

# TECHNICAL REVIEW

النشرة التقنية - الشرق الأوسط

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## EDITOR'S NOTE

Historically, the GCC has been open to trade but much less to foreign direct investment (FDI). Now, with the diversification of economies to fight oil price volatility, FDI is welcome in the region mainly because of the significant growth it promises. Economist Moin Siddiqi's analysis on p12 concentrates on the positive impact of privatisation and the free market. As we see international trade ties take off, the slump in the GCC air cargo and logistics business seems temporary. On p18 and p22, you will read about how the carriers are adapting new markets and technologies to build capacity again. Besides these, don't miss the product review at Middle East Electricity 2019 (p30) as well as the feature on Alain Charles Managed Events' 3<sup>rd</sup> Annual Refrigeration Conference (p54).

*At Technical Review we always welcome readers comments to [trme@alaincharles.com](mailto:trme@alaincharles.com)*

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### MIDDLE EAST

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## Briefly

### Egypt to escalate FDIs to about US\$20bn in 2021-22, Jordan follows close

EGYPT RANKED FIRST in Africa in terms of foreign direct investment (FDI) flows. Studies indicate that FDI in Egypt has been significantly picking up, with total private investment increasing by 47 per cent.

The country aims to increase net FDI to US\$11bn in 2018-2019 and to gradually escalate to about US\$20bn in 2021-2022. Similarly, Jordan's FDI grew by US\$273.3mn in 2018 as opposed to an increase of US\$265.9mn in 2017.

These figures were released at the Annual Investment Meeting in Dubai in April. According to the organisers of the show, attracting foreign investors is critical to Egypt and Jordan's economic strength as with any other country worldwide.

An industry report revealed that Egypt's real gross domestic product (GDP) will expand to 5.8 per cent in current fiscal year from around 5.3 per cent during the 2017-2018 fiscal year. Jordan, meantime, aims to boost local growth, which remains at around two per cent, through tough fiscal reforms.

### GCC construction survey reveals cautious optimism for remainder of 2019

COMPANIES IN THE GCC'S construction sector are expecting to receive more orders this year compared to 2018, according to Pinsent Mason's GCC Construction Survey. The survey reveals that 58 per cent of respondents have experienced an increase in their order books so far in 2019. According to the annual survey, Saudi Arabia is the number one market expected to deliver growth in 2019, with 55 per cent of respondents expecting the country to provide the most opportunity over the next 12 months, compared to 29 per cent in 2018.

Mark Raymont, head of the Middle East Construction Disputes at Pinsent Masons, said, "The outlook of the GCC's construction sector remains continuously optimistic, despite the hit taken by the three-year oil price slump. Whilst challenges remain in this region we anticipate an increase in infrastructure projects, particularly in Saudi Arabia."

## Saudi Arabia reveals Expo 2020 pavilion plans

SAUDI ARABIA HAS unveiled the design of its pavilion for the upcoming Expo 2020 Dubai. The pavilion will be second in size only to that of the UAE, covering an area the size of two football pitches.

The pavilion, symbolising Saudi Arabia's 'welcoming character, long heritage and unlimited drive', adopts a design that is 'distinctive and memorable', according to a statement detailing the reveal.

The facade opens like a large window into the future, soaring into the sky and reflecting a society deeply rooted in its culture with unlimited ambitions, the statement added.

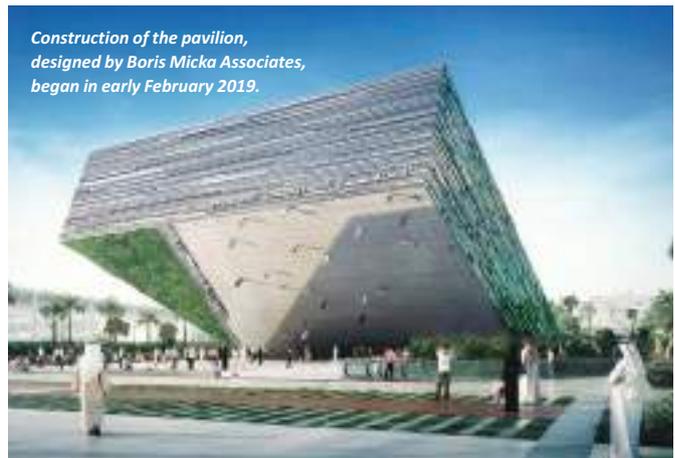
The pavilion will give visitors an immersive experience of the kingdom's transformation and its rich tradition, ambition and innovation. A path will lead visitors through displays, which highlight the country's openness to businesses and tourists, and its desire to build links and collaborate with countries to create a better future for everyone.

"This innovative design perfectly captures the determination of the kingdom to fulfil its promise of being an ambitious nation while conveying a message of dynamism and partnership with the world," said Mohammed Al-Tuwaijri, Saudi Arabia's minister of economy and planning and chairman of the supervisory committee for the kingdom's participation in Expo 2020 Dubai.

Meanwhile, consultancy firm EY has revealed that Expo 2020 Dubai will boost the UAE economy by US\$33.4bn.

In an independent report compiled by EY, the expo is predicted to add the equivalent of 1.5 per cent to UAE's gross domestic product.

*Construction of the pavilion, designed by Boris Micka Associates, began in early February 2019.*



The scale of investment pouring in to construct and host an event of this ambition, as well as goods and services consumed by the millions expected to visit and the businesses that will occupy the expo site in the legacy phase, will result in an economic dividend that will benefit businesses large and small across a range of sectors for years to come, according to the report.

More than 80 per cent of the expo built environment is planned to be retained for District 2020, and eventually, expand into a city covering more than four million sq m. District 2020 companies will be focused on technology and innovation, including a mix of corporations and SMEs. The Dubai Exhibition Centre is also expected to be a key facility on the site. District 2020 has been planned to support the UAE's future vision by supporting sustainable economic development, moving towards an innovation-driven economy and creating a business environment to help support key growth industries such as logistics and transport, travel and tourism, construction, real estate and education.

## Phase two of Jebel Ali sewage treatment plant complete

DUBAI MUNICIPALITY HAS completed the second phase of the expansion of Jebel Ali sewage treatment plant at a cost of US\$354mn and a capacity of 375,000 cu/m of water for this stage thus taking the combined capacity of Warsan and Jebel Ali plants to about one million cu/m with the possibility of future expansion of three more stages.

Dawoud Al Hajri, director general of Dubai Municipality, said that the current expansion of Jebel Ali plant is one of the important infrastructure projects for the coming years to keep pace with Dubai's comprehensive growth in all areas to cover 100 per cent areas of Dubai.

"This expansion will cover the Expo 2020 Dubai and other areas of development and can

accommodate the continued and future population growth with high efficiency. It will also support the strategy of the provision and preparedness of infrastructure.

"The combined capacity of our plants in Warsan and Jebel Ali has reached one million cu/m of wastewater per day. We have also reduced the cost of treating this cu/m of wastewater to make this the world's lowest expansion."

The expansion is characterised with a 25 per cent reduction in energy consumption and produces about 232bn cu/m of irrigation water that is compliant with international standards and supports the municipality's plan to plant trees in the city as the water would be enough to irrigate 6,250 ha of cultivated land.

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# EXECUTIVES' CALENDAR 2019

## JUNE 2019

17-18	<b>HSE Forum Bahrain</b>	MANAMA	www.hse-forum.com
18-21	<b>Energy Lebanon</b>	BEIRUT	www.energy-lebanon.com
24-25	<b>North Africa Renewable Energy Summit</b>	CASABLANCA	www.moroccorenewable.org

## SEPTEMBER 2019

3-4	<b>HSE Forum Kuwait</b>	KUWAIT CITY	www.hse-forum.com
9-12	<b>24th World Energy Congress</b>	ABU DHABI	www.wec24.org
24-25	<b>HSE Forum Oman</b>	MUSCAT	www.hse-forum.com
24-26	<b>Aluminium Expo</b>	DUBAI	www.dmgevents.com

## OCTOBER 2019

7-9	<b>Infra Oman</b>	MUSCAT	www.infraoman.com
7-10	<b>Saudi Build</b>	RIYADH	www.saudibuild-expo.com
21-23	<b>WETEX</b>	DUBAI	www.wetex.ae

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

## Aluminium Expo to debut in September 2019

DMG EVENTS IS launching Aluminium Expo in September, introducing a much-needed platform in the region for the growing industry. One of the biggest producers in the world, the UAE is a global hotspot for aluminium, exporting US\$5.63bn worth of the metal in 2017 alone.

Aluminium Expo will debut at the Dubai World Trade Centre on 24-26 September 2019, offering visitors the chance to meet suppliers from across the entire aluminium value chain, whether they provide raw materials, finished products, or the machinery that makes them.

Aluminium products are a vital ingredient across the Middle East's dynamic construction industry, which continues to demand innovative ideas and new products for its projects.

"The UAE is a well-known exporter of aluminium and with no existing platform to gather international and local professionals, it felt natural for us to launch an event for this industry," said Chris Kilbee, senior vice-president, construction for dmg events.

"It is also a perfect fit for the entire industry value chain represented by our co-located events Windows, Doors & Facades and Gulf Glass. These complement Aluminium Expo well and make this event a complete



The UAE's aluminium industry now accounts for 1.4 per cent of the country's economy and is worth US\$5.4bn, according to a new report.

destination for facades and exteriors."

A host of networking and learning events will take place alongside the exhibition which allows attendees to hear from and discuss with experts in the industry. The show aims to provide a highly valuable opportunity for professionals in the aluminium sector by gathering the best minds and the most innovative products.

Up to 10,000 professionals are expected to attend Aluminium Expo, Gulf Glass and Windows Doors & Facades in September, as they research new products and expand their supplier networks.

Meanwhile, Emirates Global Aluminium

(EGA), Mubadala and Dubal Holding officially broke ground on a new US\$270mn state-of-the-art power block at EGA's Jebel Ali smelter in Dubai. EGA is the largest industrial company in the UAE outside oil and gas, and is jointly owned by Mubadala Investment Company and Dubal Holding.

The new, highly-efficient power facility is expected to reduce greenhouse gas emissions from EGA's power generation at Jebel Ali by some 10 per cent. Emissions reductions per tonne of aluminium produced at Jebel Ali, which includes both power generation and aluminium smelting, are expected to be up to seven per cent.

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# MESC cables power region's development

The company continues to increase its growth in the Middle East while serving existing markets.

**M**IDDLE EAST SPECIALIZED Cables (MESC) is at the forefront of providing the complete solutions of industrial, instrumentation and process control cables for the energy sector and the numerous commercial development projects across the region.

Speaking with *Technical Review Middle East*, the managing director of MESC, Saad S Alazwari commented, "Our strategy follows the three pillars of growth in terms of new products, applications and geography. The growth strategy and plans to increase the MESC market share in the region is being implemented together with serving the existing markets."

The company continues its growth trajectory and supports initiatives that fuel the development of the region with reliable products across diversified sectors such as oil and gas, petrochemicals, public transport, infrastructure and commercial projects, thus positioning MESC products at the heart of every project.

MESC is currently supplying various major projects in different sectors across the UAE, Saudi Arabia, Kuwait, Bahrain and Oman while continuing to make inroads into new territories within Africa, especially in the northern and western region, as well as in Asia.

"We have always tried to remain differentiated from the competition by manufacturing



The MESC factory in Ras Al Khaimah has received a high ICV accreditation from ADNOC.

products specific to the needs of the market," said Alazwari.

Responding to a query regarding the company's growth in the UAE, he mentioned, "We are delighted to be a part of the great progress of the nation, consistently recognised as one

of the best providers of cables. Our factory in Ras Al Khaimah has obtained a high score in In-Country Value accreditation from Abu Dhabi National Oil Company (ADNOC)."

Alazwari expressed optimism about the future of the company in view of the various

**"We have always tried to remain differentiated from the competition by manufacturing products specific to the needs of the market."**



Saad S Alazwari is MESC's managing director.

projects in the region, including Expo 2020 Dubai, the Riyadh Metro and other developmental work in Saudi Arabia as well as the energy projects in the UAE, Kuwait and Oman that have kicked off this year. ■

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## FOR DIVERSIFIED **INFLOW**

Lower oil prices since 2014 have led most GCC states to rethink the role of foreign investors as they look to ease fiscal burdens and restructure their economies for better. Economist Moin Siddiqi reports.

Since 2000, GCC's trade in goods and services have grown at an average real rate of 7.5 per cent, surpassing global average of 3.8 per cent (IMF data).

**T**HE GULF COOPERATION Council (GCC) economies are more open to trade – as measured by the share of total exports and imports in gross domestic product (GDP), compared to foreign direct investment (FDI), where some regulatory restrictions still remain. The ratio of total external trade to gross GDP exceeded 100 per cent in 2018, well above the average of 50 per cent for emerging market economies, but net FDI inflows US\$15.5bn in 2017 were merely one per cent of regional GDP, far below southeast Asia and South America regions.

High trade openness largely reflects the region's vast hydrocarbon resources, mostly exported and import-reliant domestic

production. Since 2000, GCC's trade in goods and services have grown at an average real rate of 7.5 per cent, surpassing the global average of 3.8 per cent (IMF data). Non-hydrocarbon exports rose from under a fifth of non-oil economy in 2000 to one-third in 2017, though they constituted a modest share of global non-oil trade. This growth owes much to the downstream industries – petrochemicals, aluminium and refined products. SABIC of Saudi Arabia and ALBA of Bahrain are among the world's largest petrochemicals manufacturers and aluminium smelters.

Exported manufactured items and machinery/transport equipment make up a tiny share of the total GCC merchandise

## Trading Across Borders Indicators, 2018

	Bahrain	Kuwait	Oman	Qatar	Saudi Arabia	UAE	MENA*	OECD/ High-income
Time to Export: Border compliance (hours)	71	96	52	25	50	27	58.0	12.5
Cost to Export: Border compliance (US\$)	47	602	261	382	363	462	442.4	139.1
Time to Export: Documentary compliance (hours)	24	72	7	10	60	6	67.9	2.4
Cost to Export: Documentary compliance (US\$)	100	191	107	150	105	178	244.6	35.2
Time to Import: Border compliance (hours)	42	89	70	48	228	54	105.4	8.5
Cost to Import: Border compliance (US\$)	397	491	394	558	779	678	536.0	100.2
Time to Import: Documentary compliance (hours)	60	96	7	72	90	12	75.5	3.4
Cost to Import: Documentary compliance (US\$)	130	332	124	290	390	283	269.0	24.9
Global Ranking; 1-198 Countries	77	159	72	97	158	98		

\* The Middle East and North Africa region's average. / The advanced economies belonging to The Organisation for Economic Cooperation and Development.

