# TECHNICAL REVIEW النشرة التقنية - الشرق الأوسط MIDDLE EAST

USA: \$16.50, United Kingdom: £10

Vol 33/Issue Two 2017

## ENERGY EFFICIENCY

INNOVATION AND TECHNOLOGY DRIVING GCC HVACR SECTOR

**Executive Strategy Paints and Coatings** Formwork The Big 5 Saudi

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#### Rebuilding Iran

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#### **EDITOR'S NOTE**

THE 2017 EDITION of Middle East Electricity (MEE) may be over but the focus continues in this issue (p26) with exclusive interviews and show reviews. Next on the trade exhibition horizon is The Big 5 Saudi (p42). The kingdom has a healthy pipeline of commissioned projects valued at US\$92bn, and this year's event is primed to facilitate further investment. Meanwhile, sustained construction demand is driving the HVACR sector in the GCC and the investment landscape. Our sector analysis (p20) feature delivers more insight on this vital subsector. We also continue with part two of our Iran spotlight with an indepth evaluation (p12) of the various 'rebuilding' government initiatives currently underway. The latest news and topical analysis on vehicle leasing (p18) and paints and coatings (p24) rounds out this issue.

> At Technical Review we always welcome readers comments to trme@alaincharles.com

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Editor: Rhonita Patnaik - Email: trme@alaincharles.com

Editorial and Design team: Prashanth AP, Hiriyti Bairu, Miriam Brtkova, Kestell Duxbury, Ranganath GS, Samantha Payne, Rahul Puthenveedu, Nicky Valsamakis, Vani Venugopal and Louise Waters

Group Editor: Georgia Lewis Publisher: Nick Fordham Publishing Director: Pallavi Pandev

Magazine Sales Manager: Graham Brown - Email: graham.brown@alaincharles.com Tel: +971 4 448 9260, Fax: +971 4 448 9261

Special Projects Manager: Jane Wellman - Email: jane.wellman@alaincharles.com

Production: Kavya J, Nelly Mendes and Sophia Pinto

Email: production@alaincharles.com Subscriptions: circulation@alaincharles.com

Chairman: Derek Fordham

Head Office: Alain Charles Publishing Ltd University House, 11-13 Lower Grosvenor Place, London, SW1W 0EX, UK Tel: +44 20 7834 7676, Fax: +44 20 7973 0076

Country Nigeria IIK USA

Representative Tanmay Mishra Bola Olowo Michael Ferridge

+234 8034349299 Michael Tomashefsky +1 203 226 2882

Telephone

+44 20 7834 7676

+918065684483

+44 20 79730076 +1 203 226 7447

tanmav.mishra@alaincharles.com bola.olowo@alaincharles.com michael.ferridge@alaincharles.com michael.tomashefsky@alaincharles.com

US MAILING AGENT: Technical Review Middle East ISSN 0267 5307 is published eight times a year for US\$99 per year by Alain Charles Publishing, University House, 11-13 Lower Grosvenor Place, London, SW1W 0EX, UK. Periodicals postage paid at Rahway, NJ.

POSTMASTER: Send corrections to Alain Charles Publishing Ltd, c/o Mercury Airfreight International Ltd, 365 Blair Road, Avenel, NJ 07001. US Agent: Pronto Mailers International, 200 Wood Avenue, Middlesex, NJ 08846.

Printed by: Buxton Press

Printed in: March 2017

Arabic Translation: Ezzeddin M. Ali - Email: ezzeddin@movistar.es

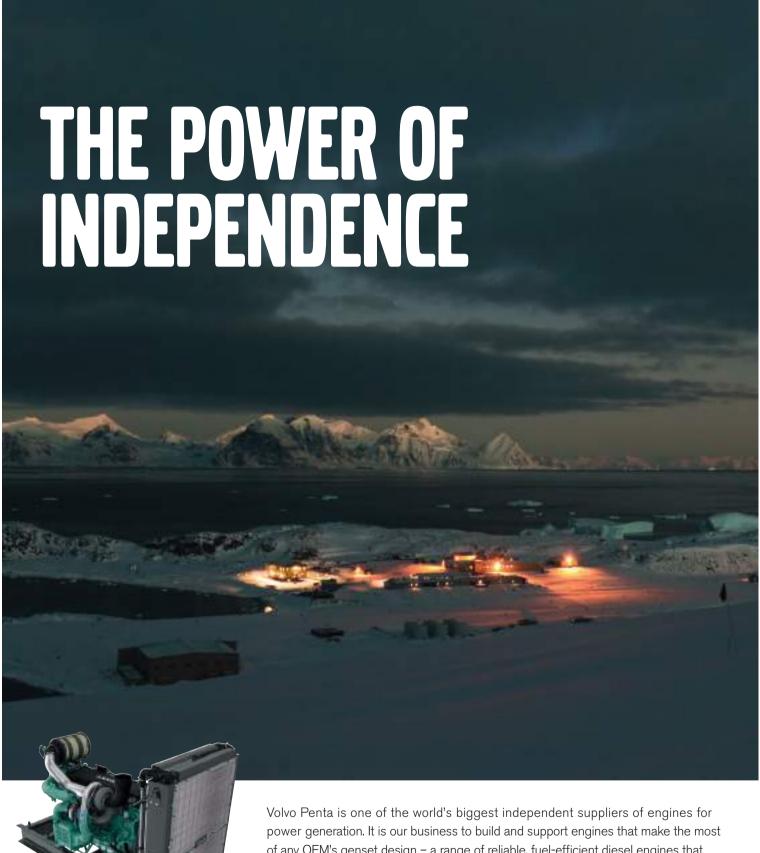
Arabic Typesetting: Lunad Publicity, Dubai

© Technical Review Middle East ISSN: 0267-5307





Middle East Regional Office: Alain Charles Middle East FZ-LLC Office L2-112, Loft Office 2, Entrance B, Dubai Media City, Dubai, UAE Tel: +971 4 448 9260, Fax: +971 4 448 9261



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#### **Briefly**

### ADWEA to close bid for world's largest solar plant in Abu Dhabi

ABU DHABI'S GOVERNMENT-OWNED power utility aims to close a financing package for a US\$872mn solar power plant in Sweihan, which will be the world's largest, in April, senior officials at the company have revealed. In March, Abu Dhabi Water & Electricity Authority (ADWEA) said that it had selected Japan's Marubeni Corp and China's JinkoSolar Holding to build and operate the 1,177MW plant.

The project is ADWEA's first foray into renewable energy. Abu Dhabi aims to generate seven per cent of its energy from renewables by 2020.

Operational in 2019, the plant will be 25 per cent funded by equity and 75 per cent by debt, Adel al-Saeedi, acting director of privatisation at ADWEA. told *Reuters*.

The winning bidders offered to provide electricity for 2.42 US cents per kilowatt hour, one of the most competitive prices seen to date in the solar industry, Saeedi added.

A special-purpose company would be formed to operate the project, where ADWEA would own 60 per cent of the company while Marubeni and Jinko would hold 40 per cent. Power generated would be sold to Abu Dhabi for 25 years.

#### Qatar's first RO desalination project nearing completion

QATAR HAS ANNOUNCED a tentative completion date of Q1 2017 for the Ras Abu Fontas A3,country's first water desalination project with reverse osmosis technology.

The first phase of the project was completed in September 2016 and final phase of the project, with a capacity of 36mn gallons of water per day (mgpd), will be delivered soon at a total cost of US\$480mn, reported *The Peninsula*.

Minister of energy and industry Mohammed bin Saleh Al Sada, said that a 10-year long-term plan has been developed, which takes into account the annual increase in the need for electricity and water till 2026. This takes into account 2022 FIFA World Cup, diversification of sources revenue and rationalisation of expenditures through raising the level of performance and efficiency.

#### Genavco's new Abu Dhabi facility now open

GENERAL NAVIGATION AND Commerce Company (Genavco), part of the Juma Al Majid Group, opened its new facility at Mussafah in Abu Dhabi in February. The inauguration of the flagship facility was part of the year-round celebration of relentlessly serving its dedicated customer base over the last 50 years.

The new facility is strategically located in M9, Mussafah Industrial Area, between 6<sup>th</sup> and 8<sup>th</sup> street and adjacent to Bin Hamoudah – Chevrolet Body Shop.

Speaking about the new facility, Eng. Khaled Issa, chief operating officer, Juma Al Majid Group, stated that the new facility highlights Genavco's commitment towards offering easy accessibility to its large customer base.

In the coming years, Genavco expects robust demand for commercial vehicle, industrial and construction equipment. The UAE's planned infrastructure expansion, ahead of Expo 2020 Dubai and other strategic projects, is expected to fuel market growth. Genavco's expansion strategy is based on offering a comprehensive yet diverse product portfolio, competent human capital, good service delivery and state-of-the-art facilities.

The facility, with a total built up area of 2,822 sq m, comprises the state-of-art Isuzu and heavy equipment showroom, service facility, spare parts sales counter and BP-quick lube facility. The



The launch of the new Genavco facility in Abu Dhabi. (Photo: Genavco)

showroom will display Isuzu's fleet along with selected heavy equipment products.

The 1,045 sq m service facility, with 13 service bays and dedicated VIP waiting area, will offer futuristic customer service experience. To celebrate the opening and its anniversary, Genavco also offered attractive discounts and special promotions in February.

The facility is open Saturday to Wednesday from 8 am to 5 pm and on Thursdays until 1 pm. For further information, contact Genavco on +971-2-5544611.

#### Siemens' locally made gas turbines for KSA's Fadhili plant

SIEMENS WILL SUPPLY five F-class gas turbines to the Fadhili Combined Heat and Power (CHP) plant in Saudi Arabia. With a generating capacity of 1,200MW, the plant will supply electricity and process steam for a new natural gas extraction plant in Fadhili, which is located around 120km northwest of Dammam. The turbines will be produced at the Siemens Dammam Energy Hub (SDEH), Middle East's largest gas turbine manufacturing facility. In May 2016, SDEH launched its first gas turbine built by Saudi Arabian nationals.



The project is led by Doosan Heavy Industries and Construction, the EPC partner with whom Siemens signed the supply agreement. Furthermore, Siemens and Kahrabel FZE, an affiliate of ENGIE Group, signed the 16-year long-term service contract for the gas turbines.

In addition to the turbines, Siemens' scope of supply includes five generators and a control system, all of which will be commissioned on site. The long-term service agreement covers maintenance services for the turbines, including advanced power diagnostics services. The new power plant will largely be fired with K-gas, a natural gas which has a relatively low calorific value. Siemens and Saudi Aramco have been jointly testing the suitability of the F-class gas turbine for this special type of fuel.

The Fadhili CHP project is scheduled for completion by the end of 2019, and will play a key role in expanding gas production to meet the rapidly growing domestic energy demand. Together with two other new gas extraction plants, Fadhili will produce more than five billion standard cubic feet per day of 'non-associated gas', a natural gas which is extracted independently of oil.

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| MARCH 2017 |   |            |                                     |  |  |  |  |  |
|------------|---|------------|-------------------------------------|--|--|--|--|--|
| 27-30      | The Big 5 Saudi                             | JEDDAH     | www.thebig5saudi.com                |  |  |  |  |  |
| APRIL 2017 |   |            |                                     |  |  |  |  |  |
| 4-6        | GCC Environment Forum                       | JEDDAH     | www.gccenvironmentforum.com         |  |  |  |  |  |
| 25-26      | MENA New Energy                             | DUBAI      | events.newenergyupdate.com/mena/    |  |  |  |  |  |
| 25-27      | The Big 5 Construct North Africa            | CASABLANCA | www.thebig5constructnorthafrica.com |  |  |  |  |  |
| MAY 2017   |   |            |                                     |  |  |  |  |  |
| 1-3        | Oman Energy & Water Exhibition & Conference | MUSCAT     | www.energyandwateroman.com          |  |  |  |  |  |
| 2-4        | Intersec Saudi Arabia                       | JEDDAH     | www.intersec-ksa.com                |  |  |  |  |  |
| 8-11       | Project Qatar                               | DOHA       | www.projectqatar.com                |  |  |  |  |  |
| 14-16      | Saudi Power                                 | RIYADH     | www.saudi-power.com                 |  |  |  |  |  |
| 15-17      | Aluminium Middle East 2017                  | DUBAI      | www.aluminium-middleeast.com        |  |  |  |  |  |
| 15-17      | JIMEX 2017                                  | AMMAN      | www.jordanfairs.com                 |  |  |  |  |  |

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



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   Implementing evacuation systems in commercial, residential and public buildings
   Enforcing and complying with local Qatari fire safety codes to improve occupational health and safety
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# FG Wilson marks 40 years in Saudi Arabia

Despite economic uncertainties, the genset manufacturer continues with strong growth in the kingdom.

HE LAST 12 months have been a time of anniversaries for generator set manufacturer FG Wilson. The year 2016 marked 50 years in business for the iconic brand and this year marks a 40-year presence in Saudi Arabia.

FG Wilson offers a range of generator sets from 6.8 kVA to 2,500 kVA, and globally, a typical FG Wilson generator set puts out about 150 kVA. It is generator sets of this size for which the brand is best known.

It wasn't always like that though.

Johnny Maguire, FG Wilson regional managerMiddle East, explains, "When many people think of FG Wilson today, they usually think of high quality ready-to-run generator sets. But FG Wilson's early focus was on building and commissioning customdesigned mini power stations in the Middle East. FG Wilson's first small power station (six 2,000 kVA units) was commissioned in Abu Dhabi in 1976 and was followed by similar projects in Saudi Arabia, often for standby power in hospitals, but also for prime power. "Later in the early 1980s, FG Wilson supplied self-contained mini power stations for remote Bedouin settlements, which were then rapidly developing at the edge of the desert," he adds.

This experience in the 1970s led to the formation of a very capable design and engineering team which continues today, and custom-designed generator sets remain an important part of FG Wilson's business. However, what FG Wilson became well-known for is translating the relative complexity of generator sets into automotive-industry-style mass production, with consistent quality and still giving customers the ability to specify their generator set to a very high degree.

Also key is the way FG Wilson generator sets are supported. In Saudi Arabia, TAMGO have been representing FG Wilson exclusively since 1995. TAMGO's Power & Engineering Products Division manager Islam Fathy says the partnership with FG



In Saudi Arabia, TAMGO have been representing FG Wilson exclusively since 1995.

Wilson is as strong as ever.

"We have an incredibly close working relationship with the FG Wilson team in the UK, regularly visiting the facilities there to carry out testing and validation work with our major customers. When they see us, they see one team," he notes.

