوجية في الحفاظ على التكلفة التشغيلية للبرميل عند مستوى تنافسي. وأضاف الجابر: «نخطط للقيام بعدد من الاستثمارات الاستراتيجية الخارجية طويلة الأجل عبر سلسلة القيمة في قطاع الصناعات التحويلية. وسوف نركز في مشاريعنا الخاصة أو المشتركة على الاستثمارات التي تعمل على زيادة الإيرادات، وزيادة الحصة السوقية لمنتجاتنا، وتعزيز مكانتنا في الأسواق العالمية». واختتم بقوله: «تماشيا مع جهود أدنوك في استشراف وتأمين المستقبل، ستستمر في الاستثمار في مختلف جوانب التكنولوجيا الحديثة، والتي تشمل الذكاء الصناعي، وتحليل البيانات عبر معالجة البيانات الضخمة. وأيضاً الجابر: «نخطط للقيام بعدد من الاستثمارات الاستراتيجية الخارجية طويلة الأجل عبر سلسلة القيمة في قطاع الصناعات التحويلية. وسوف نركز في مشاريعنا الخاصة أو المشتركة على الاستثمارات التي تعمل على زيادة الإيرادات، وزيادة الحصة السوقية لمنتجاتنا، وتعزيز مكانتنا في الأسواق العالمية». واختتم بقوله: «تماشيا مع جهود أدنوك في استشراف وتأمين المستقبل، ستستمر في الاستثمار في مختلف جوانب التكنولوجيا الحديثة، والتي تشمل الذكاء الصناعي، وتحليل البيانات عبر معالجة البيانات الضخمة. ومن خلال تعزيز عملية التحول الرقمي وتوظيفها، سوف نتمكن من زيادة القيمة من عملياتنا في قطاعي التنقيب والإنتاج والصناعات التحويلية».



ستستمر أدنوك في الاستثمار في مختلف جوانب التكنولوجيا الحديثة، والتي تشمل الذكاء الصناعي، وتحليل البيانات عبر معالجة البيانات الضخمة

## المجلس الأعلى للبتروكيمياء يعتمد خط أدنوك

من مصادر الغاز غير المستغلة بها. كما وافق المجلس على خطط أدنوك لجذب الاستثمارات الدولية في قطاع الصناعات التحويلية، والتي من المتوقع أن تعزز مكانة أدنوك العالمية في هذا المجال. وبهذه المناسبة، قال دكتور الجابر، وزير الدولة الرئيس التنفيذي لشركة أدنوك: «إن اعتماد المجلس الأعلى للبتروكيمياء استراتيجية أدنوك الموسعة وخططها للنمو والتوسع، دليل آخر ملموس على التحولات المتسارعة التي

اعتمد المجلس الأعلى للبتروكيمياء الإماراتي خطط أدنوك باستثمارات رأسمالية تربو على ١٠٨,٩٠ مليار دولار أمريكي خلال السنوات الخمس المقبلة، وذلك لتنفيذ عدد من مشاريع وخطط النمو، والتوسع في مجال التنقيب والإنتاج والصناعات التحويلية. وقد اعتمد المجلس، المنوط به إدارة شؤون النفط والغاز، أيضا خطط أدنوك لاستكشاف وتقييم مصادر الغاز غير التقليدية في أبوظبي، خلال سعي الشركة لخلق قيمة مستقبلية



# Oil Review Oil - Gas - Petrochemicals Africa

The continent's most successful oil industry magazine



Oil Review Africa covers the oil and gas related sectors including exploration, drilling, production, pipelines, refining and gas processing across the continent. No matter what you are selling to these markets, Oil Review Africa provides an ideal editorial platform for your advertising and will make your presence felt.