Source: World Bank Doing Business 2019 Report.

exports, except Bahrain and the UAE. Thus, despite the ongoing diversification drive, petroleum dollars in 2000-17 comprised about 42, 65, and 80 per cent, respectively, of GCC's total GDP, exports and government revenues (IMF data). Whilst the UAE is the most diversified of GCC members, Kuwait remains the least diverse.

Christopher Davidson, a visiting fellow at Leiden University College in The Hague, said, "The concept of high modernism applies well to the UAE. The leadership is willing to take a bet on new ideas and new technologies to

advance the country's wider prosperity."

Though most GCC countries are capital-rich, greater FDI inflows facilitate access to external markets and inject better managerial/technical expertise, thereby enhancing labour skills and productivity. Samba Financial Group notes, "If the GCC states want to achieve their reform goals then they will need FDI. Without it, they're never going to break the old model of the state being the key driver of the economy." But inflows to GCC region have been almost continuously declining since the peak of

US\$60.1bn in 2008 (UNCTAD data).

### Existing barriers and limitations

The UAE also ranks high on the World Bank's Logistics Performance Index – above industrialised nations' average, while Bahrain and Kuwait lag behind (Figure 2). However, some constraints are common across the region, namely time and cost of border and documentary compliance, relative to foreign trade (Table 1). Tariffs are quite low (five per cent) on most imported goods, but prevalence of non-trade barriers varies widely in the GCC.

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According to the 2017 Global Competitiveness Index, UAE is the least restrictive in terms of NTB i.e. quotas, subsidies, and levies with Kuwait being most restrictive.

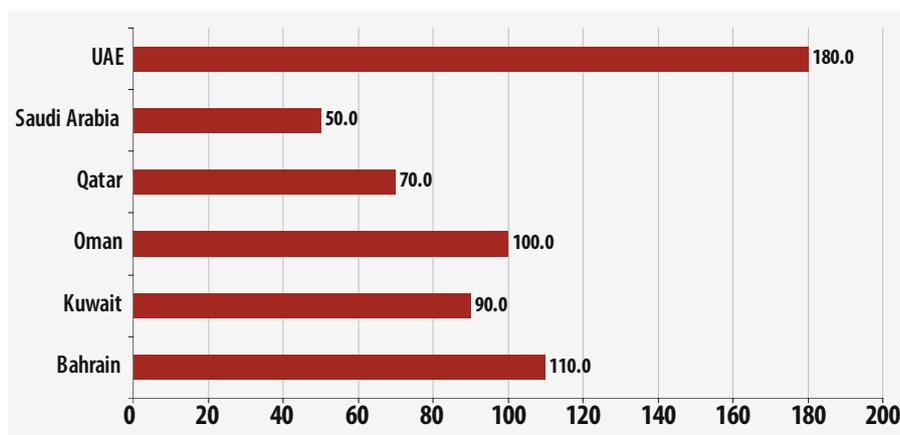
Furthermore, indicators of economic complexity (i.e. the share of knowledge-intensive products in the export basket), diversity and export quality (i.e. value-added) are low compared to other emerging markets. This explains why GCC's participation in the global value chains (GVCs) is small. Non-oil exports are heavily concentrated (mostly chemicals and related products). However, the region – despite low diversification and sophistication of exports – holds comparative advantage in several primary commodities; Saudi Arabia in plastic and rubber exports, Bahrain and Oman (metals and minerals) and the UAE (stone and glass). Oman is the world's largest exporter of gypsum.

FDI inflows are inconsistent with GCC's economic potential and confined to specific sectors and only two countries. Reflecting their size, Saudi Arabia and the UAE accounted for four-fifths of total 2017 FDI stock in GCC-bloc (Figure3). Further, three sectors: real estate, chemicals and petroleum had received 60 per cent of total regional FDI inflows over 2012-16 (Figure4). The US and India are major investors – accounting for a quarter of FDI inflows in recent years. The UAE also made large investments into other GCC countries.

Openness to foreign entry outside the special economic zones varies widely among member-states, with the UAE and Bahrain labelled most liberal, while Saudi Arabia and Kuwait are the most restrictive. Strict controls exist on foreign ownership of businesses and real estate; non-GCC citizens may not own land in Kuwait. The UAE, however, recently announced major relaxation of foreign ownership laws and similar controls were lifted by Bahrain in 2016, which allowed full foreign ownership of businesses except for strategic sectors.

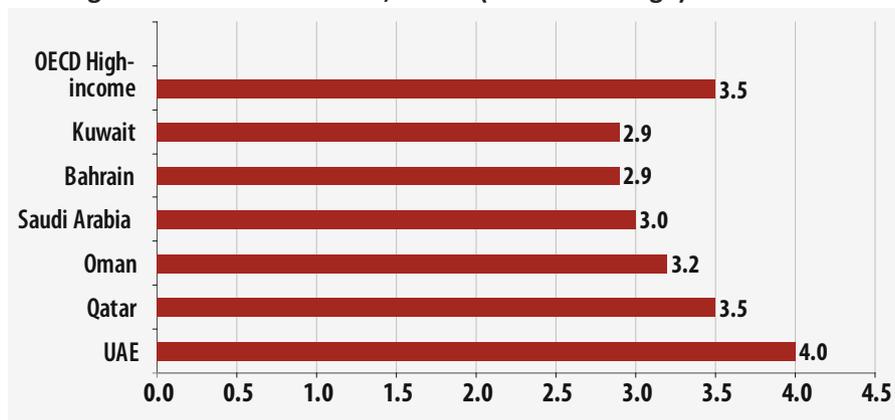
Public sector dominance in GCC-bloc is not conducive for trade and FDI, according to some regional watchers. Important

### GCC Countries' Trade Openness (sum of non-oil exports and total imports as per cent of non-oil GDP), 2017



Source: International Monetary Fund staff calculations.

### GCC Logistics Performance Index, 2018 # (1=Low to 5=high)



# The World Bank's logistics performance index is based on weighted average of a country's score on six variables: customs, infrastructure, international shipments, logistics competence, tracking/tracing and timeliness.

Source: World Bank, World Development Indicators.

sectors like hydrocarbons, electricity, transport and, to some extent, telecoms are state-owned, hence protected from foreign competition. Preferential treatment given to parastatals and monopolies engaged in the public procurement process creates an 'uneven' playing field and deters inward FDI. The GCC states are not signatories to the World Trade Organisation (WTO) government procurement code.

### Improvements to FDI regimes

The GCC states have implemented reforms to entice private sector development by cutting red tape and through public-private partnerships (PPPs) and privatisation. All have opened 'one-stop' registration, and, in some cases, using e-government technologies. Other reforms include expediting customs processes (Bahrain, Oman and Saudi Arabia), protecting minority investors (Bahrain, Saudi Arabia and the UAE) and improving bankruptcy procedures (the UAE). Kuwait's new FDI law offers tax benefits, customs duties relief, land allocations and permission to recruit required foreign labour while, Oman's incentives include a five-year renewable tax holiday and subsidised plant facilities and utilities.

Foreign investors enjoy fiscal incentives, exemptions from import duties on raw materials and equipment, plus 'duty-free'

**Restrictions on foreign portfolio are also changing rapidly as GCC states look to attract capital into their markets to finance privatisations and help local champions to develop into multinationals.**



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access to other GCC markets – whose combined GDP for 2019 is estimated by the IMF at US\$1.73 trillion. Most have created special economic zones (SEZs) and free-trade zones at strategically located ports, with supportive infrastructure and independent-liberalised regulations. The UAE has over 20 SEZs, which allow full foreign ownership, plus 100 per cent tax exemptions and repatriation of capital/profits. Free transit zones are used in Bahrain, Kuwait and Oman to promote trade and FDI.

Privatisation is slowly gathering pace and PPP initiatives are underway in various sectors. Saudi Arabia intends to privatise 16 sectors (including 27 airports) and much of the UAE’s public services are slated for privatisation. Oman also declared that many state-owned energy companies would be sold-off. However, IMF cautioned that divestment process remains difficult, “due to the long history of strong state intervention in many industries and the implicitly assumed responsibility of the state as the employer of first resort for nationals”.

**Accelerating structural reforms**

The GCC as a whole needs to attract higher levels of diversified FDIs and increase non-oil exports. The IMF noted, “Policy priorities are to upgrade human capital, increase productivity and competitiveness, and reduce remaining barriers to foreign trade and investment.” It’s policy paper “Trade and Foreign Investment – Keys to Diversification and Growth in the GCC” (December-2018) advised continuous reforms in the following areas:

- \*Enhance the business climate by further liberalisation and deregulations, strengthening corporate governance and cutting red tape on mobility of foreign workers to increase competition;

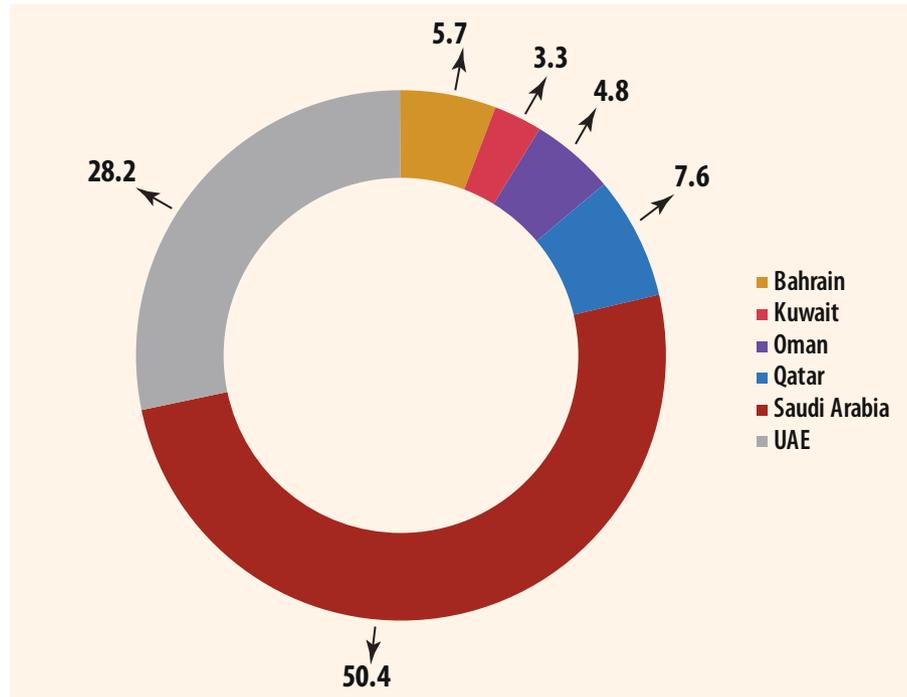
- \*Further reduce non-tariff barriers by automating border procedures and streamlining administrative processes for issuing permits;

- \*Efficient legal frameworks related to disclosure, accountability and dispute resolution, as well as enhancing minority investor’s protection;

- \*Implement labour market reforms to raise productivity in order to reduce unit labour costs and boost non-oil sectors’ competitiveness;

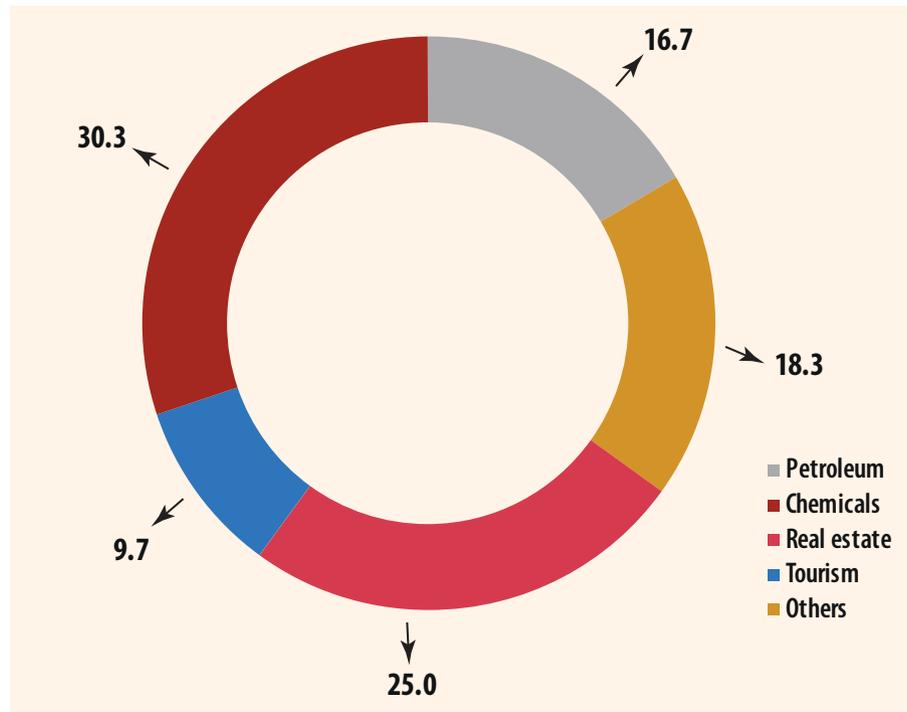
- \*Strengthening the skills of nationals by investing in training and science, technology, engineering and mathematics fields. A qualified workforce is prerequisite in transition to production and export of more sophisticated goods and services, thus increasing export diversification.

**GCC Cumulative FDI Stock/US\$461.1bn, 2017 (per cent of total)**



Foreign direct investment (inward) stock is the value of capital and reserves in the economy attributable to a parent enterprise resident in a different economy. It represents the value of foreign investors’ equity in and net loans to local enterprises. Source: UNCTAD World Investment Report 2018.

**FDI Flows to GCC-Bloc by sector, 2012-16**



Source: Arab Investment and Export Credit Guarantee Corp, 2017.

In sum, GCC economies are pursuing further diversification to achieve robust growth and over longer-term ‘parity’ with OECD countries.

Boosting non-oil trade and private

investment is pivotal to overall success of reform agendas. Broadening and upgrading export bases can help integrate GCC-bloc into GVCs, thereby realising the region’s export and FDI potentials. ■



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*More than 1,100 tonnes of food including fruits, vegetables, fish and meat, were transported every single day by Emirates SkyCargo in 2018.*



# Freight take-off slow but steady

Photo Credit: Wikimedia Commons

Global trade uncertainties have reined in demand for air cargo in recent months, but it has not deterred the Middle East region's largest carriers. Martin Clark reports on the current conditions.

**M**IDDLE EASTERN AIRLINES' freight volumes contracted by 1.6 per cent in February 2019 compared to the same month a year before.

That's according to statistics from industry group, the International Air Transport Association (IATA).

Freight capacity, however, increased by 3.1 per cent, it noted. The region overall accounts for about 13 per cent of the global market share.

"A clear downward trend in seasonally-adjusted international air cargo demand is now evident with weakening trade to/from North America contributing to the decrease," IATA noted in a commentary.

Demand was down in almost all other regions as well though, with the notable exception of Latin America.

While this region's demand expanded by 2.8 per cent, its air freight capacity ballooned by 14.1 per cent, easily outstripping all other parts of the world.