Islam Fathy sees the market for standby generator sets evolving, especially as the world moves to much greater reliance on digital communication. He states, "When we started working with FG Wilson in the mid 90s, the need for standby power was often for production facilities and power for buildings for light and air conditioning. But today there's an added edge. Businesses and telecoms providers are just not prepared to take the risk of even short interruptions of electric power. That means generator sets need to be of good quality and be well supported."

TAMGO service team is supported by FG Wilson's global parts facility which carries 11,500 parts lines, takes 500 orders a day and ships up to three million parts a year globally. Islam Fathy reveals that this ability

to offer round-the-clock support is key. "We offer the levels of support you would expect to find from an automobile dealer with facilities in many of the major cities and towns of the kingdom, all well-equipped with spare parts warehouses and high-end service and maintenance workshops, staffed by professional, dedicated and highly trained specialists."

For FG Wilson, the Middle East and Saudi Arabia, in particular, feel like a home market.

Johnny Maguire notes, "Forty years ago, this was the first region outside the UK where we established ourselves and we have very strong commercial and emotional ties with this part of the world.

"In February 2017, many of us attended the Middle East Electricity (MEE) exhibition in Dubai, which gave an opportunity to meet many customers and friends, old and new. Despite the current economic uncertainty in the world, there is a strong current of optimism for the longer term. We all live in a demanding world with a growing need for electric power. It's an exciting time to be here."





In the second edition of the two-part feature on Iran, economist Moin Siddigi reports on the country's push for modernisation.

Since mid-2016, external climate has improved slightly, although the new US Trump administration poses uncertainty over future Washington-Tehran relation. RAN IS THE biggest new market entering the global economy in over a decade.

Transport network, power and communications are all part of the backbone that supports a country's growth and international connectivity. Iran, which has a geographical area of 1.6mn-sq km, is likely to need US\$1 trillion to fix and modernise its basic infrastructure. Foreign companies active in GCC region, particularly those with proven records of handling design and master layout plan to construction, engineering, procurement, logistics and finance for medium-and-large-scale capital projects stand to benefit from the potential investment bonanza in post-sanction Iran in the coming years.

The Global Competitive Report (2015) ranked Iran 76th out of 140 countries for the quality of its overall infrastructure, far behind the UAE (second) and Saudi Arabia (31st). To address current infrastructure deficits, Iran's needs are substantial – ranging from US\$250bn to US\$300bn for its transport system (rail, road, aviation, maritime and seaports) and US\$120bn to US\$150bn for public utilities (power

generation, water supply and wastewater treatment), according to estimates by New York-based consultancy, Frost & Sullivan.

Construction industry growth is expected to reach 6.1 per cent over the medium-term due to strong demand for infrastructure.

Iran's fortunes have suffered enormously. Deprived of access to capital, technology and best international practices, while numerous projects are in the pipeline, many local companies lack the technological capability to handle them cost effectively.

Since mid-2016, the external climate has improved slightly, although the new US Trump administration poses uncertainty over future Washington-Tehran relations. However, Iran is keen to attract inward foreign direct investment (FDI) through a number of project arrangements, including Build-Own-Operate (BOO), Build-Operate-Transfer (BOT) and Public Private Partnership (PPP), whilst encouraging joint ventures between local and foreign firms. The government is committed to providing a host of incentives to FDI investors, who can inject managerial skills, technology and co-funding to implement critical projects cost effectively.



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#### Lucrative upcoming projects

Following years of under-investment and sanctions, the infrastructure base offers huge scope for rehabilitation, where new equipment and advanced technology are urgently needed across all sub-sectors of Iranian economy. They include:

Hydrocarbons industry: Represents the largest contributor to gross domestic product with solid potential for expansion. Iran holds the globe's biggest natural gas reserves and wants to double gas production to 1.3bn cu/m per day by 2020, mainly through optimal development of the offshore South Pars gas field with world's largest estimated reserves of 51 trillion cu/m. It also possesses 158bn barrels of proven conventional oil reserves and aims to produce five million bpd by 2020. To achieve this, the Iranian Ministry of Petroleum requires US\$185bn or more to revamp the sector. In pre-sanction era, Iran suffered a total loss of one-fifth of potential output, averaging 800,000 bpd. Opportunities for foreign companies include upgrading oil/gas technology; enhanced oil recovery (EOR) projects; and construction of LNG plants, refineries and pipelines.

Rail modernisation: High priority is being placed upon developing a comprehensive national railway network, thereby strengthening internal connectivity between major cities and external links with neighbouring countries. The Islamic Republic of Iran Railways (RAI) plans on spending US\$25bn to extend track length from the current 10,000-km to 25,000-km by 2025, building high-speed rail corridors linking Tehran, Qom as well as Isfahan and Qom to Arak, and the electrification of the Tehran-Mashhad railway. Existing rolling stock and

stations require upgrades along with provision of increased freight facilities. RAI has signed an MoU with France to improve stations at Tehran/Mashhad and with Germany to upgrade the railway system software.

Civil aviation: Iran has over 60 airports (27 international) managed by Iran Airports Holding Co. (IAHC). There are plans to upgrade aviation infrastructure to cope with projected surge in annual passenger traffic from approximately 40mn to 100mn over the medium-term. A new US\$2.8bn terminal is under-construction at Tehran Imam Khomeini International Airport (main global hub) to handle a total capacity of 20mn passengers/year. Plans for modernisation and expansion are also underway for Mashhad and Isfahan airports and the construction of new airports in Ahvaz and Bushehr. The IAHC indicated that about US\$7bn to US\$10bn is needed to expand capacity. According to the Civil Aviation Organisation (CAOI), Iran will purchase 500 new aircraft, thus requiring spare parts, service/maintenance and training.

Metro lines: The expansion of Tehran's metro network to other major cities including Mashhad, Shiraz, and Isfahan should interest global suppliers. According to Industry Minister, Iran is expected to put about 4,000 metro trains units up for tender by 2025. Presently, the Tehran metro comprises five lines, but only part of Line 3 is completed and operational. Lines 6-7 are under construction while the extension of Line 1 to the Imam Khomeini International Airport is also underway.

**Port infrastructure:** Development is being reported in many Iranian ports, including the third-phase expansion of the Shahid Rajaee Port in Bandar Abbas and the construction of

new terminals at Chabahar and Negin Island in Bushehr. In particular, Chabahar Port, situated on the Gulf of Oman, is seen as a gateway to Central Asian countries and a Chinese consortium has expressed interest in developing the port as well as construction of an industrial town. The Ports & Maritime Organisation plans US\$900mn investment on related infrastructure.

Electricity: Iran requires more power supply to meet projected economic growth, especially in energy-intensive industries, but utilities infrastructure is largely inefficient due to technological deficiencies. Its power generation capacity stands at 74 gigawatts (GW) while electricity demand is growing at 6percent annually. Iran aims to expand total capacity to 120GW over longer term mostly through investing in gas-fired plants and renewables. To achieve this target, it needs new investments including technology, engineering and skills transfer, exceeding US\$60bn. The national power agenda chiefly emphasises wind power to attain the goal of 5,000 megawatts (MW) of renewable power generation by 2025.

Telecommunications: Foreign operators can find fledgling markets for new IT systems and network integration development and expansion, upgrading of fixed-line, mobile-phones and broadband networks, which is estimated at 30.2mn, 69.8mn and 50mn, respectively, according to 2014 BuddeCom data. Iran also needs sophisticated expertise to support software development centres, utilising the latest technologies to develop and provide modern systems, and therefore capacity building and knowledge.

**Social infrastructure:** The country faces significant water shortages, which threaten food production and other water-intensive



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industries. Iran wants to attract US\$12bn into water-related projects by 2021. Private investors (foreign and domestic) are encouraged to participate in dam-building, seawater desalination plants, as well as developing a better wastewater network, in particular wastewater recycling systems for the agriculture and industry sectors.

The government wants to develop and modernise healthcare by building new hospitals, adding 115,000 extra beds by 2021, developing 50 new medical laboratories, creating 13 comprehensive cancer centres, as well as investing US\$280mn and US\$130mn, respectively, in new imaging and dialysis centres.

#### **New partners**

Many companies (mostly European and Asians) have signalled their interest in the development of Iran. Turkish energy company, Unit International, is building seven natural-gas power stations with a combined installed capacity of 6,020MW under a 20-year (BOT) model. In the telecoms sector, Telecommunications Co. of Iran has signed co-operation agreements with Italian telecoms-equipment manufacturer Itatel, South Korean mobile carriers KT Corp, and Kazakhtelecom of Kazakhstan, for the

expansion and upgrade of Iran's telecoms network.

Iran has also secured agreements with South Korean Water Resources
Corporation and Daelim Industrial Co. for water supply and management and wastewater treatment solutions.
Samsung is already involved in developing new hospitals. China National Transport Equipment & Engineering Co. Ltd is close to finalising an agreement on a US\$3bn high-speed rail project. Hyundai Heavy Industries and SPP Shipbuilding are reportedly in talks over potential orders. Oil majors (Shell, BP and Total, among others) are eager to re-enter Iran.

#### **Summary**

Building 'first-world' infrastructure will usher Iran towards a new era. This newfound optimism, however, is premised on Iran being able to expeditiously re-establish trade, financial and investment ties with western countries. This process is vulnerable to delayed normalisation of Iran's country risk premium, slow reforms of the mostly Parastatal nature of infrastructure as well as banking/finance sector and geo-regional politics. The country boasts resources to develop its diverse economy.

#### **FACT FILE**

Area: 1,648,185.5 sq km (world's 18th largest country).

**Population:** 79.11mn (2015) – second-largest in Middle East (after Egypt).

**Gross Domestic Product:** US\$397bn (2015) – second biggest region's economy (behind Saudi Arabia).

**GDP Per Capita:** US\$6,019 (2016) – upper middle-income category.

National Currency: The Rial – currently two forex rates co-exist: the market rate and official rate (controlled by the Central Bank of Iran).

Natural Resources: Crude oil (157.8bn barrels); Natural gas (34 trillion cu/m); Iron ore (2.7bn tonnes); Copper (two billion tonnes); Zinc (300mn tonnes).

**Heavy Industry:** Petrochemicals, Automobiles, Manufactured metals (Steel), Cement and Mining.

**Legal System:** Based on Sharia principles with elements from the French commercial code and company law.

FDI Inward Stock: US\$45.1bn (2015).

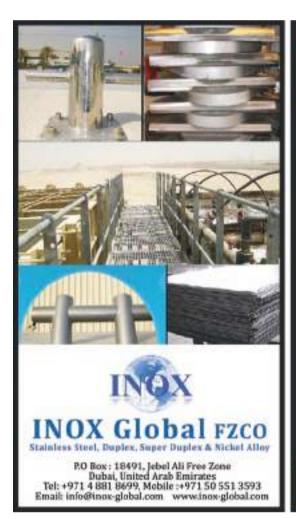
**FDI Net Inflows:** US\$19.8bn (2010-15).

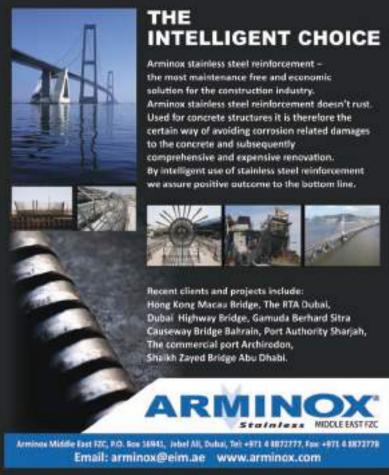
The FDI regime is governed by the 2002 Foreign Investment Promotion and Protection Act (FIPPA). This grants permission for 100 per cent equity in most sectors (e.g. agriculture, transportation, energy supply, water and communications) and unlimited transfer of capital and dividends.

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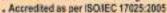


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Lease made easy

IVECO helps understand the financial options for truck purchase in the MENA region.

HE MIDDLE EAST and North Africa (MENA) truck industry is growing, thanks to two major factors – economic diversification in the region and the opening of the Iranian market.

According to a study by Arthur D Little, substantial potential will loom in the region for the next decade, but companies need to focus on dedicated strategies to realise the growth that it holds.

Another study reveals that the truck market in the UAE is projected to grow at a compound annual growth rate (CAGR) of around 8.65 per cent till 2021.

The report by TechSci Research, a global market research and consulting company, revealed that the average selling price (ASP) of trucks in the UAE is anticipated to increase,

but at a low pace, over next five years, said the report.

Thus, it becomes necessary to make truck purchase easier in the region. When buying becomes an expensive option, clients often turn to lease vehicles for the ease of convenience and OEMs often provide the customers with flexible, low cost alternatives. IVECO, international manufacturer and supplier of commercial trucks, is one such company.

However, leasing, as a form of financing, in the MENA region is limited to certain number of countries where the financing systems are more advanced in terms of regulations and are closer to the EU standards. Such countries include Tunisia, Algeria and Morocco in the Maghreb or Saudi Arabia in the GCC. In other countries, the form of financing is still traditional "auto-loans" that are linked to the registration of a pledge on the asset in favour of the financing institution, like banks.

With the demand rising for trucks in the region, IVECO states that leasing in the overall region can be adapted depending on the customers' requirement and comfort.

These may include:

- The possibility to budget the vehicles and trucks costs on a monthly basis – the finance option eases the concept of amortization/cost spread over time
- Advanced fiscal system in many countries of the region reflecting EU standards and allowing companies to take advantage of fiscal aspects of leasing versus cash purchase/loan
- Leverage the balance-sheet optimisation aspects asset versus expense

The leased product, IVECO states, helps manage the need of investment for retail customers and corporations because a large part of the risk evaluation is related to the financed asset. At the same time, the leased product is the best security for the financing institution, being the main collateral that guarantees safe returns. It



With the demand rising for trucks in the region, IVECO states that leasing in the overall region can be adapted depending on the customers' requirement and comfort. (Photo: IVECO)

is also advantageous to go through a vendor who has extensive knowledge about the asset's market value curve that might allow the financing institution to quote the most efficient pricing and the customers profit from the proposed investment.

In order to push for truck leasing market further in the MENA region, IVECO Capital represents a key instrument in the deployment of IVECO sales strategy in the region. This aims to offer customised financing and leasing solutions. IVECO Capital has already implemented several financial partnerships with major player in each market in the region.

"It may be worth mentioning Emirates NBD in the UAE, Saudi Fransi Leasing in Saudi Arabia and BNP in Maghreb," states the company.