Visit us at  
[www.oilreviewafrica.com](http://www.oilreviewafrica.com)

“ Many thanks for a very informative & useful magazine!  
I rate it as the best O&G magazine in Africa. ”  
General Manager West Africa, Protea Chemicals



**Alain  
Charley**  
Publishing

MENA Tel: +971 4 448 9260  
ASIA Tel: +91 80 6533 3362  
USA Tel: +1 203 226 2882  
EUROPE & AFRICA Tel: +44 20 7834 7676

e-mail: [post@alaincharley.com](mailto:post@alaincharley.com)  
web: [www.alaincharley.com](http://www.alaincharley.com)



# النشرة النفطية

Oil Review www.oilreview.me

المحررة: لويز ووترز

فريق التحرير والتصميم: برانشانت إيه باي، هيريتي بايرو، ميريام بروتكوف، كيستل دوزيري، رانجانا جي إس، رونييتا باتناك، سامنتا بين، راؤول بوتنفيدو، نكي فالساماكس، فاني فينوجوبال.

محرر المجموعة: جورجيا لويس

## الناشر: نك فوردهام

مدير مبيعات: مايكل فيريديج

مدير مبيعات المجلة: تانمي ميشرا

هاتف: +918076784483 - بريد إلكتروني: tanmay.mishra@alaincharles.com

Country	Representative	Telephone	Fax	Email
India	Tanmay Mishra	(91) 8065684483	(91) 8040600791	tanmay.mishra@alaincharles.com
Nigeria	Bola Olowo	(234) 8034349299	-	bola.olowo@alaincharles.com
South Africa	Annabel Marx	(27) 218519017	(27)466245931	annabel.marx@alaincharles.com
UK	Michael Ferridge	(44) 2078347676	(44)2079730076	michael.ferridge@alaincharles.com
USA	Michael Tomashefsky	(1) 2032262882	(1) 2032267447	michael.tomashefsky@alaincharles.com

المكتب الرئيسي:  
Alain Charles Publishing Ltd  
University House, 11-13 Lower  
Grosvenor Place  
London SW1W 0EX UK  
هاتف: +44 (0) 7834 7676  
فاكس: +44 (0) 7973 0076

مكتب الشرق الأوسط الإقليمي:  
Alain Charles Middle East FZ-LLC  
Office 112, Loft 2B  
صندوق بريد: 0-2207  
مدينة دبي للإعلام  
دبي - الإمارات العربية المتحدة  
هاتف: +971 4 448 9360  
فاكس: +971 4 448 9361

الإنتاج: كافيا جيه، نيللي مينديز، صوفيا بينتو

بريد إلكتروني: production@alaincharles.com

الإشتراكات: بريد إلكتروني: circulation@alaincharles.com

رئيس مجلس الإدارة: دريبيك فوردهام

الترجم: عز الدين م. علي - ezzeddin@movistar.es  
التصميم والإخراج الفني: محمد مسلم النجار - alnajjar722@gmail.com  
الطبعة: مطبعة الإمارات - دبي



Serving the world of business  
© Oil Review Middle East ISSN: 1464-9314

# المحتويات

## القسم العربي

### أخبار

- ٥ توقيع مذكرة تفاهم لتطوير مُجمَع للكيميائيات في السعودية
- ٥ المجلس الأعلى للبترول يعتمد خطط أدنوك
- ٧ شركات الطاقة تتعهد بخفض انبعاثات الميثان
- ٧ إيمرسون تبرع بتراخيص برمجيات للجامعة الأمريكية بالقاهرة

### تحليلات

- ٩ حين يكون الابتكار سبباً في اضطراب قطاع النفط والغاز!

### ملخص محتويات القسم الإنجليزي:

تقارير خاصة: أرامكو السعودية.

استطلاعات: التكرير والبتركيمايات، السلامة والأمن، التدريب والتطوير.

تقنيات: تحسين الإنتاج، تكنولوجيا المعلومات: التقنية الرقمية.