According to IATA, the subdued global figures reflect the "negative impact of the

softness in global trade" and ongoing trade tensions that continue to weigh upon the industry.

For the Middle East carriers, following signs of an improvement in the middle of last year, a clear downwards trend has established itself over the past six months, the airline body adds.

## Emirates SkyCargo

Between January and December 2018, Emirates SkyCargo, the freight division of Emirates, flew close to 2.6mn tonnes of cargo across six continents — from fruits and vegetables to space satellites, from pharmaceuticals to domestic pets.

During the past year, the airline expanded its network to include four new destinations, launching freighter services to Maastricht and extending its belly hold capacity to Santiago, Stansted and Edinburgh helping customers in these locations connect with partners in different parts of the world and increasing trade opportunities.

In addition to its direct destinations, it is able to connect businesses in other regional destinations through its extensive global trucking network.

Last year, close to 158,000 tonnes of cargo were transported by truck to or from a destination served by Emirates SkyCargo.

At its Dubai hub, the 24/7 bonded trucking service connecting the carrier's cargo terminals in Dubai International Airport and Dubai World Central moved over 300,000 tonnes of cargo during 2018.

From its start in 2014, the service has transported more than one million unit loading devices (ULDs) between the two airports.

## Saudia Airlines Cargo

Saudia Airlines Cargo Company has likewise been extending its network and partnerships to upgrade coverage.

SkyTeam Cargo, the world's only cargo alliance, now includes the Saudia Airlines Cargo, which becomes the group's 12<sup>th</sup> member.

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The development will see SkyTeam Cargo significantly increase its footprint across the Middle East, while Saudia Cargo and its customers will benefit from a global network covering more than 900 destinations in more than 175 countries.

“Joining SkyTeam Cargo means our valued customers will benefit from an enhanced product offering and a comprehensive global network,” said Omar Hariri, chief executive of Saudia Cargo.

“In turn, we will support the wider alliance by extending its reach across the Middle East, Africa and Indian subcontinent via our hubs in Jeddah and Riyadh.”

The airline has simultaneously been building up its local network as well.

It recently signed a joint agreement with King Abdullah Port at King Abdullah Economic City, outside Jeddah, to boost collaboration and establish a secure logistics operations zone.

The pact covers transportation, logistics operations, supply and information exchange.

“The agreement plays a pivotal role in the flow and the transportation of cargoes from the port to Saudia Cargo station at King Abdulaziz International Airport and vice-versa,” Hariri was quoted as saying in the *Saudi Gazette*.

It is also linked to plans by King Abdullah Port to establish an Air-Sea-Air cargo corridor with the surrounding airports to ensure the smooth flow of cargo to the port and re-export by the air in line with Saudi’s Vision 2030, which aims to turn the kingdom into an international logistics hub.

### Etihad Cargo

It is now 15 years since Etihad Cargo was established as the cargo division of Etihad Airways, and it has wasted no time in squaring up to its rivals.

As well as rolling out its network and services, it is also investing in technical



Photo Credit: Wikimedia Commons

*Saudia Airlines Cargo won two awards at Air Cargo Africa 2019 for its efforts in intensifying cargo capacity, fostering its operations and promoting innovative freight solutions, offering wide-body freighter capacity in addition to an ample belly-hold capacity on board Saudi Arabian Airlines.*

capacity to create a more seamless link with customers.

Last year, that meant fully migrating to SPRINT, an IBS iCargo technology platform, meaning customers no longer need to spend valuable time on a call or writing an email to book a shipment.

Etihad Cargo joins a growing number of global carriers migrating their traditionally telephone and paper-based services online.

As well as digitalising processes across all critical business functions, it offers Etihad Cargo’s customers a platform to manage all their air cargo needs.

Abdulla Mohamed Shadid, Etihad Airways managing director for cargo and logistics services, called it a “milestone” for the company.

“It allows us to embrace a whole new realm of digital services to further differentiate ourselves. Customers will feel

the impact instantly.”

On the ground, the airline likewise continues to boost its integrated supply chain capabilities.

In April, it has again selected MICCO, a leader in freight management, as its road feeder services provider in a multi-year agreement, reaffirming the partnership between the two Abu Dhabi-based logistics players.

The network connects major air and sea gateways in Dubai, Abu Dhabi and Sharjah, as well as vital GCC countries including Oman, Kuwait and Bahrain.

Under the renewed partnership, MICCO will continue to provide Etihad Cargo with customs-sealed and bonded container vehicles, as well as refrigerated and non-refrigerated reefer trucks to support Etihad’s FreshForward perishable products through door services across the UAE. ■



Photo Credit: Wikimedia Commons

*Etihad Cargo joins a growing number of global carriers migrating their traditionally telephone and paper-based services online, through its new-look and revamped website, as well as digitalising processes across all critical business functions, offering Etihad Cargo’s customers a platform to seamlessly manage all air cargo needs.*

*Dow's products for liquid packaging can help preserve freshness while protecting the contents during transportation and everyday use.*

# Moving safely with Dow

**T**HE NUMBER OF goods which are lost or damaged during transportation is increasing. This trend is driven by a globalised economy and societal changes, such as a growing middle class with better incomes and higher purchasing power. As a consequence, it is expected that more goods will continue to be shipped and travel longer distances. Transportation needs that call for safer, cheaper and more sustainable packaging solutions.

Responding to these needs and trends, Dow's industrial and consumer packaging solutions, help ensuring goods

are safely transported along the supply chain, improving pallet load stability and package integrity and reducing cargo failures. Consequently, human safety is improved, less goods are lost and food waste is reduced.

## Dow drivers – downgauging and sustainability

Dow's portfolio for stretch films, stretch hood, collation shrink films and heavy duty shipping sacks offer to the entire value chain essential advantages in terms of downgauging and sustainability.

Solutions for stretch film enable improved sustainability from downgauging potential and maximise material savings, all while reducing energy consumption thanks to production process optimisation.

Stretch hood film converters benefit from downgauge optimisation, lower weight solutions for higher yield per roll and EVA free solutions.

Collation shrink film applications are driven by a continuous drive to downgauge films for three-layer structures while keeping the film performance.

Heavy duty shipping sacks are experiencing a continuous drive for raw material source reduction, cutting the film thickness down to 100 µm and below. A reduction in the amount of polymer used every year, which results in significant CO<sub>2</sub> savings, while maintaining performance and integrity.



Photo Credit: Dow

Alessandro Corticelli.

## Value chain collaboration

Dow is collaborating across the value chain to enable the successful evaluation and improvement of packaging technologies and for the development of load stability solutions that meet industry requirements and standards. By working with certified testing institutes it ensures its resins contribute to superior load stability. Pallets are tested to the limit and various external stresses are applied including vibration, acceleration, jolting, temperature and humidity, according to the regulation criteria.

Dow is a member of EUMOS, an association of experts focused on cargo transport safety, including packing, storage, loading and cargo securing. Its goal is to stimulate the development of new know-how, standards and test methods related to cargo transport safety. ■

*– By Alessandro Corticelli, sales director, Dow Packaging & Specialty Plastics, Middle East, Africa and Turkey*

Photo Credit: Dow



*One of the factors to Dow's success in the industrial packaging market is its highly collaborative approach with manufacturers and converters.*



Photo Credit: masterarr2680 / Adobe Stock

# Reduce your freight footprint

The Middle East region is the strategic hub for international trade and commerce between the east and the west. Kushal Nahata, CEO at FarEye, explains how the logistics industry can help save the environment through IoT and sustainability.

**The growth of personal and freight mobility in recent decades have expanded the role of transportation as a source of emission of pollutants and their multiple impacts on the environment.**

**E**VER SINCE THE industrial revolution, there have been significant changes in the environment due to human activities. Environmental degradation due to pollution and other human activities pose a serious threat to mankind. There is a need for all industries to embrace the goal of sustainable development and commitment towards environmental protection. Government regulations and growing awareness among the people has made it imperative for businesses to come up with business strategies that incorporate sustainability goals in their agenda.

Logistics is one of the most important parts in the business value chain across all industries. The transportation of goods via different vehicles is a source of carbon emission and adversely affects the

environment. There is a growing need for players in this segment to integrate 'green' methods in their operations.

There have been significant developments in the logistics sector that have helped enterprises reduce the damages to the environment. The adoption of digital logistics has been a game-changer in this field. The use of advanced analytics and machine learning algorithms are making logistics operations much more environment friendly. The key functionalities helping the cause are:

- **Capacity utilisation:** There is a huge problem of LTL (less than truck load) in the logistics industry, which increases cost and adds more carbon to the atmosphere. Digital logistics helps in utilising the full capacity of not only trucks but also other vehicles in the fleet.

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This is achieved by the use of sophisticated algorithms. Higher capacity utilisation leads to less number of trips and subsequently leads to lower emission of greenhouse gases and pollutants.

- **Auto-routing:** The adoption of software-based auto-routing instead of traditional spreadsheet based approach is unlocking new efficiencies in the value chain. Algorithm-based auto routing provides best routes for goods transport thereby reducing the distance traversed by the fleet. It also reduces the time spent in traffic jams. This helps in reducing the fuel consumption and the emission of CO2 and other gases by a significant margin.
- **Electronic documentation:** The traditional documentation process during shipping, receiving and transit requires a lot of paper which has a direct link to deforestation. Digital logistics makes the entire documentation process automated and electronic, thereby significantly contributing to reduce deforestation by foregoing the usage of massive amounts of paper.

### Trending now

The logistics industry is set to be in the cusp of technological revolution. New breakthroughs in technologies and their rapid adoption would help industries reduce their carbon footprint and be more environmentally responsible. The noticeable trends include:

- **Electrified logistics fleet:** Logistics service providers are experimenting with the use of electric vehicles (EVs) in their fleet. Some players are using e-bikes for



Photo Credit: FarEye

Kushal Nahata is the CEO and co-founder of FarEye.

inner-city deliveries. The application of electric vehicles has been concentrated in the last mile segment as of now. The shift from hydrocarbon vehicles to EVs will significantly lower the environmental impact of logistics operations.

- **UAV/Drone:** The usage of unmanned aerial vehicle (UAV) in logistics is in nascent state. However, companies like Amazon, DHL, Google are experimenting in this field. Amazon has even started delivery via drones in its 'Prime Air' service. Drones are more efficient as they need to cover much lesser distance than on-road fleets and are battery operated. The usage of drones in the future would lower the overall environmental impact of firms in the logistics sector.
- **IoT:** Internet of Things (IoT) is an ecosystem of connected devices that

communicate in real time. Cloud-based RFID chips, GPS trackers, advanced vehicle telematics, sensors constitute IoT. The seamless flow of information would help in optimising the entire network and scheduling; reducing distance traversed and idle engine time thereby reducing greenhouse gas emission. Smart sensors placed in vehicles would help in continuously monitoring the fuel emission and help keep negative impact on the environment in check.

According to *Statista*, the revenue generated by the logistics sector in the Middle East is US\$40.2bn as of 2016. The logistics industry is set to grow in both value and volume in the future. The growth in this sector also provides challenges in devising strategies to counter the environmental impact of the same. Digital logistics and the application of other emerging technologies like big data analytics, IoT, drone et al. will be necessary to devise a sustainable growth in this sector.

As per A.T. Kearney analysis, the number of vehicles on the road is expected to double from 16mn in 2016 to 30mn by 2025. The application of IoT in the infrastructure and transportation sector could potentially lower US\$117mn in fuel costs to about half by 2025 resulting in massive decrease in the greenhouse gas emission and make the logistics industry much more environment friendly.

The logistics industry is playing its part in reducing damage to the environment caused due to human activities and with the speedy adoption of smarter technologies, the future is going to get better. ■

## Expo 2020 Dubai driving UAE's logistics sector

THE TOTAL VALUE of the UAE's logistics and distribution sectors have grown to US\$20.9bn in 2017 and represent about 5.4 per cent of the US\$386.5bn economy, according to the Annual Economic Report 2018, published by the UAE Ministry of Economy.

These two sectors are growing at 7.9 per cent per annum. They are expected to drive the growth of the UAE economy till 2023, according to another report by Dubai Chamber of Commerce and Industry.

"Real GDP of the UAE's non-oil sector is projected grow at an average rate of 4.1 per cent between 2019 and 2023, compared to 2.8 per cent growth recorded in the 2014-2018 period. Momentum behind the UAE's GDP growth over the next five years will likely be led by the country's transport and logistics sector which is set to record GDP growth of 7.9 per cent," Dubai Chamber said in its report.

Meanwhile, the build-up to Expo 2020 Dubai is driving a boom in the UAE's logistics centre, according to experts from Dubai-based Gulf Pinnacle Logistics.

With a year and a half left for the inauguration of Expo 2020, 56 per cent of all contracts have gone to SMES, while 26,000 companies

from 150 countries have applied to be involved in the event.

"With foreign companies get contracts in the UAE, they need professional support of logistics specialists with wide local and international networks to move their set-up and equipment to the Gulf country," said Shailesh Dash, chairman of Dubai-based Gulf Pinnacle Logistics.

"Contractors of Expo 2020, which is extraordinarily big in magnitude, therefore rely on reputable and experienced logistics players to become their strategic and operational partners," he added.

Rodney Viegas of GPL, noted that the increased momentum of Expo 2020 preparations has led the UAE to rank first in the region and third globally in the 2019 Agility Emerging Markets Logistics Index.

"Logistics is witnessing a business boom, when other sectors are observing slow growth," he said. "Expo 2020 is expected to drive the logistics and supply chain segment even further and cement the UAE's position as a global leader in logistics."



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Photo Credit: Tungram

The Tungram  
headquarter in  
Budapest, Hungary.

# The legacy of light

**“The market is fractured and there is a huge competition, yes. But today, we are amongst the top three lighting companies in the world.”**

– J. Manoj,  
managing director (MEAT, CIS and ASEAN)

*A year ago, GE’s lighting business in Europe, Middle East, Africa and Turkey (EMEAT) was brought over by its former Hungary head Joerg Bauer. The 123-year old Hungarian company’s transaction comes a full circle after it sold the business to GE in 1990. Now as Tungram returns to the global market, the European brand is also working towards recreating its brand awareness in newly acquired markets of Middle East and Africa. It is also aiming to implement smarter lighting technologies to ensure energy efficiency – the demand of the hour.*

*J. Manoj, managing director (Middle East, Africa, Turkey, CIS and ASEAN) and Carlos Daniel (CMO and GM general lighting) in conversation with Rhonita Patnaik.*

#### **Technical Review Middle East (TRME):**

**Could you shed some light on Tungram’s re acquisition from GE Lighting?**

**Carlos Daniel (CD):** Tungram has a heritage of more than 120 years. Joerg, the former CEO of GE Lighting, brought back his family

legacy in April 2018, including GE’s automotive lighting, when GE was looking to sell the unit. The transition has been smooth and we will introduce more products but first, we are focused on rebranding the business back to Tungram.