The market for equipment and vehicles financing is evolving fast in the MENA region even if, as mentioned before, 'traditional practices' still persist in the commercial chain. Nevertheless it is best to start offering:

- Packaged services like insurance, maintenance and extended warranty with the leased vehicle
- · Fleet management services
- TCO (total cost of ownership) or 'Pay per Use' concepts in the financing of assets

These are some of the advanced financing tools that IVECO Capital is already developing with its financial partners in the MENA region to help boost the sales of the IVECO brand through its dealers and to its customers.

However, IVECO also points that the factors that are hampering the steady growth of the truck industry are uses still prevalent in the sector that are aimed at selling through long-term commercial credit granted to the clients and, therefore, perform a sort of "sale by instalments". This is risky for the seller and not efficient from the point of view of an evolved market of equipment financing.



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Years of trust in the Kingdom

# Energy efficiency takes lead role in HVACR market

HVACR companies are focusing on technology and innovation in order to offer more energy-efficient solutions for the high growth GCC market. Martin Clark reports.

HE STRONG CONSTRUCTION drive throughout the GCC continues to underpin demand in the heating, ventilation, air conditioning and refrigeration (HVACR) market.

While lower oil prices have taken some of the gloss off the regional economy, construction activity continues apace, driving demand for air conditioning and related services.

It is a generally positive story across the board, although new rules and regulations are shifting the business landscape.

In Kuwait, the air conditioner market is projected to grow at an annual rate of 4.45 per cent through to 2022, according to 2016-2022 Kuwait Air Conditioner Market report.

The growth rate has declined due to falling oil prices, the report states, but this could turn around post-2017, fuelling further public and private infrastructure investment, driving the local market for air conditioners.

It is a similar story across the rest of the region in territories such as the UAE and Qatar, where again huge spending is supporting demand for HVACR products.

And this, in turn, has supported new investment into production and facilities.

Leminar Air Conditioning Industries recently inaugurated its state-of-the-art FFC-UK manufacturing line for fire-rated ducts in Doha, Qatar.

Dipak Bhadra, general manager, said the new line will allow Leminar to cater to HVAC contractors' growing requirements for firerated duct systems, an area that is rapidly expanding, "with fire safety protocols and regulations becoming stringent".

As well as tighter regulation, what's also clear is that energy efficiency and demand management moves have resulted in an industry-wide push for innovation into cleaner, more energy-efficient solutions.

This has been a focus for brands like Daikin, the Japanese air conditioning giant,



The HVACR market in Middle East (including Africa) is expected to generate over US\$16.23bn value by 2022, as per the forecasts of the analysts.

which has been granted the Emirates Quality Mark (EQM) for its air-cooled chiller systems.

The badge of quality is a big boost for its UAE business, reckons Ryoji Sano, president of Daikin Middle East and Africa.

He said that the company intends to continue to innovate and lead "by introducing the most energy efficient, environmentally friendly and highest quality products to the market".

Daikin air-cooled chiller products will now be labelled with the EQM mark to show they comply with the safety and energy efficiency requirements of the Emirates Authority For Standardisation and Metrology.

This trend was also evident at the HVACR Expo Saudi 2017 in Jeddah earlier this year, where industry professionals gathered in their thousands to explore new technology and assess market developments.

Among them was another major global HVACR player, Carrier, part of UTC Climate, Controls & Security, which showcased its

latest innovations, including a new VRF system and high-efficiency hi-wall unit, which uses inverter technology and offers excellent energy efficiency ratings with greatly reduced energy consumption as well as improved performance.

The new systems use the environmentallybalanced refrigerant, Puron, which does not emit any ozone-depleting chemicals and is non-flammable and non-corrosive.

Giorgio Elia, vice-president, UTC Climate, Controls & Security, Middle East, said the portfolio of products "demonstrates our commitment to sustainability and to continuously improving energy efficiency."

Across the GCC, this flight to quality – to improved energy performance, and higher quality industry ratings – shows manufacturers are responding to new rules and government initiatives on areas ranging from tighter environmental scrutiny to health and safety.

Expect more of the same from the HVACR industry as these initiatives take root.



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#### **Danfoss opens new office in Saudi Arabia**

DANFOSS, LEADING MANUFACTURER of high-efficiency electronic and mechanical components and controls for air-conditioning, heating, refrigeration, industrial and water systems, has announced the launch of its first technical support office in Saudi Arabia.

Held at Sofitel Corniche Hotel in Jeddah, Danfoss senior executives from Dubai welcomed Mazen Batterjee, vice-chairman, Jeddah Chamber of Commerce, and Mutlaq Al-Tayyari, general manager, SASO Makkah Al-Mukarramah branch, along with Ole Frijis-Madsen, Ambassador of Denmark to Saudi Arabia.

Serving clients in Saudi Arabia for over 50 years through distributers and agents, Danfoss is now expanding its regional presence in the region through investing in an office that will provide on the ground technical support, delivered to international standards.

"To be further investing in expanding our footprint in the Middle East is a very exciting time for us," said Levent Taşkın, Danfoss president, Turkey, Middle East and Africa.

He continued, "Saudi Arabia is a key market and having an official presence in the region will not only further cement our position as a market leader, but will also provide our clients with the unparalleled customer service and technical support that Danfoss proudly delivers through a local office. We are also firmly committed to supporting Saudi Arabia's Vision 2030 by providing the most innovative and sustainable solutions for the cooling, heating and industrial sectors."

Not new to the region, Danfoss has been working on many projects in the kingdom including airports, seaports, hospitals and



financial districts, to increase the energy efficiency of the heating, ventilation, air conditioning and refrigeration (HVACR) sector and other industrial systems.

Frijis-Madsen added, "Danish companies will be close partners in the implementation of the ambitious and timely Vision 2030 which the Saudi leadership wisely introduced last year."

He continued, "Denmark is known for its quality, reliability, innovation, design and customer focus. Danfoss is one of the companies that reflects all these unique qualities, as a truly global organisation with proud Danish roots. The opening of Danfoss' office in Jeddah is a clear and very timely signal about the company's continued commitment to Saudi Arabia."







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Qatar's investment on infrastructure and urban development is expected to hit US\$160bn over the next few years driving towards Qatar National Vision 2030 goal.

To address the potential and current HSE hazards faced, *Health, Safety & Security Review Middle East* is organising the Qatar HSE & Fire Safety Conference 2017. This event provides a platform for knowledge sharing across a broad range of relevant topics from evacuation planning for cities and digital surveillance to smart safety innovation that will accelerate on-time project delivery.

#### **KEY TOPICS OF INTEREST**

- How to prepare for the implementation of Qatar's new fire safety legislation
- Innovation in heat stress and smoke protection
- Implementing evacuation systems in commercial, residential and public buildings
- Digital surveillance for crowd safety
- Insights into directing onsite security and emergency assistance
- Updates on smart safety and security for critical infrastructure

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- Engage with your target audience to provide onsite recommendations and drive ROI potential
- Reach out to a 'wish list' of attending companies to pre-arrange one-to-one meetings

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HE MIDDLE EAST paints and coatings market is emerging due to the large scale construction projects being undertaken in these countries, according to a Mordor Intelligence report. Most of the countries in the region have made considerable investments in their construction industries in an effort to diversify their economies from oil and oil-related business activities.

The Middle East paints and coatings market was sized at US\$3bn in 2013, representing the smallest regional market with a four per cent share of the global demand. Meanwhile, cities like Dubai have a faster growing commercial sector with a large investment being made of commercial structure, offices and residential complexes, the report stated.

There is a lot of research and development going on in the paints and coatings industry with the emergence of green buildings concept. Research is also being conducted on how to reduce the environmental impact of marine coatings during the ship life cycle.

There is development in near-infrared (NIR) coatings and tiles to reduce heating of dark-coloured surfaces on roofs and facades. The sun-reflective building materials help to achieve a reduction of cooling loads and improve thermal comfort. They are often seen in roofing but there are also tentative applications for façades.

Maintaining indoor air quality (IAQ) is also a growing concern across the Middle East, as people spend more time indoors and new insulation/air sealing methods are used to improve energy efficiency.

Tightening the building envelope is an effective upgrade that lowers heating and cooling costs – resulting in savings that are

generated by restricting air exchange and heat transfer. However, those can have unintended consequences for indoor air quality, including a build-up of formaldehyde emissions emanating from common household items. Exposure to formaldehyde is known to cause eye, nose, and throat irritation; wheezing and coughing; fatigue; skin rash; and severe allergic reactions.

Dow sees concerns about IAQ as part of a growing trend that lies at the intersection of two global megatrends – energy conservation and health awareness.

Technologies from Dow Coating Materials – based on binders with abating functionality – are well positioned to have a positive impact on IAQ by targeting specific volatiles that are irreversibly transformed into harmless compounds. Tackling IAQ with such technology is an area it expects to expand in the Middle East as awareness about the subject grows.

Innovative technologies such as FORMASHIELD can turn regular paint into a multi-functional coating that protects and beautifies interior substrates while helping to improve indoor air quality. Formaldehyde breakdown is irreversible, and the removal permanent. PRIMALSF-208ER Binder based on this technology offers irreversible formaldehyde removal from ambient air in homes and commercial buildings, and is available in the Middle East.

Eco-friendly paints is preferable over normal paint as the latter is toxic and cause health hazards like cancer, tuberculosis and respiratory illness. The volatile organic compounds (VOC) that are used to hold the ingredients in a blended state when the paint is in a liquid state, escape into the atmosphere and cause gene mutation. In

recent years, compounds like lead and chromium have also been banned from household paints as they cause numerous health hazards in occupants.

'Conscious' companies like Jotun Paints taking a stand to fight toxic paints. In November 2016, the company inaugurated a state-of-the-art factory in Rusayl Industrial Estate in Oman. Built over an area of 60,000 sq m, the facility has a production capacity of 50mn litres of paint per year and is equipped to fulfil 'green' market needs for the next 15 to 20 years.

The new facility will house multiple departments such as production, warehouse and administrative offices, and has been constructed in compliance with the highest HSE standards and in accordance with Jotun's environment-friendly 'GreenSteps' policy. Designed to emit less VOC emissions due to the reduced use of hazardous materials during construction, the facility has a low carbon footprint and contributes to greater energy savings.

At Intersec 2017, K5 Middle East, firefighting products, solutions and technologies company, also announced that it is constructing its first manufacturing facility in the Middle East, in Ajman, the UAE. Alongside K5 SAFETY PATCH and K5 PATCHPAINT, the manufacturing facility will produce paints, foams, coatings and construction materials equipped with fire extension capacity.

The Middle East Coating Show (MECS) 2017, the only dedicated event in the Middle East for raw materials suppliers and equipment manufacturers for the coatings industry, held from 13-15 March, showcased some of the most eco-friendly from some of the leading brands like AkzoNobel, National Paints, Anichem, besides others.



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# Growing demand for power a boost for Perkins

growing demand for power in the Middle East, Perkins showcased its star product – the 4000 Series engine – at Middle East Electricity (MEE) 2017 that took place in Dubai from 14-16 February.

Launching its 4000 Series campaign for prime and rental power in Middle East, Perkins' marketing and dealer operations director David Nicoll says, "We are very excited to be at here at MEE, one of the largest exhibitions in the region. We have a large presence this year and the opportunity to connect with our end users and OEMs."

He points out that the 4000 Series engine is in the spotlight for prime and standby power solutions, while a big telecom tower on the company's stand was used to promote the Perkins 400 Series and the benefits it offers to the telecoms sector.

Simon Gray, product marketing manager at Perkins, adds, "Our ongoing 4000 Series campaign is prime power focused, which is very much in demand in the Middle East for off-grid housing. The 4000 Series has been around for three decades and we have been continuously working on it."

Commenting on the potential of the Middle East market, Gray mentions that the telecom sector is very strong in the region. "People are looking for more efficient gensets and Perkins matches its engines to those demands. We are focused on offering the right technology. What we bring for the telecom sector is a very broad offering of products.

"In the past, generators have been the norm for telecoms. Clients are now looking for more efficiency and we match our engines for DC gensets as well as hybrid ones. We have seen technology moving on and we ensure that we deliver the best in many different ways. In this regards, the 4000 Series is growing very strong – as standby in Europe and as prime power in Middle East and Africa."

Nicoll reiterates that in the Middle East, the construction sector is also pushing for standby gensets demands.

Sylvia Burwood, regional marketing manager for the EAME and CIS territory, lays



down the company's plans for pushing the Middle East agenda. "Perkins has a great reputation in the region and, in my role, I will continue to look at product investment and touching base with our customers. Going forward, we will exhibit in Saudi Power that takes place in May 2017 for the first time to expand more into the kingdom. This perhaps gives an understanding as to how important the Middle East market is. As one of the market leaders here, we want to make sure our presence is known and we continue to lead in this territory as well."

Gray adds, "Even in market conditions like lowered oil prices, we see that the Middle East is a global business hub that houses lot of multinational companies from China, Europe and the Americas. This gives us a huge arena for continued growth between



our various ranges and we see a continuous adaption of our products in this market."

Besides the 4000 Series engine, Perkins also had a strong showcase of products at the show, including replacement engines and EP service kits.

Speaking about the MEE experience this year, David points out that Perkins has the biggest stand at the show, an example of just one of the many investments it is making in the electric power sector, especially in the Middle East. He also maintains that there is significant collaboration with the original equipment manufacturers (OEMs) and Perkins is looking to broaden its approach rather than just focussing on the region.

Meanwhile, Gray makes three points clear about Perkins showcase at the event. "First, we have the 4000 Series campaign to prove that it is the right product for the Middle East market for prime power. It's good for standby too. Second, we have an efficient genset engine for the telecom sector for continuous power as well as a variable speed engine that works well with hybrid solutions too; and third, after market support. This is where our service kits and replacement engines come to the fore. We help maintain the durability and longevity of the engines."

According to Perkins, there were 60+ customers at the show that were displaying Perkins logos or engines at their stands. "More than 40 per cent of gensets exhibited at the show were powered by Perkins, which is huge," Nicoll concludes.



# The engine of choice for the power generation market

Our engines make a difference.







T MIDDLE EAST Electricity (MEE) this year, Visa SpA launched new products in power generation. With two stands – one indoor and the other outdoor – the company extensively showcased what it had to offer to the Middle East market.

#### The showcases included:

**GALAXYAir Range:** A series of air-cooled machines equipped with Deutz engines that can also be integrated with renewable energy sources. Its 60kVA unit is made specifically for telecommunication companies in Saudi Arabia.

**LPG Range:** A flexible and versatile new series of 20kVA gas engine generating sets, created in partnership with Perkins Engines to respond to the demand for cleaner, more reliable power, with low costs and continuous power generation.