## ADVERTISERS INDEX

Company	Page
Abu Dhabi Ship Building PJSC*	7
AES Arabia Ltd	39
ALAA Industrial Equipment Factory Co.	38
Ansell Healthcare Europe NV	25
Bentley Systems International Ltd	51
Byrne Equipment Rental LLC	41
CompAir*	4
DMG World Media Abu Dhabi Ltd	63
Dolphin Heat Transfer (L.L.C.)	47
Dow Chemical IMEA GmbH	17
Expo Centre Sharjah	10
Hi-Force Ltd	33
Hoerbiger Ventilwerke GmbH & Co KG	45
IIR Exhibitions (MEE 2018)	59
Inmarco FZC	30
International Building Systems Factory Co Ltd	35
Jotun Paints UAE Ltd (LLC)*	5
Kaesar Kompressoren FZE	27
Karcher FZE	21
M.A. Qaiser Industrietechnik GmbH	18
MB S.p.A.	13
Messe Frankfurt Middle East GmbH	61
Mohammad Al-Ojaimi Contracting Est.	23
MSA Middle East FZE	9
National Pipe Co. Ltd	8
Raccortubi Middle East FZE	2
Reflex Marine Ltd	37
Ruths Chris Steak House (Fine Dining Ltd)	44
Sabin Metal Corporation	31
Seabed Geosolutions	11
Shree Steel Overseas FZCO	43
STAUFF (Walter Stauffenberg GmbH & Co. KG)	42
Sullivan-Palatek, Inc.	28
Suraj Limited	29
Trans Asia Pipeline Services FZC	15
Volant Products Inc.	19



# Homeland Security MIDDLE EAST

7<sup>th</sup> & 8<sup>th</sup> May 2018  
Abu Dhabi, UAE

Organised by

**Health, Safety &  
Security Review**  
Middle East

[www.hssreview.me](http://www.hssreview.me)

# Critical Infrastructure Protection



AN OFFICIAL OPENING | A THEMATIC CONFERENCE | EXHIBITOR WORKSHOPS

## A comprehensive event

The UAE's never ending construction projects increases the need for constant upgraded strategic protection plans. Homeland security is a top priority for the UAE in light of their social and economic development and growth. The UAE has doubled its spending on homeland security from US\$ 5.5bn to US\$ 10 bn.

This event focuses on risks to critical infrastructure, including a range of

potential threats, vulnerabilities and consequences of attacks and incidents. The event aims to provide both theoretical and practical approaches to assess and manage such risks.

Join us in Abu Dhabi for a unique comprehensive event where emphasis is given to learning. Attend workshops, trainings and a conference, and network with top security professionals from both the Government and private sectors.

## Confirmed speakers include:

- Arif Mohd Al Janahi  
Security Operations & Services Manager  
Security Industry Regulatory Agency (SIRA)
- Col. (R) Thafar Maaitah  
Corporate Security & Controls  
Roads and Transport Authority (RTA)
- Feras Darwich  
Information Security Specialist  
Abu Dhabi Sewerage Services Company

## Reasons to attend:

- Learn about real world protective measures in use
- Get a broad overview on protecting critical infrastructures and discuss unique solutions to improve security and resilience
- Gain a better understanding of physical and cyber threats affecting critical infrastructure
- Discuss methods to improve planning and response to physical and cyber threats
- Interact and share perspectives with industry leaders and colleagues

## Exhibitor

 **DARKTRACE**

## Official Media Partners





For information, get in touch with our team | Tel: +971 4 4489260 | Email: [info@hssreview.me](mailto:info@hssreview.me)

Website: [homelandsecurityseries.com](http://homelandsecurityseries.com)

# النشرة النفطية

العدد الثامن ٢٠١٧

UK£10, USA \$16.50

الشرق الأوسط

## حين يكون الابتكار سبباً في اضطراب قطاع النفط والغاز!

- توقيع مذكرة تفاهم لتطوير مجمع للكيميائيات في السعودية
- المجلس الأعلى للبترول يعتمد خطط أدنوك
- شركات الطاقة تتعهد بحفض انبعاثات الميثان
- ايمرسون تتبرع بتراخيص برمجيات للجامعة الأمريكية بالقاهرة

الابتكار المسبب للاضطراب بغیر وجه صناعة النفط والغاز بوتيرة وخدم غير مسبوقين  
إضافة إلى أحدث أنباء قطاع النفط والغاز عبر منطقة الشرق الأوسط.