#### **TRME: What has been a major shift since relaunch?**

**CD:** The positive reception by our existing partners after the handover has been tremendous. The change from a multinational entity to a family-oriented business can be complex but our partners realise that the operations have become much leaner and the decisions made easier. Now we are looking to build stronger partnership across the globe.

#### **TRME: Local business is important. Do you think MENA will be an accessible market?**

**J Manoj (JM):** Tungram has a good brand recall in this region for markets such as Kuwait, Jordan, the LEVANT and North

Africa. We are trying to convert this recall into a market share. Now, the GE products in stock are being sold under the Tungsram umbrella.

Today, the lighting industry is waking up to many new brands worldwide, which is why Tungsram's acquisition may not see much of a difficulty for acceptance (also because it is a known European brand). Our long-time partners are happy to go back to the legacy of Tungsram.

**TRME: How do you view the lighting industry in MENA? And the challenges and opportunities you foresee?**

**JM:** With the advent of many players in the market today, the lighting industry, in the last three years, has changed tremendously. Technology has made the entry barrier lower than before. What I mean is anybody can make an LED product today. Earlier, the engineering required skilled labour and hi-tech machines. There were limited players who enjoyed the majority of the market share. But today anyone can assemble LED lightings to suit a customer requirement.

At Tungsram, this does not worry us though. We have more than 100 years of wisdom, which no else can replicate just by assembling. The market is fractured and there is a huge competition, yes. But today, we are amongst the top three lighting companies in the world. We have to live up to the brand expectations, code compliance, ethics and we do not move away from that.

The good thing is the governments in this region are becoming aggressively 'green'. As you may be aware, lighting consumes about 15 per cent of the buildings' energy. By installing LED lighting, it is possible to reduce the carbon footprint drastically. This is why super ESCOs are pushing for it.



Photo Credit: Tungsram

*Joerg Bauer is the president and CEO of Tungsram.*

Dubai's Road and Transport Authority (RTA) continues to register a significant power saving with LED street lighting. In Saudi Arabia, about two million poles are being fitted with LED lighting. In such projects, fly by the night operators will not survive. Trust is a huge responsibility and we have been around for more than a century to prove that.

**TRME: What are your plans for Saudi Arabia, considering it's your biggest market in the region?**

**JM:** In the kingdom, we have set sights on the outdoor lighting business and projects.

Tungsram is an approved company by National Energy Services Company (Tarshid) and have good network in the local market. With the technical knowhow and a good team, we look forward to getting a big share in the market.

**TRME: How many partners do you have in MENA?**

**JM:** We have 110 partners in at least 34 countries across the Middle East and Africa.

The important markets in the MENA region are Saudi Arabia, the UAE, Kuwait and Turkey. Asia is next on our radar.

**TRME: How do you distinguish yourself from your competitors?**

**JM:** Our strength lies in the retrofit business as the existing buildings in the GCC switch from non-LED to LED for energy savings. Another area of Tungsram expertise is outdoor/street lighting. According to reports, more than US\$100mn worth of tenders in this region will be focused on outdoor lighting. So we will continue to focus in that space with the legacy of GE and strong network of partners. I believe we have a strong chance to become one of the preferred brands in this region.

**CD:** I think the big differentiator is that we take our partnership very seriously. In other regions, some of our competitors are vertically integrating their business, making them compete with their own distributors. But we support our distributors in doing business better.

**TRME: Can you talk about your participation at the Middle East Electricity show in Dubai?**

**JM:** MEE is the biggest event in the electrical sector. We meet many of our partners here who also deal in other components such as switchgears, wiring accessories and cables. As the main Lighting Sponsor, we want to reaffirm our focus on this market and how serious Tungsram is. The baton has passed on from GE to Tungsram but we are the same team with the same passion and efficiency. ■



Photo Credit: Tungsram

*Tungsram's global team at Middle East Electricity 2019 in Dubai. Manoj is second from the right in the front row.*

# Guiding the way

Beacon EST is bringing innovations to the Middle East from around the globe.

**W**ATER IS AT the centre of economic and social development, and its security is among the top global risks. The Middle East and North Africa (MENA) is the most water-scarce region in the world, with over 60 per cent of the region's population living in areas with high or very high surface water stress, compared with a global average of about 35 per cent.

Then there is the rising electricity demand. According to a recent report, by 2050 the electricity demand in the Middle East will treble. With power subsidy no longer a luxury in many countries in the region, electricity savings is a top priority for users.

According to DNV GL's transition outlook, solar PV will be the dominant source of energy in MENA, generating 39 per cent of the total supply.

Tapping this opportunity, UAE-based Beacon Energy Solutions and Technology (EST) has launched two innovations for the Middle East – solar hybrid air conditioner Atlantis Solar – and launch an air to water generator Atlantis H2O.

Improvise for the Middle East region, the Solar Hybrid Air Conditioners are already operational at a staff accommodation in Jebel Ali industrial site in Dubai. This is the largest installation of Atlantis Solar Hybrid AC in the world. In effect for a year, the initiative has helped save around US\$65,340 in electricity bills for the user.

For Sandhya Prakash, a serial entrepreneur and the founder of Beacon Energy – the official distributor of Atlantis Solar in the Middle East – this invention is nothing short of a revolution. She explains why.



Sandhya Prakash (centre) with her team at MEE 2019.

Photo Credit: Beacon EST

“The Solar Hybrid AC uses the sun's heat or thermal energy to generate pressure via thermal tubes that reduce load on the compressors. The AC has a smaller sized compressor for a higher efficiency cooling as a result. This process consumes 40-60 per cent lesser energy than a normal air conditioner. Therefore, it is a significant step to curb global warming.”

Citing the Jebel Ali Industrial project, Sandhya adds that the success has propelled Beacon Energy and we will push for more projects in the region.

The newly launched Air to Water Generator is a unique concept promoted by the company. Atlantis H2O captures atmospheric humidity and converts the air into potable water. This means two things – no desalination required and no plastic packaging of clean water.

But the inherent question remains. The Middle East is a water-scarce region so how do we ensure a regular supply of water for this system to run?

Sandhya clarifies: “The generator doesn't need water from the ground. What it requires is water vapour in the air or humidity. And there is enough humidity in a coastal area like Dubai to generate water in the system. We have had running water inside Dubai World Trade Centre with a humidity of 40 per cent. The water has been tested and approved by Dubai labs as safe for drinking.”

She further stresses that Atlantis H2O not only fulfils the water demand but also produces alkaline water for better health.

Now viable for commercial use, Atlantis H2O is available for small establishments in 20, 70 and 120 litres a day for internal use and for bigger ones in 1,000 to 5,000 litres a day for external use. It can be ordered via Beacon's website [www.beacon-energy.com](http://www.beacon-energy.com).

Beacon is not just about innovating and practical solutions but also about educating. Sandhya explains that as an energy management and solar solutions firm, Beacon's energy monitoring, audit, retrofit and solar (MARS) process works across the board from reducing power demand to producing power with its customised cost-saving approach with tried and tested solutions across 60-plus clients in UAE. ■

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# Power-packed delivery from Perkins

EU Stage V electric power engine offering at Middle East Electricity 2019.



(From left) Product marketing manager James Gardiner with regional manager (aftermarket) Rob Collard at MEE 2019.

Photo Credit: Technical Review Middle East

**A** **KEY PLAYER** in the electric power (EP) market, Perkins chose Middle East Electricity 2019 as the launchpad for the new Perkins 1706 as it opens the order book for its latest state-of-the-art platform designed to deliver maximum benefit to customers in the sector.

Improved power density is vital to the success of today's generator set manufacturers, so choosing an engine that draws the maximum power from the smallest package delivers a competitive advantage, the UK engines specialist maintained.

The Perkins 1706A-E93TAG2 produces 350kVA from a 9.3L displacement, providing superior output and performance. With 22 per cent improved power density, this market-leading product offers a reduced package size, better fuel consumption and cheaper running costs.

Key features include a state-of-the-art fuel

system, high efficiency turbocharging, improved thermal management and the latest Perkins ECM technology to enhance product performance. A cutting-edge new cooling pack design allows Perkins to still achieve the engine's full power ratings under extreme ambient conditions, so customers can be confident the engine will meet their requirements under all circumstances.

In addition to the 1706, Perkins also showcased its 1206 and a 2806, both of which offer significant power density improvements from a smaller package. With a 7L displacement, the Perkins 1206A-E70TTAG3 produces up to 275kVA and delivers 20 per cent improved power density from a 20 per cent lighter engine when compared to the previous 1506 platform.

Speaking with *Technical Review Middle East* at the show, product marketing manager James Gardiner revealed that with

a wide range of engines available in the Middle East and Africa market, Perkins has brought its Stage V engines to show that 'we are ready when the market is ready for the latest regulations'.

"At the MEE 2019 this year, we are driven by three strategies – wide selection of engines, the latest Stage V engines and aftermarket treatment and packages.

The full engine range of Stage V engines will cover Perkins 0.5-18L products, delivering a powerful 4-560kVA and is designed to ideally suit a range of mobile EP applications including light towers and rental equipment."

The first Perkins Stage V engines will be available early this year, with further products being rolled out over the next two years in line with the phased introduction of EU emission standards for mobile generator sets."



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At the show, Perkins displayed a 9.3L engine with its corresponding Stage V aftertreatment unit displayed off engine. The exhibit was accompanied by an interactive display enabling customers to explore the engine range and the different options for mounting the aftertreatment on or off the engine within a virtual canopy. The interactive display also includes information on the diesel exhaust fluid (DEF) tank such as size and location options.

“Our EP customers asked for compact and efficient aftertreatment systems to fit into a constrained space and ensure low DEF consumption, which is what we’ve delivered,” Gardiner added. “They also requested a simple solution, so our engine mounted aftertreatment (EMAT) offers an easy way to install the engine in their generator set. It truly is a plug and play solution.

“Given where these generator sets are used, reliability is paramount. We have undertaken a significant research and development programme to optimise the system, ensuring we deliver the reliability our customers demand.”

“Owning a Perkins engine goes beyond the initial purchase,” Rob Collard, regional manager, aftersales, stated, adding that Perkins is investing heavily in the aftermarket.

“One of the many benefits that we provide is the support from the distributor network and the enhanced offerings in the aftermarket

## The new Stage V emission standards, which apply to the European mobile generator set market, are a step change for a sector which has been adhering to Stage IIIA standards for more than a decade.

business. We are continuously innovating new products and those are not just for the new engines. For eg., If there is development work done on the production side of the older engines, we will update that in the aftermarket as well. So by buying Perkins Genuine Parts, you are guaranteed advanced technologies for that, which is essential to maintain your machine. Digitally, we are getting stronger with the app and the cap. The app that was launched just a year ago, including Middle East and the Africa market, has already seen a boost in the platform adoption because it is helping the customers to link back to the Perkins’ network and to the local distributors.

Perkins also recently released a major update to the Perkins My Engine App, which

now features an improved and intuitive interface.

Managing the maintenance, service and repair of one engine or a fleet of them is straightforward and simple with the Perkins My Engine App digital solution. It’s a free smartphone app, available to download from the Apple and Google app stores.

Italian and Turkish have also been added to a growing list of languages, which include English, French, German, Portuguese, Spanish and Chinese. This means that customers around the world can all enjoy the benefits of the app in their native language.

Customers enjoy the convenience and value of easy access to engine-specific information, such as build list, series, type, model, Perkins® Platinum Protection indicator, parts book, a consumable list, up-and-coming services and a completed service log. The app also provides contact details for the local Perkins authorised distributor to help owners of Perkins engines obtain expert support.

Reliability and longevity are hallmarks of Perkins products. However, at some stage in their life, certain components may need to be overhauled.

Overhauling an engine is the process of replacing key components, but retaining its core elements, such as the main engine block. The advantage of overhaul is greatly improved performance at a considerably lower cost than replacing the engine with a new one.

For customers in the EP sector, overhaul products are becoming increasingly popular. By carrying out preventative maintenance, such as an overhaul, customers can ensure they prolong the life of their engines, increase their return on investment and minimise the potential for downtime.

Perkins offers a comprehensive range of overhaul options, from the Perkins 400 Series through to the Perkins 4000 Series. The overhaul product range includes cylinder components, rotating components, valvetrain, gaskets and seals. It is complemented by an array of overhaul kits which help address some of the most common overhaul requirements. ■



Perkins manufactures a range of engines that meet the new Stage V emission standards for off-highway diesel and mobile electric power engines across the full power range.

Photo Credit: Perkins

## Resilient Ducab bounces back

RECENT ESTIMATES SHOW that the GCC currently holds a pipeline of unawarded construction, transportation and energy projects worth more than US\$2.5 trillion, which will be a huge driver for the cabling industry.

As the UAE moves to widen its industrial capabilities, Ducab is celebrating 40 years of growth and business expansion as one of the UAE's leading manufacturers.

While Ducab has achieved significant international growth in recent decades, the company believes that the future of its industrial operations must be centered on promoting research and innovation, talent development, and strengthening the regulatory framework for the cables industry. This will be especially important as the global energy sector transitions to alternative power sources and the UAE moves ahead with its national Energy Strategy 2050.

"We did not have a very good 2018 because of the reduction in demand for cables across the GCC, except for Dubai where construction projects are up and running due to Expo 2020. However, the oil and gas business has seen a significant rise because of increased investments. Our overall business looks good in 2019 and we hope to see a 50 per cent rise over the same



Photo Credit: Ducab

Andrew Shaw is very optimistic about 2019.

period last year," Andrew Shaw, managing director at Ducab, said.

"During our 40<sup>th</sup> year of operations, we are reflecting on the continual investments in facilities and people that have brought value to Ducab's customers and to the national economy of the UAE. The needs of the energy sector have evolved a great deal during this time.

"At this year's Middle East Electricity, we thank our partners for their continued trust and loyalty, while also exploring new

partnerships through which we can expand our product range, reach out to a wider geography, and build a more empowered and skilled workforce for the future."

Visitors to MEE 2019 witnessed the latest offerings from across Ducab Group's business units, including Ducab Wires and Cables, Ducab High Voltage, Ducab Metals, and Ducab Aluminium Company. Ducab is also elaborating on best practices for transmission of power generated at renewable energy sources to national power grids.

With six manufacturing facilities across four sites in the UAE, a workforce of more than 1,600 are employed in the company. Last year, Ducab broke ground on a new three-storey facility located in Jebel Ali to serve as the company's global headquarters. The project has been designed to achieve LEED Gold certification when completed later this year.

Ducab also made significant headway in international markets. Oman and Bahrain proved to be strong growth markets within the GCC last year and further afield, the company secured significant sales contracts in Egypt, Jordan, Algeria, Australia, Hong Kong, USA and the UK. Today, Ducab exports around 60 per cent of its production across business units.