**Dry Prime Motorpump Range:** Visa SpA is currently focusing its attention on the construction equipment sector for dewatering and sewage, offering a complete series of dry prime pumps. This range represents the perfect mobile solution for transporting or draining water with abrasive solids in suspension and can be used across a range of applications. According to CEO Marco Barro, the key selling point is that it can move solid suspensions up to 80mm large. Hybrid Power Module and Hybrid Battery Module: Also for the telecommunications applications, the genset has a variable speed diesel engine with PMG alternator, and can be incorporated with solar and wind power.

Besides these, Barro says that Visa SpA also showcased a couple of rental fleet units, ranging from 30-300kVA. The larger gensets come with a new controller is equipped with GPRS geo-fencing.

"The reason we brought different models to MEE 2017 is because we wanted to let everybody know that we make different gensets for different applications, and tailor them to suit individual needs."

In a region that still prefers traditional diesel gensets, Visa SpA is doing its best to push for hybrid solutions and Barro seems to be optimistic about the future of hybrid solutions in the Middle East.

"Slowly, but surely, the trend is tilting towards hybrid solutions in telecommunication applications. It's been a slow start but the momentum may pick up in the future. Our rental products have Stage 3A emission engines, which currently may not be a factor in the Middle East, but emission norms would also be applicable to this region in the coming years. This is why we have brought these products to the MEE – to get a head start in the region. Hybrid solutions, with the right technology, can go a long way in terms of power and efficiency," states Barro.

Meanwhile, he attests that quality cannot be compromised and each product has to be tailor made for a particular region. "In the Middle East, the ambient conditions tend to be very difficult and challenging, hence a higher quality product is needed onboard. "The positive thing is that this region appreciates high quality. Visa SpA's strategy is to manufacture a product suitable for the region and not to standardise, so that the product quality stands out in the market. A higher quality product has a greater chance to function well under extreme climates."

As an Italy-based company, the challenge, he says, is to get the right genset remotely manufactured for different ambient conditions such as the Middle East. However, Barro maintains that with the advanced R&D facilities, Visa SpA conducts accurate testing for every genset it manufactures. Gensets are also tested onsite with the help of dealers.

Commenting on the right dealership network, the CEO asserts that Visa SpA believes that working with a well-structured organisation can make a lot of difference in terms regional knowhow and after sales services.

"This is what gives us the edge," Barro says, adding, "We only manufacture what we are confident about."

In conclusion he says that times are challenging in the Middle East right now with regards to business, but reiterates,

"Tomorrow's challenge is not the price... The challenge will be to balance product quality and after-sales service. And we do not compromise on either."



# WE'RE POWERING GROWTH ACROSS EVERY SECTOR



#### SDMO Industries unveils new KD series gensets at MEE 2017

GENSET SPECIALIST SDMO Industries unveiled its brand new KD Series, fitted with KOHLER engine, at Middle East Electricity (MEE) 2017. The generators are designed for emergency and prime applications.

The generator sets will be made available globally this year, although the launch was announced originally in October 2016.

Target industries include data centres, oil and gas, steel, rental, telecommunications and mining.

At MEE, SDMO communication manager Philippe Forest said, "In association with LIEBHERR, we have developed the KD Series and adapted the KOHLER engines to power generation needs. With this, SDMO Industries aims to provide complete solutions to its clients – from engines to gensets to after-sales."

Talking about the development journey of the KD Series, Forest revealed that the project is the fruit of seven years of labour. He added, "It has been an extensive and interesting journey. Our R&D team has put in a lot of effort and we wanted to make sure that we get the perfect product for the market, including the Middle East. After the assurance of our quality product, we launched it at MEE."

Forest then explains about the KD Series. This range of generator sets includes nodes between 800kVA and 4,200kVA, powered by a new line of G-Drive engines, in V12, V16 and V20 diesel engine variants. The power generation spans 700KW to 3.6MW (50Hz) and 900KW to 4.2MW (60Hz). Thanks to technology regulation

and monitoring control systems on each component, the KD series offers very high power quality and the best transient response in compliance with the most stringent regulations.

The range launched with configurations including the 2,800kVA up to 2,500KWe (60Hz) unit, with the remaining generator specs appearing in the next 12 months.

Speaking about the importance of the Middle East market, Forest stated, "The strategic launch at the event was a well-thought decision as the Middle East is an



important hub of power players. There is a lot of demand for gensets for ongoing projects and tailor-made solutions. At SDMO Industries, we are all about adaptability. With the partnership, we can now look after customised client needs, all under one roof—from manufacturing to after-sales."

He stressed that with the right dealership network in the Middle East, SDMO is at the forefront to fulfil clients' demands, which helps it to continuously improve its genset ranges. "We don't only focus on payback. We are also about the right support to end-users."

#### A year of firsts for Ducab; more focus on nuclear and solar projects

THE OPENING OF a new US\$60mn aluminium rod production plant in Abu Dhabi is the latest move by Dubai-headquartered Ducab as it continues to expand its manufacturing capabilities in the UAE.

A complementary addition to the company's portfolio, which already includes its existing copper rod plant, the new facility will produce rods for aluminium cables for both captive consumption as well as be available to market competitors needing to source the base components for their own cable production.

And a third string will shortly be added to the Ducab bow, as marketing manager, Ashish Chaturvedy, explains, "We will also shortly start production of the overhead conductors that you see on roadside pylons. This hasn't been part of our product portfolio in the past, but there has been a lot of research and development in this area, here in the GCC and elsewhere in the region. "Not every one uses the insulated underground cables, and you see a lot of overhead conductors in Africa especially, as well as in parts of America and also in the Middle East."

The new facility, which is ready to go into production from March 2017, will produce product for utilities across the region including existing cable partners DEWA, TRANSCO and



Ashish Chaturvedy talks about new additions to the Ducab family at MEE 2017. (Photo: Ducab)

Saudi Electricity Company (SEC).

Ducab is also playing a significant role in supporting the Abu Dhabi government, which, with EMAL at the forefront, is working on downstream expansion of the aluminium industry.

Says Chaturvedy, "We are one of the first customers to buy sourced liquid molten aluminium at 780°C straight from the EMAL furnace and move it to our Dubai Aluminium Company (DAC) plant in Abu Dhabi for use in our casting line."

Ducab is already supplying product to

clients and projects as far afield at Melbourne and Sydney, Australia, and has representative offices in Hong Kong supplying projects in Macau – including the Hong Kong metro – to the UK for London Underground works and India.

"In total, there are 40 odd countries being serviced by the group in multiple sectors including power plants, metro projects, industrial projects and even regular retail complexes," says Chaturvedy.

According to its marketing manager, Ducab has set itself a challenging budget for the year but is looking to new energy sources to support revenue streams potentially affected by the decline in oil prices.

"We have moved our focus to other areas, such as nuclear and solar. In addition to supplying the Barakah nuclear plant in Abu Dhabi, which is currently under construction by ENEC. We have also secured the contract for the Shin Hanul 1 & 2 nuclear power plant by Korean Hydro-Nuclear Power Co. (KHNP)in South Korea, which is currently under construction," he says.

"This is a first for us and for the country, and our cables have also been tested for a 60-year life cycle; in fact we are the first company to undergo this test for plant operations with low voltage cables," he adds.



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# Taking 'green' steps in the Middle East



PANISH GENSET MANUFACTURER HIMOINSA showcased its specialised gensets and lighting towers designed to work in desert extreme conditions at Middle East Electricity (MEE).

According to HIMOINSA, the power generation market in the Middle East calls for better levels of performance optimisation without limiting the performance of the machine. "HIMOINSA generator sets have become an interesting option for companies looking for profitable equipment. In addition to their ability to withstand extreme conditions, HIMOINSA has developed more versatile and autonomous gensets that can operate in different markets; generator sets with increased maintenance intervals, therefore, less service trips; and new ranges with reduced noise emissions." HIMOINSA, recently selected by Frost & Sullivan for the 'Growth Excellence Leadership Award' in the European market, is working in its development in the Middle East market where the company operates through its subsidiary based in Dubai.

Speaking about the importance of dealership, Guillermo Elum, sales and marketing director at HIMOINSA, says, "We operate in the Middle East via our distributors and dealers. In the UAE, Saudi Arabia and Qatar, our main distributor is FAMCO who helps us prepare projects for our clients. However, HIMOINSA has its own in-house engineers located in every market who support the network with their expertise."

HIMOINSA has warehouses in the region with gensets, besides the stock it keeps with its partner companies, in order to support training and design changes.

FAMCO's regional general manager Terry McGuire pitches in to say, "There is a lot of demand in the region with regards to big and small gensets. We work together to fulfil the demands of our customers and adjust to their needs. We are surely driven by customer demand. We have good lead times and good stock capabilities. If you can't have it, you

miss the opportunity."

Keith Webb, general manager at HIMOINSA Middle East, reiterates that with a Middle East store in partnership with FAMCO, the company has little to worry about.

As the question of uncertainty looms over with regards to market conditions, McGuire points out that the retail sector is doing well as well as healthcare. Citing examples of the UAE and Qatar, he says that there have already been a lot of inquiries for gensets.

"It is indicative that the oil and gas business has started to move again. We have begun talking to companies again and the market can be quite advantageous to a diversified HIMOINSA genset dealer selling rental products for various sectors," he adds.

Elum notes that HIMOINSA standby genset ranges are becoming quite popular worldwide. "This is a trend we now see in Europe with the business models that have been part of the Middle East and North America earlier in the retail sector. For us, Europe is becoming bigger as there are more construction activities there and therefore larger power demand. That is why retail is a very important sector for standby ranges. Data centres are also another example of the growth of standby gensets."

He also reveals that in the next couple of months HIMOINSA will be delivering 700 gensets for the base transceiver station (BTS) in the Middle East.

"Right now, everybody is more focused on OPEX, and the support HIMOINSA can offer to the market. That is why we are exhibiting at MEE with solutions that allow companies to service their gensets every 1,000 hours. The HIMOINSA generator sets with a Yanmar engine include a special kit that allows for longer maintenance intervals up to 1,000 hours. It is useful for rental and telecom applications because it guarantees more autonomy and reduced operation costs, especially for those that will be installed on remote sites."

Pushing its hybrid agenda in the Middle

East, FAMCO's McGuire states, "I believe that in the UAE 'Go Green' is going to become fashionable. The hybrid technology in gensets will help save power and will need less oil changes and even less servicing. The UAE, at the moment, is giving a huge push to the environment. So, from trucks to gensets, everything is going to be very fuel efficient."

Jean-Luc Roland, senior projects manager, sales and marketing department at HIMOINSA, also adds that with today's solution for diesel and gas, it is possible to have a 'green' genset but that is expensive. "That's why we are focusing on wind turbines and solar panels technology. Thanks to our experience in developing hybrid genset product two years ago, we are now ready with a product that may help complete a mini-grid for bigger installations. We are talking about two to four MW installations. This can help reduce the use of generators and push for cleaner hybrid system that can be medium voltage to power a small city or a village."

Giving an overview on HIMOINSA's offerings for the Middle East market and future plans, Elum states that it is offering a lot of equipment to the oil and gas sector in Iraq. "They seem to be spending a lot of money in restoring the economy, one of which is the telecom sector. So we are seeing a lot of activity in that area.

But, Saudi Arabia brings biggest opportunities to HIMOINSA, according to Elum. The kingdom is responsible for 55 per cent of HIMOINSA business in the Middle East. Therefore, FAMCO is focussing on reinforcing its team in the kingdom.

"You really need efficient solutions for a huge country like Saudi Arabia. It is futile if a genset needs to be filled up daily or is not fuel efficient. There is a lot of activity that is happening right now and continuous power is required. Surely, the construction business is down by 50 per cent in Saudi but as soon as oil price reaches stability, everything is going to move very fast," he adds.

#### PRAMAC brings new and specialised genset solutions to MEE

AT MEE 2017, genset specialist PRAMAC showcased six product lines that included hybrid DC generators for the telecoms market, the new gas range, rental, light tower, stationary and portable ranges. PRAMAC has been focussing the hybrid, gas and rental markets for sometime already.

Hybrid DC genset for telecom: The DC genset, batteries and hybrid box comes in a compact and modular design for easy transportion, handling, installation, commissioning and use. PRAMAC provides large and comprehensive range of DC variable speed gensets – from nine to 21kWe max power output, which can be combined with batteries (250÷1200Ah) and solar panels (3,5÷9kWp). This is due to the innovative energy management system inside the hybrid box, which integrates cutting-edge technology for power electronics and a battery charger. Full remote monitoring with reliable control system integration is also possible and there are several design specifiations that PRAMAC offers to meet the large variety of requirements from the telecoms sector.

**Rental:** The GRW series has been conceived to work in a wide variety of applications where temporary power supply is needed. These generators are the ideal solution for rental companies, thanks to their versatility, high efficiency and high structural resistance. They are easy-to-use and guarantee high degrees of protection, low noise emissions and easy maintenance.

**Gas range:** The gas generators are powered by a GENERAC engine featuring high engineering expertise to ensure reliability, durability and performance. PRAMAC offers complete genset control system with advanced controller integrating multiple functions.



**Lighting towers:** Provided with manual or hydraulic lifting, these compact towable lighting towers are equipped onsite or on road trailer and are ideal for quick deployment and manoeuvrability. With 4-1,000W metal halide lights, these towers cover more than 4,000 sq m, thus making it the perfect professional solution for outdoor needs such as road and bridge construction, emergency and disaster relief, construction and oil and gas.

About MEE 2017, Cristian Cavazzuti, managing director, PR Middle East, says, "The presence at MEE, in a joint stand with our Generac partners and colleagues, was really succesful and allowed us to reach our main partners and customers in the region to develop the business. It has been a tremendous opportunity to showcase our new products and to boost our brand."

#### MESC signals at a better future in the region

ONE OF THE leading manufacturers of industrial cables, Middle East Specialised Cables, better known as MESC, showcased high quality cables at Middle East Electricity (MEE) 2017 that was held in Dubai from 14-16 February.

At the stand, CEO Eng. Aiman I Al-Masri was optimistic about MESC's strategies for the future. Al-Masri says, "I would be super optimistic if I say there are many new markets for MESC to expand to. The whole region is passing through a turbulent time but sometimes such times create opportunities for organisations to look back and review their efficiency process. This makes them more competitive and special going forward. I understand at times like these it is all about the price but quality, in no terms, must be compromised. That's exactly what we are about – consistent high quality."

Explaining more, he stresses that MESC is looking to align its organisational strategy to develop more products rather than looking at just the availability of its existing products. "The construction market is a facing a slowdown but if we still see there are projects being developed where there's

a chance of revenue generation, like for instance the oil and gas sector. The GCC governments are going ahead with their oil and gas plans and this means that they are adapting to the current situation and getting ready for future. Our analysis also says that market will be better starting Q4 2017 or Q1 2018. Therefore, now is the chance for companies to focus internally on processing business."

Al-Masri also believes that human assets are the most crucial part of any business and advises companies to manage them better. "We have witnessed lay-offs across the region and, though this may be necessary, it is not always the best way to optimise costs. Companies can alternatively look at other cost-cutting methods like smarter processes, faster deliveries, maintaining high quality and sourcing materials in the best economical way. This is what I mean by focusing on better business strategy.

"At MESC, we believe in our assets. We are faster in executing projects, produce better quality cables and to top it, provide good customer services. We are improving constantly."



MESC CEO Eng. Aiman I Al-Masri is confident that the Middle East market will pick up pace later this year.

Speaking about MESC's specialised products, the CEO pointed towards signalling cables for the transportation sector while adding that MESC is the only company to produce such cables in the Middle East.

"We have the cables certified and approved. Now we are looking to market these. Of course, the market is a bit slow but we are confident that in a few months, the delivery will be made to the clients. As mentioned, we are also furthering our R&D capabilities to launch newer products in the Middle East market," Al-Masri states.



#### Aksa Power Generation wins yet another award from Doosan

LEADING TURKISH GENSET manufacturer Aksa Power Generation has been named 'Best Customer of the Year' for the fifth consecutive time by South Korea's Doosan Motor Company. At an annual awards ceremony held during Middle East Electricity (MEE) 2017 in Dubai, it was announced that Aksa Power Generation is the highest supplier of Doosan motorised generators around the world.

Aksa Power Generation CEO Alper Aker stated that the company looks out for the needs and insights of its customers and adds, "We, at Aksa Power Generation, deliver our products and services to many countries in the world. We carry out successful studies with our R&D teams for the production of power generators adaptable for every condition and suitable to our customers. Partnering with brands like Doosan, that share the same path with us, contributes a lot to our brand force. We are extremely pleased to win for the fifth consecutive time the award among all other companies Doosan supplies for all around the world."



Doosan awards Aksa Power Generation 'Best Customer of the Year' in Dubai.

Managing sales operations across seven continents, with sales offices in USA, China, Russia, the UAE, Kazakhstan, UK, Iran, Iraq, Vietnam, Algeria, Singapore, Ghana and South Africa, Aksa Power Generation's goal is to increase its shares in both Australian and Brazilian markets and reach US\$1bn turnover by 2025.

Also, in an interview to *Technical Review Middle East*, Aksa Power Generation, mentioned that it is playing a key role in powering up the world's largest airport project, as supplier of 42 x 2,500kVA generators for the under-development Istanbul Grand Airport project.

The airport, which is scheduled to take off for business in 2018 and will have phased capacity to eventually handle over 200mn passengers, is a flagship project for the company, according to Ergün Yilmaz, marketing manager, Aksa Power Generation.

Outside of Aksa's home market, the outlook for 2017 is "stable", according to Yilmaz, who says, "There are various issues currently affecting the market in Turkey and Europe, and bearing in mind our geographical proximity to the Middle East, which also has its challenges.

"However, with three factories located in Turkey, China and the USA, and 14 international offices, we are a global producer and export to 160 countries; so this helps us balance our business in the various markets."

#### Al-Ojaimi Group makes its way into international market

SOLE SUPPLIER OF electrical products in Saudi Arabia,
Mohammed Al-Ojaimi Group has been instrumental in bringing
many projects to life in the kingdom.

Abbad S Ahmed, executive manager at Al-Ojaimi Energy Services spoke with *Technical Review Middle East* about not exhibiting at the show this year (Al-Ojaimi has been a regular exhibitor in the past couple of years) and future plans.

Ahmed says, "We used to participate in the earlier editions of MEE. We are currently restructuring the company and, hence, we could not make time for coming to this year's edition. However, we are still here to meet customers and potential clients and further Al-Ojaimi's business in the region and beyond."

He reiterates, "For us, MEE is the meeting point and we have found that many European customers like those from Italy, Germany have generated interest in the Middle East market. The growing Chinese presence in the region is testimony to this. Irrespective of market conditions for the last two years, we have seen that the show is still as strong as ever and this proves that all is not lost with respect to business here. We are now optimistic."

The contracting and manufacturing company is based in Saudi Arabia and its main business lies in the electrical sector in the kingdom. "For the electrical market, we manufacture distribution transformers, low voltage panels, insulated and enamel wires. For contracting, we work on substations, overhead lines and underground cables. Al-Ojaimi has eight branches all across the country and more than 5,000 employees."

Despite economic challenges in the kingdom currently, Ahmed points out that the power market in Saudi Arabia is booming and stresses that even with projects on hold, opportunities to expand the electricity sector are significant.



The Al-Ojaimi Group.

"Saudi Arabia's Vision 2030 is moving in the right direction and growth will not stop. The coming five years will be deciding point and I think projects in the kingdom will increase tremendously."

The company is currently working on many projects including three substations of 132kV in Riyadh as well as network integration projects in Riyadh, Dammam, Jubail, Al-Hassa and Jeddah. Ahmed revealed that Al-Ojaimi Group has more than US\$800mn investments in Saudi Arabia.

More investments mean expansion and Ahmed confirms that the group is expanding its manufacturing facilities in Dammam and Riyadh to expand their range of products including medium voltage switchgears, power cables and power transformers. "In our bid to expand into more sectors like paper manufacturing, we have created a new business called Gulfply and it is currently under construction. The investment in this company is around US\$34mn."





# Continued growth for DSE drives product development

DEEP SEA ELECTRONICS (DSE), manufacturer of generator control, engine controls, auto transfer switch and battery chargers, launched its DSEControl® range to the Middle East market following a successful showcase at MEE 2017.

The new DSEControl® system products, which feature a range of fully programmable displays and controllers for vehicle and off-highway machinery, were designed primarily for use in applications with extreme environmental conditions. DSE's sales and marketing director, Craig Lysons, also highlighted their suitability for other industry sectors where a flexible and programmable platform is required, e.g. combined heat and power generators.

"We also displayed our new digital AVR, which generated a lot of interest amongst the show visitors. Presenting this product at MEE has given us the opportunity to explain our plans and product road map for the next few years, including our intention to allow communication between our DAVR and our new 73xx and 86xx generator control panels." he remarked.

"We hope customers can see we are producing a range of products that allow them to achieve full system solutions from one manufacturer. Whilst we are increasing the technical capability of our products we are also maintaining our ease of use by focusing our attention on making complex solutions, simple.

In addition to offering further product capability, Lysons explained, "Our continued commitment to technical support differentiates us. Our dedicated team of support engineers provide unrivalled application advice and training."

Market prospects in 2017 look positive. "We are confident that our positive growth will continue across the Middle East and as market investments increase across the region we are in a strong position to support our customers in the successful completion of projects.

"Our well-proven solutions for hybrid generators was one of many topics of discussion at MEE. And we are committed to developing connectivity between products and expanding our range," Lysons added.

#### Volvo Penta launches new diesel engines

VOLVO PENTA LAUNCHED two new diesel engines – one of which has the highest power density engine per litre of displacement in its class – during MEE 2017. The TWD1645GE and TWD1644GE engines complement Volvo Penta's existing competitive range.

According to the company, Volvo Penta is taking a significant step forward by adding new technology and upgraded features to its new power generation engines. The 16-litre TWD1645GE has been designed to produce up to 10 per cent more power, compared to previous models, to offer a world-class independent power source. Its switchable rpm settings mean that it can be used anywhere in the world.

Giorgio Paris, head of Volvo Penta's industrial segment, said, "We are setting a new standard in power generation with our market-leading offer. The engine comes equipped with our latest features, which enables us to deliver the most power per litre displacement of any 16-litre engine in the market."

The TWD1645GE produces up to 800kVA at 1,800 rpm (60 Hz), and up to power generation 770kVA at 1,500 rpm (50 Hz). Its sister model, the TWD1644GE produces up to 752kVA at 1,800 rpm, and up to 717kVA at 1,500 rpm. Both are calculated with 94 per cent generator efficiency.

The engine can be used for prime power in locations such as construction sites where there is no electricity grid supply, and as standby powerfor hospitals, which require back-up electricity supply in the event of normal power failure.



#### **GRP Industries strengthens portfolio and presence**

UAE POLY composite manufacturer, GRP Industries, has launched a new vacuum-infusion process (VIP) composite product, adding an eighth product to its portfolio.

"No one else is using this for industrial applications such as enclosures or kiosks. It is traditionally used a lot in the marine and automotive industry where a high gloss finish is required, and we've taken the advantages of that to produce a product that has a higher fibre ratio making it up to 60-70 per cent stronger than other process products, as well as lighter," says Suneel Aggarwal, CEO, GRP Industries.

"This makes it easier to transport and adds another 20 years durability against other processes, with standing strength of up to 70 years. Obviously it is a premium product, pricewise, but when we launched at Middle East Electricity (MEE) 2017 we had a lot of interest and requests for spec sheets," he adds.

In business for 28 years, and the first company to introduce glass reinforced poly composite products to the power sector, GRP's moulded adverse climate range is a leader in the protection enclosures sub-sector.

Says Aggarwal, "The power industry is our main bloodline, but we have moved on to water, solar, oil and gas and the construction industry, and each has its own equipment characteristics so we are always changing in size, shape and dimension to cater to demand, whether it's clients wanting to place lighting inside or air-conditioning units, for example."

The company, which manufactures exclusively in the UAE, has also diversified geographically outside of the Middle East and now supplies Europe, the Far East, and has set up its own entity in the US, supplying companies like Siemens and GE.

"We invest a lot to meet all the international standards and annually certify our products," notes Aggarwal.

GRP has also invested time and resources to upgrade its online presence, and launched its new-look interactive website at MEE 2017, as he explains, "As well as presenting our products in the best possible light, we wanted to make sure we had easily accessible info on every relevant platform, at our client's fingertips covering product features, certifications, 3D renderings and 360-degree views etc. No one else does it and we also included a visual depiction of each product add-on, making it very detailed.

"We used what we saw in B2C businesses and applied it to an industrial environment, with 'usability' key."

Aggarwal's other mission was to be a knowledge provider, and the website has dedicated custom designed sections providing industry-relevant material

He says, "This extends to our client projects. We can take equipment details and create a full 3D render package incorporating their equipment into our products so they can get a true visual representation of how it will integrate within their location."



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Speakers will cover a broad range of relevant topics from evacuation planning for cities to smart safety innovations and latest fire protection technology that will achieve on-time project delivery while maintaining a well-planned health and safety strategy.

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## Flexibility key to Rove Electric's continued success

AN ANNIVERSARY YEAR for Rove Electric, 2017 will see the company celebrate 20 years in business, and for managing director, Navneet Sharma, consistency has been key to its success.

"Our founder had a vision to deliver products that are on a par with the best quality equivalents from across the globe and this still rings true today," remarks Sharma.

Technological differentiation and winning risk-averse clients over, has been Sharma's objective since day one, but he believes that today's customer is much more tech savvy and globally aware, as he explains, "Our trading division imports parts from all around the world, from Spain and Italy to India. When we started, people were biased towards European products, but that has changed over the years.

"What we've also seen is the shift in the global manufacturing base. We have many products manufactured by European companies in India, for example, as well as in other parts of the world."

At the end of the day, Sharma says that as long as the quality and standards are there, the origin is not an issue.

Rove Electrics has product presence in virtually all key markets, apart from the US (no US certification), with IEC certification widely accepted from Europe to India and the Middle East.

It also continues to grow its brand portfolio. Says Sharma, "At MEE 2016, we participated as ABN following our acquisition of the UK company, which has since shifted its manufacturing to India to lower costs. Rove Electrics has huge potential and at this year's showcase we wanted to share all that we do with our full trade and manufacturing portfolio, which includes channel partnering with Eaton, Phoenix Contact, Japan's Terasaki and Fandis from Italy."

His strategy for 2017 is all about identifying demand and expanding on it, as he explains, "We are extremely flexible, so if someone comes to me and says that there is more demand for solar, we will start with solar tomorrow. And this is how we maintain our market position."

## Megawin puts smart technology centre stage

MEGAWIN ELECTRIC, MANUFACTURER of medium voltage switchgear and transformers, is turning its attention to smart metering and smart production devices as it looks to augment its global client base.

The company, which focuses mainly on 11 KV and 36 KV, both air insulated and gas insulated switchgear panels and ring main units has also developed a range of current sensors and voltage sensors.

"These are highly efficient, maintenance-free and virtually failure proof. They give very accurate current and voltage measurement, and this means we can easily provide accurate energy reports," says Hariharan Krishnamoorthy, managing director, Megawin Electric.

Remotely operated, this also drastically reduces operational

maintenance expenses for utilities and other customers and, says Krishnamoorthy, extends unit lifespan by 10 to 15 times more than conventional products as well as offering cost benefits.

"This technology has been used in multiple other applications, like extra-high voltage, but it's now being slowly developed for medium voltage requirements; it just isn't mainstream per se right now." he explains.

"The traditional way for metering is to have a Current and Voltage transformer and these are often failure prone, but these new devices don't fail so that means no maintenance and other headaches," he adds.

Megawin is currently talking to Sharjah Electricity & Water Authority (SEWA) about launching a small pilot metering programme, and hopes to use this as a springboard for further dissemination into key GCC markets, and beyond.

Says Krishnamoorthy, "Prior to designing products we have looked at the specifications of all the utilities in the region, so we can meet or, in

most cases, exceed the required parameters. We are also focused on meeting global market specifications, so our products are on a par with what is accepted in France and the UK, for example.

"Most utilities are creatures of habit and it takes a little effort to get into pilot schemes but we are very happy with the progress we have made so far."

A relatively new player in the market, just two years old, Megawin Electric is also working on raising awareness of its products and capabilities.

"We really want to promote the fact that even though our products may seem similar to the competitors, some of the technologies and concepts we are using are next generation, or beyond what is existing in the market," he remarks.

Megawin manufactures most of the key components in the UAE and owns the technology, which allows for product customisation and modification to be easily fulfilled, as well as on-the-ground after sales service and spare parts support.



Hariharan Krishnamoorthy is the managing director of Megawin Electric.