## Eco-friendly LEDs from EN-LIGHT

IN RECENT YEARS, EN-LIGHT has witnessed large-scale construction activity and considerable investment by Middle East governments into the industrial and commercial infrastructure. Research has shown that the region will continue to be a major growth market for LED and smart lighting systems, in particular, with governments increasingly pushing sustainability.

To keep in sync with the growing demand for energy efficient lighting, during Middle East Electricity, EN-LIGHT brought a broad selection of LED equipment lighting that includes commercial lighting, energy saving lamps, downlights, floodlights, tubelights and spotlights, to name a few. The company is also pushing its solar LED products this year.

"Under the guidance of UAE Energy Strategy 2050, EN-LIGHT is moving towards innovation in saving energy and energy efficiency to address economic growth and energy security. As the official distributor of



Photo Credit: EN-LIGHT

EN-LIGHT at MEE 2019.

world-renowned LED lighting brands, we aim to push both businesses and consumers into choosing energy efficient LED lighting in order to decrease the environmental impact and the carbon footprint in the UAE," said Mirodil Madumarov, managing director, EN-LIGHT.

Talking about the future of the market, Madumarov believes comprehensive smart city initiatives are key indicators of the market potential, while the drop in LED costs and increased demand for energy efficient lighting have kept the market in a decidedly upbeat mood.



# Creating a cleaner world

With a power density of up to 2MW from a 78L engine, the HSK78G series from Cummins offers reliable power in extreme conditions.

**CUMMINS INC. LAUNCHED** the new HSK78G natural gas generator series during Middle East Electricity in Dubai.

Charles Knealing, assistant chief engineer at Cummins Inc, said, "It's a completely new design from the ground up. The engines are on a completely new platform and the alternator is designed specifically for the HSK series. What is unique about it is the application – it's a very versatile genset for extreme environments, for it can run all the way up to 55°C. Also, different fuels can be used for the series ranging from high point to flare gas and D type fuels. The HSK78G models run cleaner whilst delivering a high electrical efficiency up to 44.2 per cent (50Hz) and 43.5 per cent (60Hz) on a wide range of pipeline natural gas down to 70 methane number (MN) without impacting power and efficiency output."

The HSK78G generator models are suitable for a diverse set of industries from mining to manufacturing to shopping malls and hospitals, and have been designed to operate in extreme conditions while achieving a low total cost of ownership.

Muhamad Asif, EMEA marketing manager, prime power segment at Cummins Inc, further added, "As the world is adopting sustainable measures to cut carbon emissions, it's very important that the end-



Photo Credit: Cummins

*The HSK78G generator series is designed to provide reliable power, regardless of the natural gas source or the climate, including extreme heat up to a blistering 55°C and extreme altitudes.*

users understand the impact gas has on nature. The gas gensets are very close to a greener path, that's why it's the way forward for power generation."

Other benefit he mentioned is that the total cost of ownership (TCO) is better for gas than fossil fuels, especially diesel. A number of byproducts from gas can be used for other applications. Thereby, there is no wastage. "It's a lean product that is giving commercial and technical impact."

Alongside the HSK78G engine showcased on stand, an interactive touchscreen also allowed visitors to explore the complete HSK78G generator model in 360° mode, while learning more about the key features and benefits of this new series.

Celebrating 100 years in 2019, Cummins' technology has powered success around the world. The company's comprehensive portfolio delivers innovative power projects and solutions for unique power needs. ■

## STAMFORD S7 and S9 revealed at Middle East Electricity

THIS YEAR SAW the launch of the new STAMFORD S7 and STAMFORD S9, which become the newest members of the STAMFORD S-range of alternators. Both new alternators were displayed for the first time at MEE in Dubai from 5-7 March 2019.

The S-Range programme was launched in 2016 and has seen five products released in the last three years (S0, S1, S4, S5, S6) before the introduction of these new alternators.

The two brand new models build upon the success seen so far with this new range by answering the demands from the market for increased power densities, and continuing to demonstrate the market

leading capabilities that can only result from over 100 years of product innovation.

Designed using CoreCooling Technologies, the low voltage STAMFORD S7 delivers greater power density with continuous ratings up to 2.5MVA, thanks to enhanced thermal management within the machine. This optimisation also helps reduce machine dimensions and weight.

The compact design benefits from flexible feet for ease of integration into existing generating set designs, and brings with it upgraded automatic voltage regulator options plus an overall design package that also offers improved field serviceability.

The brand new STAMFORD S9 is a high

voltage product that introduces with it true Class H insulation technology. Designed, tested and validated over an extended period in partnership with insulation material supplier Von Roll, at component, subsystem and at whole machine levels, this new system can run continuously at Class H ratings of up to 5,000kVA, 13.8kV, whilst still delivering high resistance to the mechanical and thermal stresses seen in rotating machine applications.

The S9 product, built upon over 30 years' experience of STAMFORD I AvK high voltage product knowledge, also offers both weight and dimensional reductions, ease of integration into existing generating set designs, and improved field serviceability.

# Versatile Stage V mobile genset engine by Volvo Penta

ENGINE AND POWER systems manufacturer Volvo Penta unveiled its first Stage V engine for mobile gensets, the D16, at the Middle East Electricity 2019 in Dubai.

The D16 is the first in the Volvo Penta range of Stage V engines for mobile gensets, which will launch in the near future. "The D16 is just the tip of the iceberg," says Kristian Vekas, product manager for genset engines at Volvo Penta. "We are currently working on a full range of Stage V-compliant engines for mobile gensets, among various other new products. Each model can be optimised to fit our customers' unique products and operations, promising to add value to their genset businesses."

The flagship D16 is a premium dual speed engine, switchable between 1,500 rpm (50Hz) and 1,800 rpm (60Hz) and delivering 570kWm and 596kWm respectively.

It meets the CARB/EPA Tier 4 Final and EU Stage V requirements for engines above 560kW with the same hardware and software, as well as being EU RoHS2 compliant.

Together, the dual speed and combined certificate features make warehouse management easier for genset OEM customers.

Another benefit of the D16 is that it employs an SCR (selective catalytic reduction) solution only, with no need for a DPF (diesel particulate filter) or EGR (exhaust gas recirculation) system. This advanced emissions control solution cuts down on the number of components needed, which makes the D16 a neat and compact engine with lower maintenance requirements. By removing the need for EGR, the engine also delivers around three per cent better fuel economy, compared to Stage IIIA, because all the fuel burned by the engine is used to generate power in the drive shaft.

The lower maintenance requirements and lower fuel consumption combine to deliver improved total cost of ownership.

In addition, the Stage V D16 can be fitted into existing gensets to meet new emission legislation with minimal installation changes.

At the MEE, Volvo Penta also reinforced its commitment to the genset market and helping customers achieve their business goals under the theme 'Power of Independence'.

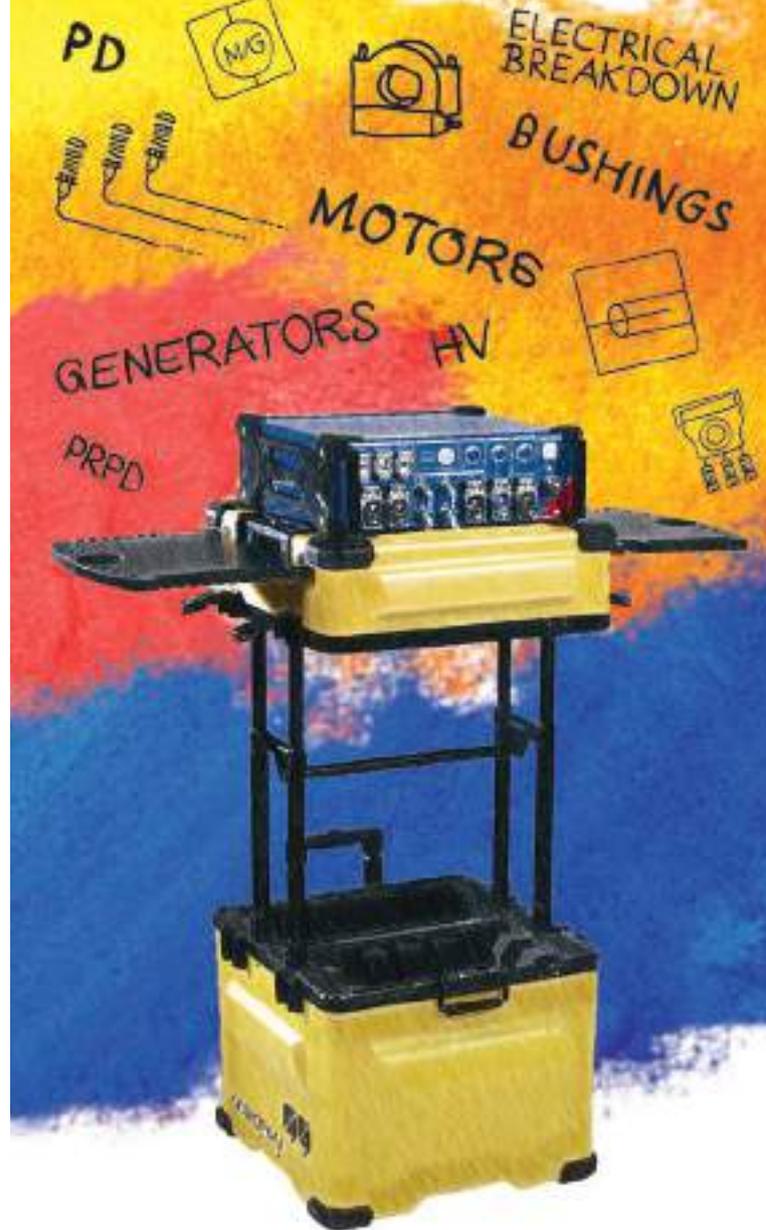
"Being an independent supplier allows us to support our customers all the way, from the design stage to installation and aftermarket service through our worldwide network of Volvo Penta dealers," says Giorgio Paris, head of the industrial segment at Volvo Penta.

"Crucially, we don't build gensets. We are a partner to OEMs, not a competitor. Our job is to build and service engines to optimise their designs and ensure their business success, no matter the application. Launching the new D16, our first model in Volvo Penta's range of Stage V engines for mobile gensets is living proof of that," Paris adds.



*The flagship D16 is a premium dual speed engine.*

Photo Credit: Volvo Penta



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Photo Credit: JCB Power Products



# JCB launches new gensets amidst growth

**J**CB POWER PRODUCTS set foot into Middle East Electricity (MEE) for the first time this year, which took place in Dubai, with the showcase of seven new open set models from its popular S range of gensets.

The gensets are aimed at a wide range of industries in the rapidly expanding Middle East and Africa markets.

All models are powered by Volvo diesel engines and feature Mecc Alte alternators, Deep Sea Electronics (DSE) controllers and Schneider switchgear.

The range is offered in both 50Hz and 60Hz frequencies, with a standby output of 275kVA to 770kVA at 50Hz and 375kVA to 750kVA standby power at 60Hz. The new models will be powered by the 7-, 13- and 16-litre engines, and coupled together with Mecc Alte alternators to deliver a genset that offers reliability and fuel efficiency.

The engines provide smooth, low vibration operation, together with low noise levels, making it the ideal solution for installation into a noise sensitive location. To provide strength and durability, a robust base frame has been designed with a 110 per cent capacity bund and a drop in fuel tank. To aid lifting and positioning, JCB has fitted integrated fork pockets and lifting points as standard.

Monitoring of operational performance is easy with a range of DSE controllers. To support customer requirements, the standard fit auto-start unit is perfect for both prime and standby use, while a DSE synchronising controller provides the flexibility to enable multiple units to be connected together to cope with peak electrical demands, as well as single machine mode to minimise fuel consumption.

As with all of the S models, these machines are designed for ultimate productivity and efficiency in many environments. For standby use, the optional static battery charger, anti-condensation heaters and block heater ensure that the generators are always ready to deliver in emergency situations. For prime running applications the enhanced alternator winding protection and advanced fuel filtration ensure maximum durability and long service life.

Talking about the participation at the show, Adam Holland, managing director, JCB Power Products, said, "With a significant growth in gensets sales in 2018, in fact more than 30 per cent, it is clear that the region is doing well, but most importantly we have grabbed attention in the region. And being here at MEE is a statement of intent for us."

JCB Power Products designs and manufactures three main generator lines, designed to meet prime applications in construction, mining, agricultural and rental sectors, as well as back-up power supply for commercial facilities, hospitals, offices and data centres. This includes the 8kVA to 712kVA, along with the container models

from 700kVA to 2,750kVA. In addition, the company offers a line of RS machines, specifically designed for the global power generation rental market. Power outputs are rated at 18kVA to 1,250kVA.

Fitted on all models, JCB LiveLink allows customers to access real-time operational information on a global basis, reducing downtime, maximising utilisation and adding to fleet security. In power generation and rental markets, where knowledge is the power that drives business success, JCB LiveLink provides customers with the working data to operate power generation equipment remotely, boosting efficiency and ensuring timely maintenance scheduling.

Apart from its products, Holland reiterated that it's the mix of power and construction equipment dealers for the JCB Power Products that ensures that the market grows.

"Our customers often tell us that they appreciate the aftermarket support and the service support that JCB is able to offer. And we are only able to offer that because our dealers provide superb technical experts in their service teams. We have a network of 17 parts warehouses across the world and one of them is right here in Dubai. The business continues to evolve every day with products like LiveLink, which can now predict services on gensets."

JCB Power Products also launched automatic transfer panels (ATP) from 25A through to 400A to support the delivery of reliable emergency back-up power. Adding to JCB's current range from 25A through to 3,150A the ATP units automatically signal to a back-up generator to start on detection of a failure in mains power or a fluctuation in mains voltage or frequency. The ATP monitors both supplies and will manage the safe switching of critical loads onto the generator supply.

The new range covers from 25A through to 400A, mirroring JCB's QS range of 20kVA to 220kVA generators. Each panel is fully compatible with many other makes of generators equipped with a two-wire auto start system, making these units very versatile.

When it comes to electricity, safety is paramount, so each ATP unit is housed in an IP35-rated electrical enclosure for both increased personnel protection, and for protection against water ingress. The new models are wall mountable for easy installation, and equipped with large, non-ferrous gland plates for safe and easy installation of cables.

Demand for power generators has been growing steadily throughout the Middle East, with JCB Power Products recording a 30 per cent increase in sales over the last three years. The company has been working closely with large contractors and rental companies in the UAE who have, until now, received more than 700 JCB rental generators to build their business. ■

Baudouin's star at the MEE show was the 16M55 engine.



# Partnering for the next generation

Baudouin continues to build on its 100 years' legacy.

**A** REGULAR EXHIBITOR at MEE for the last three years and the Gold Sponsor this year, French diesel engines manufacturer Baudouin showcased its brand new 16M55 engine, delivering power from 3,000-3,750 kVA, and the new line of industrial engines for agricultural applications.

Also displayed at the stand were three strong performers in the 4M06, 6M21 and 12M26 engines.

At the glitzy ceremony that took place in Dubai during the Middle East Electricity 2019 show, Jessica Keen, director of marketing and strategy at Baudouin speaks about the new product.

"The 16M55 is the latest product in our range, delivering high power in a very compact package. It will be available this year for critical applications such as hospitals and data centres. It is compact and power dense in the medium range,

something that very few manufacturers can provide, offering market leading power density, highly-efficient fuel consumption. The 16M55 engine is optimised for critical protection and large power projects like hospitals and data centres."

Next in line was the new range of industrial engines, showcasing the 4M11 engine, coupled to a water pump. These variable speed engines are suited to agricultural applications due to their simple mechanical injection systems and their strong tolerance to fuel quality. "With these new engines you can expect durability and excellent total cost of ownership backed by a best in class warranty. Baudouin will release eight engine platforms for this market in 2019."

For 100 years, Baudouin has manufactured the highest quality engines for marine and power generation applications. In the hostile environment of a

marine operator, reliability and durability are paramount, and Baudouin has been successfully serving this market since 1918.

It's from this marine heritage that Baudouin has established a reputation for quality, flexibility and reliability.

## The rugged choice

Today, Baudouin engines operate in some of the toughest environments around the world, and it is why marine and power generation professionals trust Baudouin to stay up and running.

"Every product includes 50°C radiators, heavy duty components, heaters and other options. The engines also have best-in-class single step load acceptance values, minimal derating at altitudes and provide transient response and operational stability allowing for unrivalled power quality," Keen continues.

Not just products but also the combined expertise in research and development, precision manufacturing, superior quality and reliability, and expansive sales and service support, make Baudouin the ideal partner in the power generation industry.

"We have recently hired new people in the Middle East to push for better business, with the excellent network of OEMs in the region. We are preferred in countries like Lebanon who trust the international players. Africa too is rising with good markets in Algeria, Egypt, Morocco and Nigeria." ■

**Today, Baudouin engines operate in some of the toughest environments around the world, and that is why marine and power generation professionals trust Baudouin to stay up and running.**



# Reliable engines for extreme performance

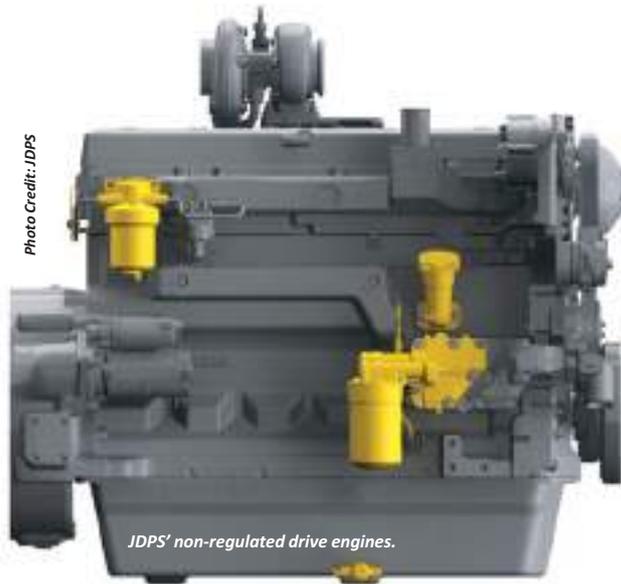
**A**T MEE 2019 in Dubai, John Deere Power Systems (JDPS) showcased various power nodes from its updated range of non-regulated generator drive engines. The extended range provides OEMs greater freedom in machine design and end-users reliable engines at an optimised total cost of ownership.

## Updated non-certified engine ranges

The updated range of non-certified engines now covers all recognised power nodes from 30kVA to 500kVA, with displacements of 2.9L through 13.6L. New features include dual frequency (50Hz and 60Hz), longer maintenance intervals and single-side service access.

"We revamped this range to meet our OEM customers' strategic and commercial requirements," said Sandrine Couasnon, marketing support manager.

Updating the range involved downsizing various power nodes, allowing generator set manufacturers to use smaller canopy sizes.



The downsized engines deliver impressive power density in a compact design. This is true for the 60kVA node, moving from a four-cylinder 4.5L to a three-cylinder 2.9L and the 120kVA, which was downsized from six-cylinder/6.8L to four-cylinder/4.5L.

## Stage V-ready engines

JDPS's dedication to the generator set market is reflected in its advanced emissions technologies for previous tiers, which provide a proven foundation for its Stage V-ready engines. The company's range of generator drive engines with ratings of 36kW to more than 500kW meets worldwide emissions regulations while delivering quick-starting, clean-

running, and fuel-efficient performance. OEM customers can rely on JDPS support as they move into the next emissions stage.

"Like the non-certified range, the Stage V-ready engines offer end-users reliable operation even in the most extreme conditions, long engine life and exceptional fuel economy," added Patrick Thil, manager OEM engine sales EAME, Asia and Australia. ■

## Transforming industry performance

PRODUCER OF ESTER fluids, MIDEL's presence in the GCC and the wider Middle East region spans twenty years, according to Steve Jones, sales director, MIDEL EMEA.

The company has experienced significant growth in the region, bolstered by its regional office.

"In fact, some companies in the region have made the use of these MIDEL fluids mandatory in certain applications," Jones said. With the products finding their way into a growing number of urban and embedded substations, MIDEL aims to make the next generation transformers safer and more reliable throughout their lifecycle.

"Deployment of MIDEL filled transformers in urban and embedded substations has been increasing across the

Middle East and this is primarily down to the range of operational savings that can be made with MIDEL, when specified as an alternative to mineral oil or even dry type transformers," he explained to *Technical Review Middle East* at MEE.

"Operationally, the reliability of the asset is also increased when a MIDEL fluid is specified," noted Jones. Asset life can be extended through the simple process of retrofilling changing the current fluid to a MIDEL ester fluid. Extending its life can help to keep maintenance costs low and defer capex replacement.

"Another example of cost savings with MIDEL might also be a reduction in the substation specifications, specifically around reduced fire suppression systems, thanks to its K-class rating. This is

recognised by international benchmarks, such as NFPA70," added Jones.

In the UAE, the electricity service providers had transformers with mineral oil located in public places and run at high temperatures. This represented a fire hazard because mineral oil has a low fire point of 170°C. Replacing it with the K-class ester transformer fluids, which has a fire point of more than 300°C substantially increases the fire safety of the installations.

According to Jones, "The ester fluids are especially suitable for use in areas with dense populations. Part of MIDEL's success in the region has been spurred by the unique properties of the ester fluid to cope in the Middle East's extreme ambient conditions."

# KD Series success pushes for diversity

KOHLER-SDMO introduces more compact and more modular canopies to optimise the performance of its gensets.

**A**FTER THE RESOUNDING success of its KD Series, KOHLER-SDMO is back with another launch – canopies for its gensets. Displayed for the first time during Middle East Electricity 2019 in Dubai, the units have been introduced to fight the challenges that come with containers such as cost and size.

Available in the industrial range from 88-110kVA, the canopies have smaller footprint and high performance. The industrial generator in new soundproof version consumes low fuel and runs in high ambient conditions. A 130kVA generator can be fitted in a new 138 module 110kVA. Made in Europe with enhanced corrosion resistance, the enclosures are guaranteed to withstand 1,500-hour exposure to salt spray (according to ISO 12944). The units are also easy to maintain and access due to the ergonomic design. With low operation costs and extended service interval from 250 to 500 hours, the certified sound level canopies guarantee power in extreme conditions like the Middle East.

New accessorised functions include easy to install plug and play options such as silencer, differential protection, engine preheating, ON/OFF key and wide range of changeover switches with control that are complete with an assembly manual to suit all the market needs.

Speaking to *Technical Review Middle East*, Philippe Forest, communication manager at KOHLER-SDMO, said that the market has been changing and clients are looking at more conscious ways to become cost and energy-efficient. Launched at MEE this year, the canopies are both hardcore and competitive to containers, he added.

Engines, which continue to be the core of the KOHLER-SDMO business, will witness a 20V global launch in 2020. Forest also revealed that a new updated version of KD Series will come online next year – a 4.2MW genset.

The latest KD Series diesel industrial gensets are powered by two compact and powerful KOHLER V16 engine models. The KD36V16 is a 16-cylinder engine with 36-litre displacement, which will power 60Hz KD1250 and KD1350 as well as 50Hz KD1250, KD1400 and KD1500. The other new engine is the KD83V16, a 16-cylinder model with 83-litre displacement to power the 50Hz KD3100, KD3300 and KD3500.

Hervé Prigent, group president – power for KOHLER-SDMO, said, “Our first wave of KD Series gensets resonated with important influencers in the data centres, healthcare, telecommunications and water treatment segments around the world.

“We are looking forward to providing these users – and many others – with additional KOHLER powered options that will deliver similar mix of durability, fuel efficiency and many other benefits that have helped KD Series to stand out in this competitive global category.”

Forest added, “Our work is the result of the good feedback from the clients that helps us adapt to vital regions as well as increase the output of the gensets. We already have 1,200 KD Series gensets installed all over the globe, and the number is rising.”



Philippe Forest, communication manager at KOHLER-SDMO, at MEE 2019 in Dubai.

Photo Credit: Technical Review Middle East

As much as products are vital, Forest asserted that the success cannot be without its partners in the region. In the Middle East last year, the manufacturer partnered with Mideast Systems and the markets is going stronger for them.

“Last year, the Middle East consisted of 30 per cent of our export market. This proves the importance of the region. What we now need to focus on also is to push the mid-size range gensets. For the last two years, KD Series was at the forefront of our strategy. Now we need to move with other market demands like the mid range size in the region.”

Africa continues to be one of the major shareholders of KOHLER-SDMO’s business. Infact, in February 2019, the manufacturer launched its first small sized genset in Nigeria. Alongside its sister company Clarke Energy, KOHLER-SDMO also assembled the first diesel generating set at their new assembly plant in Lagos, Nigeria.

“The plant has been opened in order to improve the costs and availability of the Kohler-SDMO diesel generating sets in Nigeria, whilst creating jobs in the country and expanding Clarke Energy’s existing local capabilities.

Due to import tax imposed by the government, it was identified that it was essential to set up a local facility to deliver competitiveness and profitability whilst maintaining the highest standards of manufacturing using technicians trained in the UK and France,” Forest added.

In the Middle East, Forest highlighted the success of the KD Series gensets in Saudi Arabia whereby 18 X 2,800kVA gensets helped Saudi Telecom achieve the highest data centre capacity in the region. ■

*Andrea Cavalet, contracting and after sales director - EPTA Middle East – EPTA Group demonstrates the effects of CO<sub>2</sub> refrigeration systems.*

Photo Credit: Technical Review Middle East

# Be cool, be smart

Held in Dubai at Novotel Al Barsha, the 3<sup>rd</sup> Edition Refrigeration Conference aimed at achieving 'information, education and regulation'.

**T**ECHNICAL REVIEW MIDDLE East organised the 3<sup>rd</sup> Edition Refrigeration Conference on 24-25 February focussing on topics that ranged from factors directly affecting people such as food safety and the ugly face of food-borne diseases to the design and efficiency side of cold storage.

Day one began with cold chain regulatory requirements that Ras Al Khaimah follows as per the UAE regulations. Speaking at the event, Muhammad Altaf, principal food inspection specialist, Ras Al Khaimah Municipality, talked about the importance of refrigeration in the food chain process. He also explained concepts such as enzymatic activity of the various kinds of food as well as the rate of respiration.

"Ras Al Khaimah follows UAE/GCC Standardization Organization (GSO) food standards that look into the health, safety, performance and protection of consumers as well as local regulations. We should also conduct due diligence and understand what we consume."

He added that food cold chain still needs to be tackled effectively in the region.

If the food is not refrigerated/stored properly, it can be a hot bed for pathogens.

The next speaker from Dubai

Municipality's Dubai Central Laboratory Munira Ismail Alsayesh explained that food labs play a vital role in food safety and Dubai is taking big steps in ensuring that ahead of Expo 2020, the emirate ensures best practices in the field of food safety and follows international practices in the control of import and export of food.

Dubai Central Laboratory currently has a mobile lab set up in the Global Village (Dubai), which is the hotspot of tourists from October to April every year. It is also looking to set up another one in the fruit and vegetable market by March 2019 and multiple ones at the Expo 2020 site that is expected to have a footfall of 25mn visitors over a period of six months.

From food inspection to ensuring food preservation, Arsalan Zai from Alshaya Food – UAE, gave some very relevant practical examples of how rapid cooling and cold chain affects food shelf life. "It is not ideal to keep a food in a temperature from 5-60°C for a long time as that median temperature generates a breeding ground for the pathogens that lead to food poisoning."

Zai went on to explain that rapid cooling can help preserve food longer and keeps the consumer safe. "Don't cool, keep cool," is his mantra.

Food poisoning is not a rare phenomenon. According to Mohamad Iqbal Saleh Oqlah Miqdady, division chief at Sheikh Khalifa Medical City, in a rich-resource country, every person has been affected by food poisoning. Although not fatal in most cases, the disease cannot be ignored. Refrigeration is vital in preventing food-borne illnesses. He explained that refrigerating perishable food items within two hours of acquiring can lower health risks.

Low health risks can be achieved if the cold storage is right. Design and the right partners go a long way to preserve the quality of food that is desired by all. Dr SV Kota Reddy, academic president, Manipal Academy of Higher Education, Dubai Campus, and Nadia Abdulaziz, president, National Association of Freight and Logistics (NAFL), UAE, highlighted the importance of cold chain management and maintaining energy saving strategy during design and construction. Nadia revealed that the global cold chain market is expected to reach US\$381.68bn and the majority of the demand will arise from the Middle East, especially Saudi Arabia and the UAE for food and pharmaceutical goods. She added that it is important to find the right logistics partners with financial credibility,

background check, brands managed, references, cost-efficient, account handling to ensure that products are well-preserved.

The focal point of day one was the panel discussion on ‘Safer Food – Safer Customer’ where all the panellists agreed that there are a lot of malpractices while handling food in the UAE and these need to be strictly looked into.

Day two centred on refrigerants and refrigeration technology. ASHRAE Falcon Chapter’s Sanjiv Sachdeva spoke about the various certifications and trainings that ASHRAE provides to create and deliver excellence in the HVACR industry. Following close, Bjorn Ostbye, project development manager, Lulu Hypermarkets; Ghassan Al Nimry, director, Eco Structures; and Matteo Zanesco, managing director, CAREL Middle East, spoke about future technologies to reduce energy consumption and greenhouse gas emissions of food refrigeration.