## Panasonic positive about energy outlook

A 'BETTER LIFE begins at home', according to Panasonic, and this is underpinning the company's approach to product development and delivery.

Tatsuya Kumazawa, Panasonic Eco Solutions Middle East & Africa, says, "Our Fujisawa Sustainable Smart Town development in Japan is an example of how our technology is achieving these goals. Located on the site of a former Panasonic factory, the area was redeveloped to create an energy saving community, and many of the products in place there we are introducing in other markets," he adds.

The Middle East's renewable energy ambitions from Masdar's Shams 1 CSP project in the UAE to the wide-reaching implications of Saudi Arabia's Vision 2030 are synergistic drivers for Panasonic's own regional growth, according to Kumazawa.

"We are very eager to be a part of this, and the region is very important to us; not only the GCC countries but farther afield in Jordan, Iran and Iraq. We are also concentrating on Egypt and, in

East Africa, active in Kenya and Tanzania," he notes.

Kumazawa also red flags the quality issue in emerging markets, as he explains, "There is a lack of good quality products in these markets, and Panasonic really wants to contribute to raising standards as well as safety."

At the other end of the spectrum is smart home technology, with Panasonics' KX- range of home energy management solutions set to benefit from new technologies under development and piloted in Fujisawa.

"We have other home energy management system products under development and in the software stage. These will add further automation benefits to our lives from lighting to appliance control," he says.

Panasonic is keen to work with government entities, developers and relevant authorities in the Middle East to add value to residential sector development as new communities emerge, and sustainability issues continue to gain ground.

## **Briefly**

## **Cummins brings** innovations to MEE

AT THE 42<sup>ND</sup> edition of Middle East Electricity (MEE) 2017, Cummins Power Generation unveiled its new line of 6L Series generator sets for the residential and light commercial market, providing more efficiency with less space. Available from 250-350kVA and powered by Cummins 9.5 litre, six-cylinder dual speed diesel engine, also on display was the QSK95 Series high-horsepower generator set. Rated at up to 3,500 kW (3,750 kVA) and designed with a smaller footprint it delivers the highest kilowatt per square foot ratio in its class providing more reliability with less fuel. In addition, the QSK60 Engine Series is a robust diesel engine that delivers reliable power with competitive power density. **Cummins Power Generation also** displayed its Cummins PowerCommand Cloud™ 550 Remote Monitoring System, designed to give users a robust and reliable remote monitoring option, and 'virtual' Cummins 360°, which was the virtual tour of a data centre and its generator room.

### **FPT Industrial presents** top power solutions

FPT INDUSTRIAL SHOWCASED three top solutions for power generation applications at MEE 2017. With an output of up to 34kW, the S8000 G-Drive combines a high power output with lower cost of ownership in a compact design. The 2.9-litre, three-cylinder engine has best-in-class maintenance intervals of up to 600 hours, while offering exceptional fuel consumption reduction. The \$8000 G-Drive delivers an effective solution for emergency and prime power applications that do not require compliance to emission regulation. The C16 G-Drive is based on Cursor 16 award-winning engine architecture and provides up to 578kW. The six-cylinder engine delivers good load acceptance, reduced fuel consumption, service intervals and reduced sound. The GE N100 100kVA is an open genset for power generation, providing a 180-litre fuel tank integrated in the base frame. The GE N100 100kVA is a switchable

## Mosdorfer promotes fail-proof solutions for line safety

QUALITY AND LONGEVITY are supporting Middle East market growth for Austria's Mosdorfer group, with the European tag adding further credibility to the company's long-term regional proposition.

"There's a strong affinity with quality products in the Middle East and our products suit the market extremely well. As part of the KNILL group, we can also support our business with other complementary products and solutions, so this adds value to our credibility in the region," says Peter Greiter, area sales manager, Mosdorfer GmbH.

The 300-year-old company, which deals in fittings and damping systems for high-voltage overhead transmission lines, and works with utilities partners around the globe, is known for its ability to deliver turnkey systems specifically adapted to local market environments.

"We have been in the region for a very long time; I think we supplied around 70 per cent of all the 400kV lines in the UAE, for example, The Middle East is one of our biggest export markets as the influence of low budget product countries like China isn't as strong," says Greiter.

"Saudi Arabia is a big focus for us, and we have developed a new spacer damper product for Saudi Electric. This was developed to provide more line safety as they were seeing a high percentage of fails due to human error at the installation stage; and is a fail-proof solution," he adds.



The Mosdorfer stand at MEE 2017.

The company is also doing well in North Africa as well as focusing on new opportunities in the former Russian CIS states, but although he expects 2017 to remain slow, Greiter reports seeing a slight improvement in the market.

"We are also moving a little bit away from just being a supplier and looking at the bigger picture of providing ongoing technical support and training," he remarks.

Research and development is supporting Mosdorfer's future growth strategy, and Greiter is keeping a keen eye on market trends, as he comments, "New compactors will be developed and instead of pure steel and aluminium they are now coming with a composite core that will reduce losses and increase capacity; so this will see us develop new fittings and adapt existing product to meet market demand."

## Effective testing technology from BAUR GmbH

THE BAUR TESTING and measurement technology prevents damage to networks and systems and allows for accurate planning of investments for maintenance and locates faults as precisely and quickly as possible.

BAUR GmbH offers high quality products, consultation on site, comprehensive service and

special training in the areas of cable fault location, cable testing and diagnostics, cable test vans and systems and insulation fluids testing.

One of the latest innovations from the company is the BAUR titron, an automatic cable test van designed for cable fault location and cable testing. The new generation of the highperformance cable test van is based on state-of-the-art technology and provides efficient, safe and reliable cable fault location and cable testing. The benefits include:

- Convenient operation with simple guidance
- High-performance technology and the highest safety standard
- Remote control with the BAUR Remote App
- Compact version for installation in small vehicles



50/60 Hz and has best-in-class oil

service interval (up to 600 hours).

## Innovation in the spotlight at MEE 2017

This year there was a keen focus on smart innovation and the push for development and implementation of sustainable cities across the region.

HE 42<sup>ND</sup> EDITION of Middle East Electricity (MEE) was inaugurated by HH Sheikh Hamdan bin Rashid Al Maktoum, Deputy Ruler of Dubai and the Minister of Finance of the UAE.

Held under the theme 'Smart Cities' and hosted by the UAE Ministry of Energy, in partnership with Dubai Municipality, the event showcased special features designed to help the industry learn and develop in line with its goals to become smarter and more sustainable.

A new feature this year was the 'Smart Cities Innovation Zone'. Located in Zabeel Hall 3, this dedicated area featured major players showcasing latest advancements in smart technology via an interactive seminar space on the show floor. This included presentations on smart grids from Huawei, solar solutions from ABB and other innovations from industry leaders Philips, Osram, CAT and Siemens.

Solar Middle East (SME) was once again the region's largest event dedicated to the solar industry. Commenting on SME, Anita Mathews, group director of Informa Industrial Group, said, "This event has continued to go from strength-to-strength since its inception five years ago and now

features over 130 exhibitors."

The conference programme titled 'Energising the Smart City' featured a presentation and Q&A session with HH Suhail Mohamed Al Mazrouei. UAE Minister of Energy. Speaking on the sidelines of MEE, Al Mazrouei said, "Middle East Electricity has made an invaluable contribution to our industry over the past forty-two years and continues to highlight the latest trends and innovations through its Smart Cities theme this year.

"As we put into practice 'The UAE Energy Strategy 2050', announced at the beginning of 2017, to provide clean, secure, affordable and sustainable energy to all residents, the opportunities this exhibition provides are more important than ever."

The fourth edition of the Future Generation
Competition gave university students from across the Middle East a platform to present their own projects and technologies around the MEE theme of 'Smart Cities'.

Middle East Electricity and Solar Middle East 2017 were held under the patronage of HH Sheikh Maktoum bin Mohammed bin Rashid Al Maktoum, Deputy Ruler of Dubai, and took place from February 14-16 at the Dubai World Trade Centre.







MEE 2017 was held under the 'Smart Cities' theme.

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# Saudi Arabia budgets US\$92bn for top 10 projects

The Big 5 Saudi will facilitate meetings between developers, buyers and manufacturers in a bid to push the kingdom's construction growth.

ccording to A BNC Report on Saudi Arabia's ongoing mega projects commissioned by The Big 5 Saudi 2017, the kingdom's top 10 construction projects are worth a collective US\$92bn.

Religious facilities, entertainment venues and new housing developments are all part of the mega projects that are getting international attention and driving the construction market forward in 2017. Taking an in-depth look at what is revolving currently in the Saudi Arabian market, the urban construction and transport sectors constitute approximately 68 per cent of the total projects' value in the country, estimated at US\$700bn.

While exploring key prospects and developments within the local construction industry, organisers of Saudi Arabia's largest construction event, The Big 5 Saudi, dmg events Middle East, Asia & Africa, released a report on the country's *Top 10 Mega Projects*.

Slated to open with much anticipation is the Kingdom Towerin Jeddah. Standing at one kilometre high, the tower will comprise of 252 floors and will have a gross floor area of 245,000 sq m. The project is valued US\$1.8bn and due for completion by March 2020.

Makkah is home to two of the most talked about developments. Consisting of 12 towers standing between 30 to 40 floors sitting on top of a large podium and three basement floors, the Abraj Kudai Development is valued US\$3.5bn and due for completion by the end of 2017. To be completed by May 2019, the US\$17.2bn expansion plans of the Holy Haram Mosque will cover an area of 456,000 sq m to accommodate the 1.2mn worshippers who visit the Holy site every year. One of Saudi Arabia's most iconic landmarks, the Prophets Mosque in Medina will see an expansion as well. Undergoing a US\$6.7bn expansion, with completion estimated by the end of 2017, the project will be spread over an area of 1,020,500 sq m.

Moving towards capital Riyadh, four high profile projects are also underway. An initiative put forth by the Ministry of Housing, the Dahiyat Al Fursan development will create 100,000 houses and other infrastructure works in the capital. Topping out at US\$20bn, Dahiyat Al Fursan developments are expected to be completed by 2020.

Mall of Saudi developers Majid Al Futtaim Group have big plans for the proposed US\$3.2bn shopping paradise. Spread over an area of 866,000 sq m including indoor snow parks and 300,000 sq m of shops, restaurants, entertainment areas, residential units, offices, show rooms space, luxury hotels, and serviced apartment buildings, the Mall of Saudi is expected to open its doors in March 2022.

Looking to ease traffic congestions, the Riyadh Metro project boasts an amazing 176km long, six-line metro railway system is currently being constructed. With 81 stations along its route, the six-line system will span across the surrounding regions and integrate many neighbourhoods. Valued at US\$24.3bn, its completion date is set for December 2020.

Industrial developments are also making their mark as contenders for mega projects within the kingdom. Developers representing Saudi



One of the mega projects is the expansion of the Holy Haram Mosque, which will cover an area of 456,000 sq m to accommodate the 1.2mn worshippers who visit the holy site every year. (Photo: Mawardi Bahar/Shutterstock)

Aramco have set an ambitious completion date for later this year on 30 November 2017 for its new oil and gas processing facility, the Jazan Oil Refinery located in Jazan Economic City. Once finished, the US\$7bn facility will have the capacity to extract up to 400,000 bpd and 75,000 barrels of gasoline.

Construction industry professionals will be able to explore these and other business opportunities at The Big 5 Saudi 2017 taking place from 27-30 March at the Jeddah Centre for Forums & Events. Gathering thousands of manufacturers and buyers of construction products and solutions for the built environment, the event will host over 300 exhibitors from more than 20 countries. The Big 5 Saudi 2017 will also offer 48 free to attend and CPD-certified workshops, to help industry professionals develop their skills and knowledge.





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## Setting the right course

With US\$352bn of confirmed rail infrastructure spend planned in Middle East and North Africa by 2024, Middle East Rail 2017 provided an apt platform to source technologies and exchange expertise.

HE MIDDLE EAST'S annual gathering of global innovators, futurists and thought leaders representing rail transport sector, returned for the 11th year with an expanded focus on new markets.

Middle East Rail was held on 7-8 March at Dubai International Convention in partnership with the Ministry of Infrastructure Development and Federal Transport Authority – land and maritime. More than 350 world-class construction and engineering companies, contractors and solution providers, and regional and international railway operators participated to offer their services and present their plans for future systems.

The show once again hosted more than 800 C-level executives representing US\$352bn worth of rail projects in the Middle East, North Africa and South Asia.

Abdulla Belhaif Al Nuaimi, minister of infrastructure development and chairman of Federal Transport Authority, said, "Middle East Rail

has grown from strength to strength over the past decade and we are proud to play a lead role in bringing together government ministers, thought leaders, innovators, and policymakers under one roof to coordinate progress in the rail industry as a whole. The show demonstrates our support and commitment to build a world-class transport infrastructure system in the region."

In 2017, Middle East Rail introduced the Manufacturing Zone and Mobility Oriented Development Zone that offers solutions providers and manufacturing suppliers an opportunity to meet with prospective buyers and build their brand. One of the most important features at the event was the dedicated Career Zone, where university graduates learnt about career prospects within the industry as well as establishing contacts. This will help boost local employment in the regional nations.

According to a report produced by Terrapinn Middle East, in collaboration with tracker Ventures ONSITE, the value of total GCC rail projects in pipeline stands at more than US\$240bn, with US\$69bn worth of projects currently under construction. In terms of overall expenditure on rail projects, Saudi Arabia and the UAE remain on top in the GCC region.

Industry players are also upbeat about the MENA's railway supply market prospects, noting that the sector will grow about three per cent annually in the next four years.

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Saudi Arabia is the uncontested GCC leader when it comes to railway expenditure, according to organiser Terrapinn Middle East.

According to Helmut Scholze, partner at Roland Berger, a strategy consulting firm, "Despite some setbacks and the economic complexities seen in the past year, the rail market is picking up speed. We predict further investments and this will lead to significant, long-term growth in the rail equipment market. The UAE and Iran will be the key growth markets, while Saudi Arabia will stay moderately flat at its current high volume."

The 15km extension of the Dubai metro to the Expo 2020 site and the Saudi Land Bridge linking Riyadh to Jeddah is progressing well. In Egypt, the modernisation of a metro line and a large order for new metro vehicles is expected in Cairo. For the GCC Railway Project, individual member states are currently assessing the details of continuation of the project as well as domestic alternatives.

Oman Rail is now weighing up plans for the development of a domestic heavy-haul line that will transport minerals from Thumrait to Dugm Port.