Nimry explained Eco Structures’ TermoDeck concept that integrates thermal energy storage into concrete structures. It uses concrete’s thermal mass to store energy and can be installed in new buildings and retrofitted in old ones. TermoDeck has already been applied to a few buildings in Dubai and Saudi Arabia, which has helped occupants save energy and achieve better air quality.

Zanesco moved onto the concept of DC Technology (variable speed compressor), which together with the electronic expansion valve managed by advanced algorithms inside the e-board, provides a stable regulation and optimum food preservation. He also said that DC Technology can generate a lot of data and a significant amount of opportunities for process optimisation can be generated to translate it into analytics.

Next, Andrea Cavalet from EPTA Middle East, illustrated how CO<sub>2</sub> is the next go-to natural refrigerant. Environmentally friendly, excellent heat transfer capability, non flammable and stable are some of the traits of CO<sub>2</sub>. EPTA has introduced FTE to completely substitute HFCs with CO<sub>2</sub> at any latitude and temperature in a very simple and cost-effective way. Leading features include energy efficiency and maintenance cost savings.

Cavalet revealed that the FTE technology has been selected as the best CO<sub>2</sub> technology worldwide by the European Union within the Life C4R – Carbon 4 Retail Refrigeration project, supporting environmental protection and climate action.

The last and the most experienced speaker of the day was Ostbye from Lulu who advocated against food wastage and how existing technologies are good but the number of stops for offloading is the main problem. This needs to be tackled.

The day’s panel discussion revolved around ‘Farm to fork’. The importance of IoT in a vehicle’s data log was touched upon. Also, as equipment plays a great role in maintaining food quality, qualified personnel and certified regulation are vital to operate food related HVACR system. ■



*Muhammad Altaf, principal food inspection specialist at Ras Al Khaimah Municipality on cold chain regulatory requirements and issues.*



*(Extreme left) Bjorn Ostbye, project development manager, Lulu Hypermarkets, shares his experience with the delegates at the event.*



*Munira Ismail Alsayesh, principal food microbiology specialist, Dubai Municipality, lays down the importance of labs in food safety.*



*The panel discussion on day 1.*

Photo Credit: Technical Review Middle East

# Reforms on **the rise**

Saudi Elenex fostered partnership opportunities between local and international companies.

**T**he Saudi government has recently pledged to invest US\$109bn to produce 41 GW of solar power, in line with a comprehensive plan to produce 54 GW of renewable energy by 2032.

Electricity consumption has risen at an average annual rate of 6.6 per cent between 2006 and 2016. This growth has been driven by a number of factors: an increase in income levels, population, urbanisation, strong economic growth, and subsidised electricity prices. To meet this growth in demand, the government has invested heavily in new power generating capacity. But the old model is not sustainable and the need to curb demand has become a priority. Historically electricity prices have been too low, leading to overconsumption, whilst the provision of subsidised feedstock to power plants encouraged inefficient generation. To meet rising demand, the government had to invest in new generating capacity at a high cost, putting additional pressure on the government's energy budget.

Meanwhile, the kingdom seeks US\$30-50bn in investments

by 2023 to help meet the 9.5 GW target for solar and wind energy, and the first utility-scale solar project. The 300MW Sakaka PV project – located in the AL-Jawf region – achieved a world record price of US\$0.02342/kWh. Saudi Arabia also announced that it is ready to launch its second phase of the renewable energy programme with seven solar photovoltaic energy projects that would generate 1.52 GW and direct investments worth US\$1.51bn.

The Renewable Energy Project Development Office (REPDO) of Saudi Arabia's Ministry of Energy said that the new announcement follows the previous successful one where 256 companies, including 100 local ones, expressed interest in taking part in those projects.

The kingdom aims to create over the next decade a global hub of renewable energy capability upwards of 200 GW, spanning the entire value chain from local manufacturing to project development, domestically and abroad, according to REPDO. The projects would generate energy that can serve 226,500 households and create more than 4,500 job opportunities during construction, operations and maintenance. The projects include Qurayyat (200MW), Madinah (50MW), Rafha (45MW), Alfaisaliah (600MW), Rabigh (300MW), Jeddah (300MW) and Mahad Duhab (20MW).

Keeping the momentum going, the 22<sup>nd</sup> edition of Saudi Elenex, international show for electricity, alternative energy, lighting,

**Saudi Arabia seeks US\$30-50bn  
in investments by 2023 to help  
meet the 9.5 GW target for solar  
and wind energy.**

power generation and water technology, was hosted at Riyadh International Convention & Exhibition Center from 29 April-1 May. A meeting point of more than 150 local and international companies under the same roof, the attendees got a fair chance to network with decision makers from the public and private sectors.

Mohammed Bin Suleiman Al Al-Sheikh, head of marketing, Riyadh Exhibition Company, explained: "Saudi Elenex 2019 provided an important strategic platform to introduce the successive developments in the Saudi Arabia's energy sector to the international community, especially in the field of clean and sustainable energy; which is a cornerstone of achieving the goals of the National Transformation Program 2020 and Saudi Vision 2030.

"The prospects are promising for domestic and international investors to contribute to the process of sustainable development as the kingdom looks to operate more than 17 GW of solar energy and 6 GW of clean energy from wind and geothermal energy and waste conversion to energy by next year." ■

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# IEG's power event DPE to debut in November 2019

The inaugural expo in Italy is tailor-made for the global power generation industry.

**T**HE WORLD OF energy and its safe efficient management is now enriched with a new international appointment: DPE - Distributed Power Europe, the event dedicated to "power generation" being held at Rimini Expo Centre from 5-8 November.

Organised by Italian Exhibition Group (IEG), it will be held simultaneously with Ecomondo, the expo of green technologies and circular economy, and Key Energy, the fair of renewable energy and energy efficiency.

DPE made its debut on the international scene with a preview presentation in Dubai during Middle East Electricity (MEE) 2019, which brings together the world's major producers and this year was dedicated to product innovation in the generation, distribution, storage and use of energy.

Among the companies that took part in the preview in Dubai there were numerous innovative firms that have already confirmed their participation in DPE 2019 and will contribute to making the IEG event a complete showcase for technology and components of power generators, for applications for continuous power supplies, the means for producing decentralised energy when there is no grid and peak shaving.

Mario Carraro, managing director of Mecc Alte, specialist in alternators, said, "DPE 2019 is an initiative that intends meeting the need to join forces and bring to an international showcase the best intelligence, products and service that European industry is able to field. This is why Mecc Alte has decided to take part in DPE right from its first edition."

Carraro added, "The power generation industry has always considered the entire Mediterranean area – and Italy in particular – as an important player on the global market. The Italian industry chain, from components to turnkey installations, stands out for competitiveness and passion, values that must be shared to be able to cover the final mile over the distance of global competition. Thanks to the high-level meetings and conferences being held at



Photo Credit: Italian Exhibition Group

DPE, we shall have the possibility of assessing the competitiveness of our companies on the continually evolving international market."

Marco Monsurrò, managing director of Coelmo, which since 1946 has specialised in the design and manufacture of industrial and marine generating sets covering a range from 3 to 3000kVA, was also in Dubai and stressed how DPE gives an opportunity to attract interest in the sector once again and join forces. He recalled, "The gap happened when Intel expos ended in Milan in the early 2000s, only partly filled by other events, which greatly penalised European and Italian industry and trade members. Through the years, the distributed electricity continuity sector's Italian business community has taken part in various expos, but has never managed to achieve a united profile. Now, DPE definitely represents an excellent opportunity to once more attract interest to the Italian and European, mechanical, electromechanical and electronic sectors, linked with distributed electricity generation, enabling potential clients to re-approach the country of origin of production. I hope the sector's companies become even more united and dedicate budget and resources to the growth of DPE."

At DPE 2019, it will be possible to find wide range of the latest technological innovations in Italy and Europe, also including components and product categories such as alternators, motors, panels, casing and storage systems.

DPE is the expo tailor-made for power generation trade and industry members, in the following sectors: energy (solar, wind, cogeneration, biogas, oil and gas); infrastructure and transport (railways, airports, sea maritime); real estate, residential and commercial constructions, facility management; industry, health, emergencies. The new event involves qualified professional players including specialised contractors and engineering procurement construction (EPC) companies, energy plant managers, work-site managers, installers, distributors and importers.

The first edition, which will feature the participation of numerous Italian and international trade/industry members, will be completed by a busy agenda dedicated to meetings and in-depth coverage of the sector's issues. ■

**These will be held in Hall B6 (East entrance).**  
For more information, visit [en.dpeurope.it](http://en.dpeurope.it) or email [info@dpeurope.it](mailto:info@dpeurope.it)

# Safer water with Pentair's UF technology

The technology is used to produce potable and process water, and is useful in the pre-treatment process of large seawater reverse osmosis (SWRO) plants.

**IN THE TREATMENT** of surface water to drinking water, public health and the safe removal of microorganisms has the highest priority. The next priority is usually to do this as cost-effectively as possible.

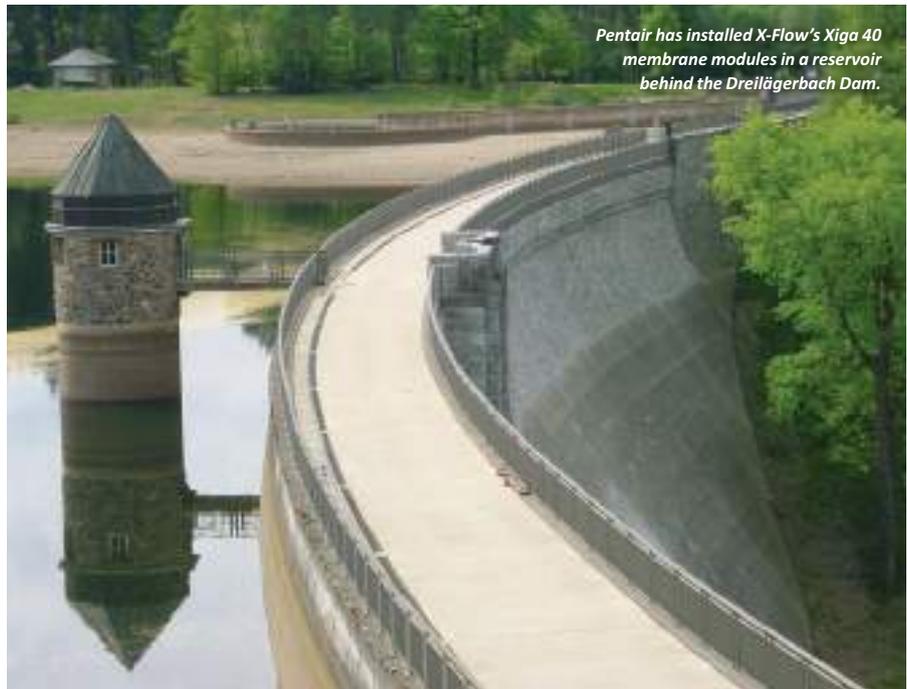
In Germany's Roetgen, Pentair X-Flow's Xiga 40 membrane modules have served twelve years in continuous operation, with only eight years expected initially.

Roetgen is a municipality on the northern edge of the Eifel. Behind a 35-metre high dam, the Dreilägerbach has formed a large reservoir for the production of drinking water. If water was not constantly flowing, this reservoir could provide water for about a month. The Roetgen waterworks produces drinking water for the metropolitan area of Aachen and is operated by the water extraction and processing company (WAG) Nordeifel mbH.

**The Xiga modules are based on hydrophilic hollow-fibre ultrafiltration membranes, composed of a PES/PVP blend.**

## Sustainable

While in some parts of the world membrane technology already plays an important role in the drinking water supply, this is not yet the case in Germany. "Our ultrafiltration (UF) plant is one of the most modern in Europe and by far the largest in Germany," says Walter Dautzenberg, technical director of WAG Nordeifel. "Every year we deliver around 35mn cu/m of drinking water to more than 600,000 people. The raw water



*Pentair has installed X-Flow's Xiga 40 membrane modules in a reservoir behind the Dreilägerbach Dam.*

Photo Credit: ProfessorX/Wikimedia Commons

comes exclusively from dams."

The main advantages of membrane technology are the efficient use of energy and the elimination of turbidity and microbiology. The addition of chemicals such as chlorine is usually not required as pathogenic bacteria are retained by the membranes. Ever smaller pore sizes serve different purposes in drinking water treatment: microfiltration and ultrafiltration for particle removal, nanofiltration and reverse osmosis for softening and desalination.

## Economy and performance

The plant was put into operation in December 2005.

Dautzenberg mentions, "Before that, we had a normal, two-stage open quick filtration system, a classic sand filter system that is typically used in Germany for the treatment of drinking water from dam water. As the planning with conventional

technology and with membrane stage had roughly the same economic impact, we opted for membrane technology, because the technology seemed more future-proof and because the cleaning performance of membranes is significantly better."

## Exceeded expectations

Membrane-based treatment is better able to handle changing raw water qualities, making operation much more stable and reliable.

The Pentair X-Flow Xiga 40 membranes have far exceeded expectations, according to Dautzenberg. "We expected eight years and they worked well for over twelve years. We never used chlorine to clean the membranes, which contributes to a longer life. The filtrate quality in the microbiological sense was always inconspicuous, which was not always the case with sand filtration in the past. This plant has significantly improved the stability of the treatment process and particle retention." ■

## BKT ready for the next stage to address the future of the tyre industry

INAUGURATED IN APRIL 2019, BKT's new European headquarters in Seregno, on the outskirts of Milan, has been completely renovated. According to the Indian company, it is not just about design. Its goal is the 'Next Level', the code name coined by BKT for its strategic project to conquer leadership. And this inauguration takes a step in that direction.

"Creating our new headquarters is more than just an architectural project, for us it also has an underlying strategic meaning," explained Lucia Salmaso, CEO of BKT Europe.

"We are constantly striving to increase our presence and market share in Europe and, above all, to get closer to our European OEM customers. Our goal is to permanently strengthen the presence of the BKT brand with OEM, and we know how to achieve it. We have already opened many doors with our aftermarket references and continue forging ahead with new opportunities. Our new headquarters has a vital role in this regard – Agriculture, industry, earthmoving, mining, port handling activities, gardening and ATV. Now that we have one of the most complete ranges on the market and an increased production capacity thanks to our Bhuj plant, we are ready to grow."

The European market has proven to be essential for the company, representing 50 per cent of BKT's turnover, which surpassed US\$900mn at a global level last year.

The new offices span an extensive space of 500 sq m, optimised for the different areas of expertise: technical interventions, logistics, original equipment management, marketing and corporate management.

The new structure also houses BKT Space, an information and technology centre for specialised tyres. It is equipped with an auditorium and training facilities for up to 50 people. BKT has also built an authentic Task Force Center to address the present and the future demands.

"We are at a watershed moment," said Rajiv Poddar, joint managing director at BKT. "Our first aim is to understand the



BKT's new European headquarters outside Milan.

Photo Credit: BKT

priorities and needs of our customers. We will be able to do it best at this new space, a totally innovative and technological work environment that we will use to demonstrate that we are capable of measuring up and even more."

### Sustainability

The increasing global demand for rubber, which will reach 17mn tonnes by 2025, will soon cause a raw material shortage. Presently, natural rubber is obtained from the rubber tree (*Hevea brasiliensis*), a plant originating from South America, which grows only in equatorial zones and now threatened by deforestation.

BKT has recognised the importance and urgency of researching into sustainable alternatives. To develop new compounding methods based on the use of rubber from the Russian Dandelion TKS, BKT has stipulated a joint research agreement with Kultevat Inc., an American company specialised in green technology. All studies and trials will be carried out in BKT's advanced R&D centre – Suresh Poddar Innovation Hub. As per the agreement, one tonne of stabilised TKS rubber will be delivered to BKT by October 2019 for specific development testing.

## ABB and Rolls-Royce to cooperate on microgrids

ABB AND ROLLS-ROYCE will partner globally on microgrid technology and advanced automation, offering an innovative, energy-efficient microgrid solution for utilities, commercial and industrial entities.

A microgrid is a small scale electric grid that combines power from distributed energy generation sources such as combined heat and power plants, diesel- and gas-powered gensets and renewable sources with batteries. The microgrid provides the overall control to coordinate these resources to meet the requirements of industrial, residential or consumer loads. Microgrids can either function off-grid, or connected to the main power grid. The ability of microgrids to seamlessly separate themselves from the main grid, in the event of a potential grid fault or emergency, is an increasingly important feature.

Reliable power supply – even during harsh weather conditions and times of peak consumption – is critical for economic growth.

Integrating renewable energy is a sustainable solution to support uninterrupted power as well as encourage clean energy use. Microgrid solutions benefit utilities, industries and commercial sites that are looking for reliable power supply as well as cost and carbon emission reduction. Microgrids enable resilient power supply even with high penetration of intermittent renewable energy sources like wind and solar. Digital automation and control systems intelligently coordinate distributed energy resources and loads for the microgrid to function efficiently.

Rolls-Royce offers the MTU Onsite Energy brand power system solutions: from mission critical, standby and continuous power to combined generation of heat and power, and microgrids.

Andreas Schell, CEO, Rolls-Royce Power Systems, said, "Combining our integrated MTU diesel and gas genset system technology and our control solutions, with ABB's modular microgrid solution, control

capability and remote service, will offer customers the combined strengths of the two world leaders in technology."

"ABB Ability e-mesh can ensure a stable power grid, even with a high share of renewable energy from various sources, working smoothly together with already installed gas or diesel engines," said Massimo Danieli, head of ABB's grid automation business line.

The solution will provide power generation asset owners a vertically integrated, unified view of their distributed energy resources and renewable power generation that is quick to deploy and that reduce operational costs. Cloud operations, site and fleet optimisation, weather and load forecast and machine learning algorithms offer infinite insights for decision-making, such as knowing where to increase investments on maintenance or how to increase revenue streams to operate assets more profitable.

## Measure and trend in one portable system

OMICRON's MONTESTO 200 combines on-line partial discharge (PD) measurement and temporary on-line PD monitoring functions into one portable system.

The IP65 rated MONTESTO 200 can be used both indoors and outdoors for insulation condition assessments on various medium voltage and high voltage electrical assets under load, including motors and generators, power transformers and power cables. Partial discharge activity is a reliable indicator of insulation condition, as it is often a sign of insulation defects that can potentially cause failure in electrical assets.



*MONTESTO 200 is a two-in-one solution for on-line partial discharge measurement and temporary monitoring on various electrical assets.*

### Plug-and-play connections

MONTESTO 200 is designed for use with a variety of PD measurement sensors from OMICRON and other suppliers, including coupling capacitors for rotating machines, bushing tap sensors and UHF drain-valve sensors for power transformers, and high-frequency current transformers (HFCTs) for power cables. These PD measurement sensors can be permanently installed and connected to MONTESTO 200 via OMICRON's Terminal Box, which is also permanently installed at the asset. This enables safe and convenient plug-and-play connections while the asset is on line to avoid unnecessary downtime during setup.

### Easy on-site PD measurements

The lightweight and compact MONTESTO 200 comes with all the necessary connection cables in a wheeled case that is easy to transport to various locations for on-line PD measurements on site. The system's wide measurement frequency range can be freely adjusted to ensure an optimal signal-to-noise ratio. PD measurement data streams can be recorded and replayed later for detailed analysis.

### Remote monitoring setup and data access

For temporary PD monitoring, users can easily mount MONTESTO 200 to a surface on or near the asset, connect it to the terminal box, and then leave it unattended. PD monitoring sessions can be quickly set up in less than 10 clicks of a mouse. MONTESTO 200 features a built-in computer that enables long-term data collection and archival. Users can access this computer from any remote location to set up monitoring sessions and to view the collected PD data with the system's convenient web interface. They can also configure the system to automatically send email alarm notifications when PD levels exceed user-defined thresholds.

### User-friendly software

Unique software features, such as 3PAR (3-Phase Amplitude Relation Diagram) and Automatic Cluster Separation, automatically separate noise from PD signals to help users quickly and reliably determine the signal source. Data from third-party sensors can also be easily integrated for correlation with the PD data.

### Various application areas

MONTESTO 200 is intended for use by asset manufacturers, maintenance teams at utilities and industrial sites, as well as service providers for convenient on-line PD measurements and temporary PD monitoring. The two-in-one solution can be used, for example, to clarify asset insulation issues during warranty periods; to periodically check insulation condition during an asset's service life; to identify insulation issues that require immediate attention; to observe assets at risk over extended periods of time; and to plan maintenance and investment based on asset condition.

OMICRON has several years of experience in the field of PD measurement, monitoring and analysis on medium-voltage and high-voltage assets with customers in the asset manufacturing, power utility and industry sectors all over the world.

## RMD Kwikform delivers safe and cost-saving ground shoring solutions to MENA

**SPECIALISTS IN FORMWORK, falsework and ground shoring solutions RMD Kwikform has launched its new range of ground shoring products into the MENA and India markets. Complimentary to existing above-ground solutions, RMD Kwikform is now equipped to offer a complete end-to-end offering to its customers.**

As groundworks projects increase, both consultants and contractors' demand for safe, simple and productive solutions have risen. In response, RMD Kwikform has continued to add new products to its ground shoring fleet in order to better

service its customers; the fleet now boasts a range of trench boxes, manhole boxes and Tubeshor props.

David White, ground shoring general manager for RMD Kwikform in MENA and India, said, "Although each of our MENA and Indian markets differ slightly, we've developed our ground shoring products to accommodate for consistent requirements. These requirements include a demand for safer solutions; a solution that is simple and easy to erect, which reduces costs and increases productivity. Our new Tubeshor prop, which is a tubular shoring solution

suitable for deep excavations, basement propping and cofferdams, embodies all of the consultant and contractors' requirements."

Tubeshor prop range is available in three diameters and various lengths. RMD Kwikform ensured that the Tubeshor had fewer components, more handling points and was primarily designed with the 'user' in mind.

With in-built safety features and the use of hydraulics for preloading, the Tubeshor can be installed, moved and dismantled safely, efficiently and in less-time than comparable systems.

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مهر الطاير



إطلاق أكثر من 60 مبادرة منطقتة بالحركة المستقبلية في دبي

تطرق الطاير أيضاً إلى أدوار الحكومات في مساندة حركة التقنيات التي تشهد تطورات سريعة، بما في ذلك سن التشريعات ذات الصلة التي من شأنها تعزيز الأمن والسلامة والخصوصية. وقد شدد على: «الحاجة إلى ترقية الأنظمة الحكومية حتى تواكب التطورات المستقبلية، ومن بينها إعادة النظر في مبادئ تخطيط المدن والبنية التحتية للنقل، وذلك لكي تستجيب للاحتياجات المستقبلية». وأضاف الطاير: «هناك حاجة أيضاً لتحسين أساليب تحديد احتياجات العملاء والوفاء بتوقعاتهم وقياس مستويات رضاهم». واستطرد بقوله بأننا إذ نتطلع بتفاؤل للمستقبل «لا تساورنا أوهام بشأن الحجم الهائل للتطورات المستقبلية والتحديات التي تواجهنا في مجال النقل. ومع ذلك فنحن بصدد الاستعداد للتعامل معها».

## مؤتمرات 2019

### سبتمبر/أيلول

- 3 - 4 ... منتدى الكويت للصحة والسلامة والبيئة ... الكويت
- 9 - 12 ... المؤتمر الرابع والعشرون للطاقة الدولية ... أبوظبي

### نوفمبر/تشرين الثاني

- 5 - 8 ... الطاقة الموزعة - أوروبا ... ريميني/إيطاليا

وناقش المختبر المبادئ السبعة للمدن المستقبلية، وتشمل التصميم العمراني، والحركة، وسبل العيش، والاستغلال الجيد للموارد، والتنافسية العمرانية، والاقتصاديات العمرانية والإدارة. وسيتم تطبيق هذه المبادئ بدءاً من 2019 وحتى احتفال الإمارات بذكرها المئوية 2071. أما في الوقت الحالي، فستعكف إمارة دبي على تطبيق نظام مرور متكامل معزز بآليات الذكاء الاصطناعي، وذلك بحلول منتصف عام 2020، حسبما أعلن الطاير في فبراير/شباط. وسيتمولى نظام مراقبة حركة المرور الذكي، الذي سيدخل حيز التنفيذ قبل انطلاق معرض إكسبو 2020، التنبؤ بحركة المرور وإدارتها، وإعداد خطط الاستجابة السريعة، واتخاذ القرارات في وقت آني عند وقوع الحوادث، هذا فضلاً عن تقليل أوقات التعامل معها، وبهذا يتم الارتقاء بمستويات السلامة على الطرق وتعزيز حركة المرور في أنحاء المدينة.

وذكر الطاير أن إستراتيجية الثورة الصناعية الرابعة بدولة الإمارات العربية المتحدة، تركز على تقنية النانو والذكاء الاصطناعي، والأجهزة الذكية، والمعاملات الرقمية في جميع المجالات. وأردف: «على صعيد الحركة، تسعى دبي إلى توفير أمهات نقل جوي وبري وبحري ثلقائية تدار بالكامل بواسطة أنظمة الذكاء الاصطناعي».

وأضاف الطاير قائلاً: «في 2016، دشنت دبي إستراتيجية الحركة التلقائية المتكاملة في مجال الحركة التلقائية بهدف تحويل 25 في المائة من إجمالي وسائل النقل في دبي إلى أمهات ثلقائية بحلول 2030. في حين تبلغ النسبة الحالية للأمهات التلقائية المستخدمة تسعة في المائة. كما



تسيير التجريبي لأول سيارة في دبي ذاتية الدفع

## الإمارات تتجه إلى النقل الذكي

ذكر تقرير صناعي صادر عن شركة Research and Market أن نظام النقل الذكي لدولة الإمارات العربية المتحدة، يستعد لتحقيق نمو إيجابي خلال الفترة المشمولة، وذلك نظراً لعدة عوامل من بينها ارتفاع معدل الطلب المحلي على المركبات الذكية وحلول إنترنت الأشياء. ويأتي احتمال النمو المرتفع لقطاع نظام النقل الذكي المحلي في وقت تتواصل فيه جهود دولة الإمارات لتكون من بين الدول الرائدة في التحول إلى مدينة ذكية.

والمواصلات في دبي، في شهر فبراير/شباط هذا العام، عن إطلاق 40 مبادرة ترمي إلى تعزيز حركة الإمارة في المستقبل.

من جانبه، قال مطر الطاير، المدير العام ورئيس مجلس المديرين بهيئة الطرق والمواصلات في دبي، والمسؤول عن وضع خارطة الطريق لمستقبل الحركة في دبي: «تؤدي دبي دوراً محورياً في تشكيل مستقبل الحركة على مستوى العالم».

وقد تم إطلاق أكثر من 40 مبادرة متعلقة بالحركة المستقبلية في دبي، وسيبدأ تنفيذها هذا العام. وسوف يستمر هذا التوجه حتى احتفال الإمارات بذكرائها المئوية 2071.

نظام النقل الذكي يجمع بين تقنيات المعلومات والاتصالات المتطورة المستخدمة في أنظمة النقل والمرور لتحسين سلامة وكفاءة واستدامة شبكات النقل، بهدف تقليل الاحتقان المروري وتعزيز تجارب السائقين، الإمكانيات لا حدود لها.

هذا، وتلائم الاستثمارات الضخمة، التي تضخها دولة الإمارات العربية المتحدة في تطوير البنية التحتية، أهداف رؤية الحكومة لعام 2021. وتأتي دبي في طليعة الإمارات التي تبذل جهوداً كبيرة لإحداث التحول الذكي في البلاد، وهي تسعى إلى تطبيق تقنيات متطورة لتسريع ونيرة تطبيق برامج التحول الرقمي. فقد أعلنت هيئة الطرق

# المحتويات

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تحليلات

الإمارات توجه إلى النقل الذي



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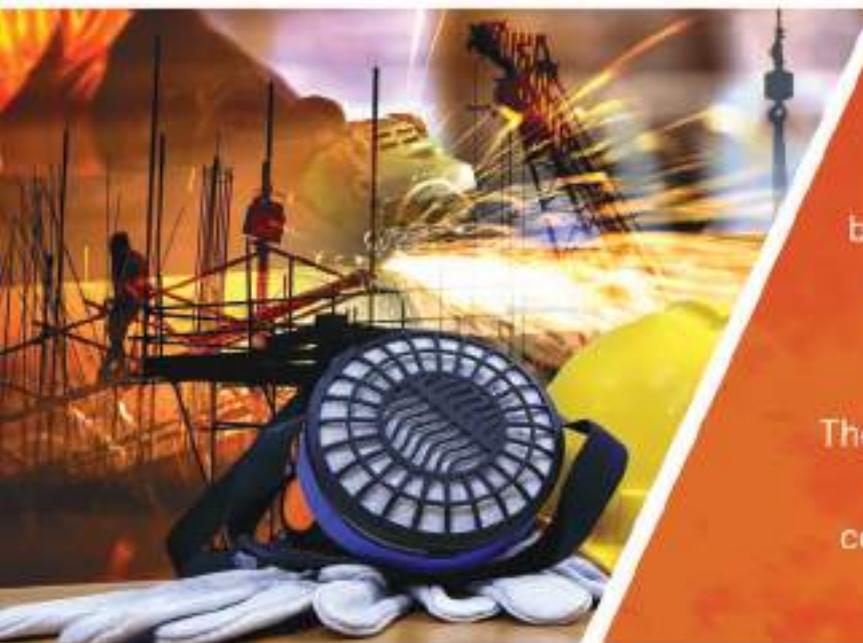


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