## Taking fire protection a notch higher

Nullifire's technical conference was highly informative and discussed innovative, high quality and fire resistant solutions for building design in the Middle East.

HE UAE HAS long been committed to ensure the safety of its residents and citizens, when it comes to fire protection measures. However, despite these efforts, incidences of fire are not unheard of in the Emirates. Conscientious measures are being constantly pushed by various UAE government agencies namely Dubai Civil Defence and Abu Dhabi Civil Defence, to better the already top-class living standards.

To push the emirates fire protection agenda, Nullifire organised 'The Fire Protection in Building Design' technical conference on 22 February 2017, in collaboration with *Technical Review Middle East*, which brought together more than 250 delegates and speakers from across the fire safety industry.

Topics ranged from enhancing fire protection solutions in buildings to looking at fire safety in steel structures. Both were addressed by Dr Andrew Taylor, fire protection specialist, R&D at tremco illbruck. Providing reference cases from the USA, he stated that most deaths occur not due to fire but to inhalation of toxic fumes. He also reiterated the importance of active and passive fire protection in buildings. As an expert in intumescent coating, he suggested that a protective top seal can go a long way in safeguarding steel structures in building.

Next on the agenda was the issue of how to holistically approach fire safety compliance for façades. Abhishek Chhabra, business development at Thomas Bell Wright International Consultant, put across the importance of implementation of fire safety plans in a building design.

The UAE complies to both American and European certifications, which may be conflicting in many cases. Michael Luna, director of compliance at Vanguard Consultancy, in his presentation support single worldwide accreditation.

Shamim Rashid-Suma, president, UAE International Chapter of



the Society of Fire Protection Engineers (SFPE), and director of business development, presented case studies of fire prevention methodology in buildings in the Middle East. She pointed out that correct placement of signage and implementation of rules go a long way to ensuring that lives are saved.

The event was a tremendous success. As Eng. Captain Mohamed Alkatheeri, fire safety manager and fire protection branch manager – Abu Dhabi Civil Defence puts it, "Its a good event and very useful as new information have come to the fore. It had very good line up of speakers who can help push the industry in the right direction."

Nullifire is at the forefront of smart passive fire protection. For over 40 years, Nullifire has been a market leader in intumescent and fire stopping solutions. According to the company, passive fire protection is highly complex but crucially important, especially as buildings become more sophisticated. With a unique team of technical experts, everything is focused on providing what its customers need at every stage of their project – smart protection.



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# Meeting Saudi's growing equipment demands

Rabiah & Nassar Group offers wide range of products and services to meet the demands of Saudi Arabia's booming construction and equipment sectors.

AUDI ARABIA'S BOOMING construction and equipment sectors have created growing demand for a diverse range of products and services.

Rabiah & Nassar Group (RANCO), the diversified conglomerate, aims to cater to this booming industry with its several subsidiaries, and is among the first choices for the supply of some of the biggest global brands of construction machinery in Saudi Arabia.

Established in 1950 in Saudi Arabia's eastern port city of Khobar, the group started as a small road-building contractor and worked in tandem with the Arabian American Oil Company (Aramco) and municipalities to construct some of the major road networks in the Kingdom's Eastern Province.

From these humble beginnings, RANCO expanded to partner with the Saudi Ministry of Communication to build the first road network in the Qassim area as well as a number of other major projects, such as airports, water treatment facilities, bridges and other road networks.

The group's continuous growth led to the widening of its theatre of action and eventually to its transfer to Riyadh, Saudi Arabia's capital and largest city. The company continued its diversification after the transfer, branching out into engineering and contracting, real estate, agriculture, mining, commercial trading, industrial and other investments.

#### Partnership with Zoomlion

RANCO is currently the sole dealer for the Chinese giant, Zoomlion's rough terrain cranes (RTC) and crawler cranes in Saudi Arabia; a market that has more than 50 per cent share of the Middle East's construction machinery sector and is one of the biggest users of RTCs.

RANCO has invested over US\$10mn for expansion, which includes opening new facilities to expand its workforce, as well as implementing new sales strategies and methodologies. As exclusive dealers for

Zoomlion RTCs, a leading manufacturer of construction and material handling equipment, the company has not only established its operational base in Khobar but has also branched out in Riyadh and Jeddah to serve the entire Saudi Arabian market.

Speaking about its philosophy of serving its partners and customers in new markets, a Zoomlion spokesperson said, "It is the vision of Zoomlion that helps our cranes to get into local markets. In the future, we will continue the localisation and give best support to our partners as we always do. We strongly believe this is the best way to support our customers."

Realising the potential of the Saudi Arabian market early on, the Chinese company has always placed great emphasis on its partnerships here. "We are glad that we have had remarkable performance after years of efforts in Saudi Arabia. Our products are widely used in the fields of oil exploration, refineries, highway, railway, housing, construction, etc," according to brand manager Faisal Al-Mobayedh.

## Multiple solutions under one roof

With this philosophy, the company has also expanded its product offerings to be able to provide multiple solutions to its customers – with the assurance that some of the top brand names in the world bring.

"We offer diversified product and equipment solutions to customers, which include machines from renowned names such as Altec for contractors in the electrical power supply and generation sector, telecommunication and other utility services sector," RANCO group operations manager Roy Evans states.

The range of Altec products that RANCO supplies include aerial platforms, insulated man lifts, cable handlers, high-line washers, digger-derricks and HD truck cranes. Evans adds that the company also offers the Octopus man lifts from the renowned truck-mounted equipment



specialist Oil & Steel.

RANCO also represents a well-known brand name in the logistics and material handling industry – GoodSense. The equipment that it offers from the Chinese forklift specialist ranges from 2, 2.5 and 3-tonne electric forklifts to 3, 3.5, 5, 7, 10 and 16-tonne forklifts in the diesel, petrol and LPG lines. "In fact, material handling solutions were among the fastest expanding sectors for us in 2016, during which we achieved great growth with GoodSense products," Al-Mobayedh points out. "Another big area of growth was in our Zoomlion Truck mounted crane range."

RANCO reports that 2016 saw the company deliver a good performance.

"Our division's performance last year has put us in a strong position. Buoyed by this positive result, we are upbeat about this coming year and have set our targets accordingly. In 2017, we aim to be the No. 1 dealer for rough terrain cranes in Saudi Arabia in terms of market share, and also place ourselves among the top five in the list of forklift suppliers," Al-Mobayedh adds.

And with industry-leading brands in its portfolio, as well as a culture of strategic application of leadership values such as trust, speed to market and high levels of customer service, RANCO is a group that is poised for growth.

## Precast wall adapter for greater safety

GLOBAL FORMWORKS COMPANY PASCHAL has launched a precast wall adapter, which allows its LOGO concreting platform to be used more effectively and safely with precast wall elements.

One of the advantages the precast wall adapter offers is quick and easy assembly. When using the LOGO concreting platform on precast wall elements, instead of the standard attachments, a precast wall adapter with a hexagon socket is installed on the brackets of the concreting platform. This allows the concreting platform to be completed and be ready to use at ground level. The crane gears for transportation are secured using the integrated crane eyes on the precast wall adapters and on the concreting platform. An installation set has also been attached to the arbor of the precast wall adapter that remains in the concrete after concreting. As a result, the complete platform can be detached and moved after completion of the concreting process.



All of the components necessary for a safe work area are already integrated into the LOGO concreting platform: covering, lateral protection, crane eyes and the brackets for load carrying. The lateral protection can be easily unfolded after transportation.

According to the company, it is not only the assembly time that is shortened this way, but the unsecured periods on the platform are also significantly reduced and occupational safety is improved.

Another advantage is that when used on precast wall elements, the lateral protection of the LOGO concreting platform remains unchanged. For a greater level of safety, a board for fall protection can also be attached to the front of the precast wall adapter.

PASCHAL Group is an internationally well-known provider of services, distribution and production of concrete formworks, support systems and formwork planning software with a presence in more than 40 countries. Its portfolio includes the circular formwork with variable radius also called Trapezoidal Girder Formwork/ TTR, the Modular Universal Formwork with large-size elements GE, the large-size formworks LOGO.3 and Athlete, circular and angular column formworks, Climbing and Single-sided forming, support systems for precast or slab ceilings, as well as fair-faced concrete formworks. PASCHAL is also a specialist for custom formworks from wood or steel, or low-cost combinations with standard formwork panels.

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# Towards greater functionality in compact excavators

Bobcat has launched its new 1.7 tonne E17Z Zero Tail Swing (ZTS) canopy model, which is equipped with a range of features that deliver improved operator environment, transportability, durability and easy service access.

OBCAT'S NEW 1.7 tonne E17Z ZTS canopy model completes the company's 1-2 tonne range of compact excavators. It provides an unmatched combination of features for a machine of this size, from ZTS and the comfortable operator area to ease of transport thanks to a shipping weight close to 1.6 tonnes; its impressive digging forces and working range; the smoothness of the workgroup functions; the fast hydraulic performance in terms of low cycle times and its reliability, durability and easy service access.

In the new E17Z, the ZTS functionality is taken a level further using Bobcat's Zero House Swing (ZHS) design, in which the front upper structure is also fully protected by ensuring the front corners are kept within the swing circle when the tracks are in the fully expanded position. As a result, the ZHS functionality on the E17Z provides the peace-of-mind of 320° of free rotation when working close to walls and other obstructions, without sacrificing on operator comfort or performance.

#### Improved operator environment

According to the company, the E17Z operator environment, in combination with excellent visibility, provides unmatched operator comfort and safety. In fact, the E17Z is built around the operator, providing optimal ergonomics for operators of all sizes with easy access to the pedals and controls. The large canopy and entry/exit space provide the driver with plenty of room to get into and out of the operator's seat and this is further helped by the left hand control console lifting completely out of the way. Another feature is that, when not in use, the pedals can be folded away to increase room for the operator's feet, leaving a large flat floor area that is easy to clean.

The E17Z has a standard operating weight of 1,749kg and a maximum digging depth of 2,249mm. It comes with a range of features including retractable undercarriage, upper-structure tiedown points and advanced diagnostics. The compact size combined with great stability and a transport weight close to 1.6 tonnes makes this machine the perfect choice for applications in confined areas.

The E17Z comes with a hydraulic system designed to make the best possible use of the engine power. It is also delivers fast cycle times and smooth control of class-leading breakout forces to provide maximum productivity. Boom and arm cylinder cushioning – unique in this class – enhance the overall smoothness of the workgroup. The E17Z incorporates the architecture of the hydraulic system on the larger Bobcat E20 model with a combination of variable piston pumps and a gear pump.

#### **Transportability**

In accordance with European transport regulations, the maximum towable weight for a BE license is 3,500kg. With a transport weight of



The ZHS functionality on the E17Z facilitates 320° of free rotation when working close to walls and other obstructions. (Photo: Bobcat)

less than 1.65 tonnes, the E17Z is towable on trailers for 2,200kg of total weight. The integrated upper-structure tie-down points of the machine make transportability even easier. An automatic slew brake helps facilitate safe parking and transportation.

The premium control panel ensures all the vital information for the machine is easily accessible by the operator [auto engine shut-down, auto glow plugs countdown, auto cab lights switch-off, audible alarm (in case of malfunction) and the RPM meter]. The E17Z also offers keyless ignition for optimal safety and a battery kill switch to help prevent battery drain when storing the machine as well providing an effective way to prevent theft.

The impressive dump height on the E17Z allows it to load trucks easily, while the reach at ground level means the machine does not need to be repositioned as often when digging. When fully retracted, the undercarriage allows the excavator to go through narrow spaces; and when fully expanded, provides optimum stability for the excavator, especially when working over the side.

Stability is essential for making maximum use of the digging forces and lifting capacities. Optimum stability is achieved by fully expanding the retractable undercarriage and using the optional long dozer blade. As well as helping in dustpanning work, the long dozer blade significantly improves the front stability enabling the operator to use the full breakout forces the machine can deliver.

With stability on a par with other ZTS machines in this class, the E17Z is ideally suited to safely pick up and place heavy items. In addition, the E17Z can be supplied with an optional certified 'object handling device', which consists of a boom load holding valve, arm load holding valve, hooking device and overload warning device.

## Revolutionising elevator maintenance

KONE, THE GLOBAL manufacturer of elevators and escalators, has launched a unique tailor-made approach for its maintenance services and new 24/7 Connected Services, which uses the IBM Watson IoT (Internet of Things) platform.

The company is bringing new levels of flexibility to elevator maintenance, with the introduction of a fully customisable portfolio of services and advanced tools, designed to meet the individual needs of different customers, such as building owners and facility managers.

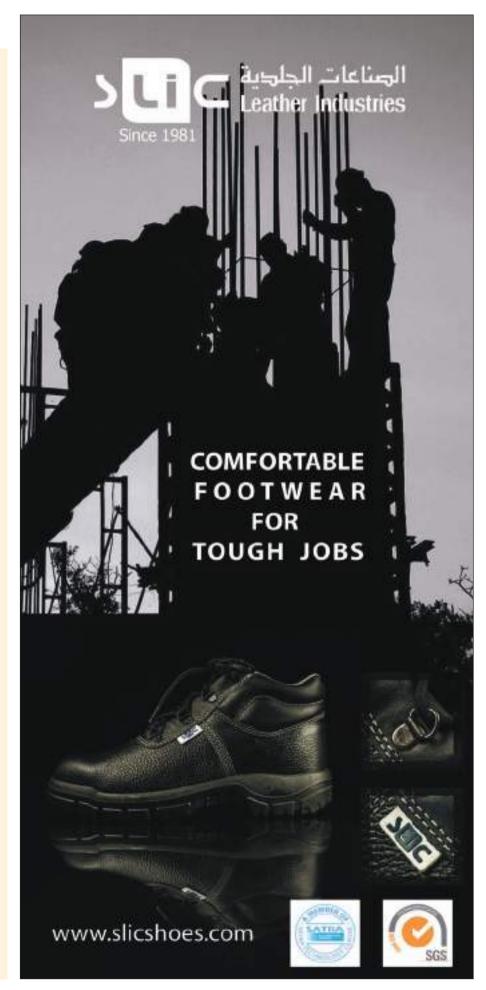
With the new services, KONE's customers will be able to request and customise services to match the specific requirements of their business, their tenants, or their building type, instead of predesigned service packages.

"With new technologies and connectivity, we are able to even better meet our customers' changing needs and expectations on speed, transparency and predictability. Our customised approach for maintenance services is designed together with customers, for our customers, to help them to better succeed in their business and add value in totally new ways." said KONE president and CEO Henrik Ehrnrooth.

As part of KONE Care, KONE has also launched 24/7 Connected Services, which uses the IBM Watson IoT platform and other advanced technologies to bring intelligent services to elevators and escalators. This delivers a completely new experience for KONE's customers, with less equipment downtime, fewer faults and detailed information on maintenance work. It guarantees lesser waiting time and more personalised experiences elevator and escalator users.

The system enables vast amounts of data from elevator sensors to be monitored, analysed and displayed in real-time, improving equipment performance, reliability and safety.

"This is just the beginning. With this platform we will be able to bring new services and innovations faster to the market for our customers and consumers. Not only are we able to customize services based on our customers' individual needs — with better predictability, planning and peace of mind — but we will also bring artificial intelligence for our services, which will help predict and suggest resolutions to potential problems," Ehrnrooth added.



## Simplifying fastening

Italian fastener manufacturing company Specialinsert's innovative self-anchoring insert for stone and solid surfaces, 'Keep-Nut', sees steady growth in sales and aims for worldwide expansion.





Keep-Nut facilitates easier handling and storage of panels. (Photo: Specialinsert)

EEP-NUT IS A revolutionary pressin insert with mechanical anchoring to create threaded seats on panels made of marble, granite or other stones, and moreover on composites, carbon, Corian, HPL, glass and others compact materials.

Specialinsert has reported steady sales growth of the product and its expansion in international markets. Keep-Nut is now used in more than 35 countries worldwide for a range of projects including interiors, kitchen and bathroom countertops, furniture and external ventilated façades. In other words, wherever fastening elements on solid surfaces are required.

### **ETA** certification

Keep-Nut has recently obtained the ETA certificate for its use as a fastener for the rear fixing of façade panels made of ceramic tiles (stoneware) according to EN 14411:2016. The company stated that this certification guarantees the structural performance of Keep-Nut, which is used as a hidden anchor on panels for wall cladding projects. The company commented that the achievement of the ETA is a result of a long process carried out by the Deutsches Institut für Bautechnik (DIBt) with outcomes from about 100 different laboratory tests performed by the Polytechnic of Milan as independent body.

Following ETA certification, Specialinsert will be able now to cater to the building and construction industry also, in particular to companies working on wall cladding and ventilated façades projects, where Keep-Nut will be a perfect solution as a concealed anchor.

#### **Simplified fastening**

One of the advantages that Keep-Nut offers over alternative anchors is that the holes in the panels are cylindrical without any undercuts, allowing the drilling process to be performed with standard and cheaper tools. It simplifies the installation process and eliminates the need for adhesives. The installation can be also performed directly on construction site.

Keep-Nut has been positively tested, not only on ceramic but also on marble, granite, engineered stone, HPL, Corian, Dekton, teak wood and many other solid surfaces. Keep-Nut is manufactured in stainless steel and is made of a threaded bush, with a set of toothed spring washers and a plastic ring holding the parts together. It comes in different lengths, with or without flange, to fit several different panel thicknesses. Additionally, it can be customised with different versions and sizes (inches and metrical) to meet the customer needs. Its installation is easy — the user can drill the material with the right diameter and simply press the insert in.

All of this has made Keep-Nut one of the best-selling products of the year with applications for kitchens and bathrooms elements, furniture, décor and interior design and construction, the company commented.

Specialinsert product ranges span from inserts for metal sheets and sections to inserts for wood and metal full parts and plastics and composite materials. The Italian company, which has a background in traditional mechanical fastening systems, is now enlarging its expertise in more innovative fields of applications with the design and manufacture of custom solutions.

Established in Italy, Specialinsert supplies its products to customers in more than 40 countries worldwide, including the Middle East countries. The company is currently establishing a network of distributions within the Middle East, starting with the two newest families of products, Keep-Nut and Master-Plate and then plan on extending the distribution to the entire range.

Specialinsert claims that its complementary experience with its partners enables it to provide full support to any new projects of ventilated façades, from the design and structural calculations to the training of the technician for the installation on site. The company has completed several projects and is running more in Europe, USA and the Middle East.



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## Crane mode for Jumbo class NX access platforms by PALFINGER

PALFINGER JUMBO CLASS NX access platforms have added an innovative crane mode to its range of services. The advantage includes lifting capacity of up to 900kg, which can also be conveniently performed using the access platform. This means one less piece of machinery is required at the construction site.

The access platform can be used for both smaller lifting tasks and as a crane. For the first time, an access platform – specifically the Jumbo class NX – has been equipped with a practical crane mode. This new



The innovative Jumbo class NX was voted 'Product of the Year 2015' by the jury of the International Awards for Powered Access (IAPAs). (Photo: PALFINGER)

function allows loads of up to 900kg to be lifted using the crane hook. The system's cable winch has a lifting capacity of up to 460kg and measuring equipment prevents overloading. Crane mode makes the access platform more flexible and versatile.

"This means that an additional crane is not required on site for simple lifting tasks," said Dominic Ulrich, technical director at PALFINGER Platforms. For instance, crane mode can be used to lift tools up to the assembly site. This innovative solution helps PALFINGER save its customers time and money by combining construction site operations.

The crane mode, which is available as an option with the access platform, is well thought-out and simple to operate. The lifting capacity is fully utilised even when the access platform is extended to its maximum range. In concrete terms, with the P 570 access platform, loads of up to 900kg can be transported up to 38.3 metres. The cable winch is positioned on the loading surface underneath the platform and an automatic function moves it out of the transport position. Generally, crane mode is controlled via the access platform's cable-connected secondary controls. Wireless remote control is also available on request. As soon as crane mode is activated, a crane, which is in compliance with Standard EN 13000 for mobile cranes, emerges from the access platform. Under no circumstances, should a person enter the basket while crane mode is active.

The Jumbo class NX is characterised by its high degree of flexibility combined with outstanding performance. With special profile structures and lightweight materials, the design ensures that this series has a low dead weight. This allows more tools, working accessories and material to be transported on the vehicle.

## New diesel genset from Caterpillar with improved power density for standby applications

CATERPILLAR HAS LAUNCHED a new standby power node for the Cat 3512C diesel generator set that offers industry-leading power density.

Rated at 1,750kW for 60Hz standby applications, the Cat 3512C generator set offers reliable backup power from an optimally sized engine and a reduced overall footprint that delivers numerous benefits, including lower overall site preparation, transportation, installation and maintenance costs, as well as reduced fuel consumption and lower emissions.

The Cat 3512C diesel generator set is the latest in a series of new ratings for proven standby power solutions from Caterpillar. These generator sets have been reengineered with the higher power densities requested by customers to meet increasingly challenging restrictions on capital, site size, and cost.

Over the next six months, Caterpillar will offer seven new ratings based on existing, proven platforms that deliver the benefits of high power density to our customers around the globe. The full line

will feature power nodes ranging from 1,250kW to 2,800kW that can significantly reduce customer's installed costs over current product offerings.

"Maximizing the return on investment for standby power requires customers to specify a solution that is precisely sized to balance power availability and reliability with lower costs," said Lenaik Andrieux, general manager for Caterpillar's Large Electric Power Division. "These standby generator sets with improved power densities will allow customers to fine-tune the selection of the power they need through a compact package that can significantly reduce their costs for both the short and long term."

The Cat 3512C generator set has a highly competitive footprint of 14 sq m, saving up to 13 per cent of installed space when compared with competing generator sets at the same rating. It is designed to meet the NFPA power restoration requirement for Level 1 systems and accept 100 per cent block load in one step. The Cat 3512C generator set also meets ISO 8528-5 G3



requirements for steady state and load acceptance. It can be configured to meet the US EPA Emergency Regulations.

The Cat 3512C generator set can be equipped with a low- or high-voltage frame alternator that enables quick load acceptance through exceptional motor starting capabilities. This feature allows users to minimise oversizing the generator set due to motor starting requirements.

The Cat 3512C generator set utilises the field-proven Cat ADEM™ A3 engine control module (ECM), which integrates all engine functions including ignition, governing, air-fuel ratio control, and engine protection.

## HIMOINSA powers IMAGINE show in Dubai

FOUR HIMOINSA GENERATOR sets are supplying 5.2MVA of power for IMAGINE, Dubai's latest multi-media waterfront in Dubai Festival City.

The fire, light and laser spectacle projects detailed imagery onto a huge dancing wall of water and holds the Guinness World Record.

Every night, thirty water fountains, lights and fire turn the façade of the Intercontinental Dubai Festival City Hotel into a screen five times larger than the biggest cinema screens. The 'FIRE. WATER. LIGHT. AWE' show is the star attraction of this complex, which was recently expanded by the Al-Futtaim Group. And HIMOINSA is making it all possible by supplying energy for the 48 pumps that active the fountains, forming part of the show.

One of the challenges that the project faces is the rapid and continually changing load due to the very nature of the spectacle. Working hand-in-hand with FAMCO, its distributor, and with Al Futtaim Engineering, HIMOINSA offered a solution of three HTW-1745 T5 generator sets. These start up,



A complexity of the project is the rapid and continually changing load, due to the very nature of the spectacle. (Photo: HIMOINSA)

synchronise and provide up to 5.2MVA of prime power, while acting as a single source of energy. The three gensets are fed by a central fuel tank and auto filling system which keeps the whole plant primed for showtime.

The project required a dual start-up system able to guarantee that the units would start up at the most critical moments. For this special application, the control units of the

three generator sets were also configured to communicate and work in parallel with one another. The three generator sets start up at the same time, just as a power plant would, and the whole operation can be monitored and controlled from a single point.

Depending on the load demand, during downtime and following the show finale, one or more generator sets automatically switch off and remains on stand-by in case of an emergency.

In order to optimise their efficiency, HIMOINSA has installed, in parallel a fourth 60kVA, HFW-60 T5 generator set, which uses an FPT-Iveco engine in sync with the other gensets. When the show comes to an end, and energy demand drops considerably, this generator set starts up and the other gensets switch off, with absolutely no interruption in supply.

The generator sets have been housed in 40 feet containers that not only dramatically simplify the logistics of the operation, but also reduce the on-site work to the minimum not to mention the time needed to install them.

## New service offering and 24/7 Connected Services for elevators and escalators from KONE

KONE, PROVIDER OF elevator and escalator solutions, has launched a tailor-made approach for its maintenance services and a new 24/7 Connected Services.

The company said that it is bringing enhanced levels of flexibility to elevator maintenance, with the introduction of a fully customisable portfolio of services and advanced tools, designed to meet the individual needs of different customers. With this, customers will be able to request and customise services to match their specific requirements of building type, instead of predesigned packages.

"With new technologies and connectivity, we are able to even better meet our customers' changing needs and expectations on speed, transparency and predictability," said Henrik Ehrnrooth, president and CEO, KONE.

As part of KONE Care™, KONE also launched 24/7 Connected Services, which uses the IBM Watson IoT platform and other advanced technologies to bring intelligent services to elevators and escalators. It means a less equipment downtime, fewer faults and detailed information on maintenance work. For

users, it means less waiting time and more personalised experiences. The system enables vast amounts of data from elevator sensors to be monitored, analysed and displayed in real-time, improving equipment performance, reliability and safety.

The launch of 24/7 Connected Services comes a year after KONE and IBM announced a multi-year agreement.

Both KONE service offering and 24/7 Connected Services have been piloted and introduced in select markets and will be commercially available globally during 2017, with roll-out continuing throughout 2018. KONE said that it aims to connect over one million additional elevators and escalators to the cloud over the next few years.

In January this year, KONE won an order to supply 145 elevators and escalators for the new passenger terminal building at Bahrain International Airport (BIA). The order is part of an extensive modernisation project aimed at creating one of the most futuristic airport buildings in the world.

The BIA modernisation programme is expected to be completed by Q2 2020.

## High performance screw technology for blower air from Kaeser

THE NEW KAESER DBS screw blower from 15kW for low rates from eight to 22 cu/m/min, with high-efficiency portable compressors, delivers unparalleled efficiency. The new Kaeser screw blowers are significantly more efficient than conventional rotary blowers and also provide substantial energy savings compared with many competing rotary and turbo blowers.

The benefits are made possible by the proven Sigma rotor technology used in the rotary screw compressor sector. Another key factor is the innovative non-slip direct drive with speed transmission integrated into the air end.

The screw blowers are especially well-suited to municipal and industrial water treatment applications. Two different versions are available to meet the needs of water treatment plants requiring pressures of 400 or 650 mbar. The new blowers are exceptionally quiet, with sound levels in primary applications not exceeding 72dB, which is equivalent to a modern vacuum cleaner.

They are designed for use over long duty cycles, including continuous operation, require little maintenance, and can be installed side by side, or even next to a wall.

### ما الجديد في منصة بيركنز؟

نظرا لاستمرار ارتفاع تكلفة الآلات الجديدة، يتطلع معظم الناس إلى إجراء إصلاحات شاملة على معداته كبديل لشراء أخرى جديدة. ومن ثم، تقدم بيركنز أكثر المجموعات الكاملة في الصناعة من المحركات المُعاد تصنيعها والبديلة الأكثر كفاءة الآن من حيث التكلفة وأكثر توفرا بسهولة عن أي وقت مضى، أيا كان موقع العميل في العالم.

ومما لاشك فيه أن شركة بيركنز تساعد العملاء على الوفاء بمعايير الانبعاثات، واستمرار الإنتاجية، من خلال أداء محرك يماثل المحرك الجديد بواسطة الأجزاء الأصلية 100 في المائة، وضمانات المصنع القياسية.

وبإمكان بيركنز، بوصفها مورِّداً رائداً يقدم برنامج مجموعة كاملة من المحركات البديلة، مساعدة المستخدمين النهائيين على تقليل زمن التوقف عن العمل في حالة حدوث أعطال في مواقع العمل، مع خيارات إصلاح شاملة أكثر مرونة، وفترات تأخير أقل.

وتقول هيلين هاجان، مديرة تسويق قطع الغيار: 
«إن خدمتنا الآن أكثر تنافسية ومتوفرة أفضل من 
أي وقت مض، بما في ذلك تقديم الدعم للأجيال 
السابقة من المحركات، والعلامات التجارية المنافسة 
أيضا. كما أننا نساعد العملاء، من خلال الأداء 
المماثل لأداء المحركات الجديدة، وقطع غيار بيركنز 
الأصلية، وضمانات المصنع القياسية، على تمديد 
القيمة المتبقية لآلاتهم عندما يقررون أنه حان 
وقت بعها».

تقدم بيركنز محركات جديدة وبديلة بالكامل للموديلات المختارة تتوافق مع معايير الانبعاثات، وقمثل حلولا للإصلاح الشامل بعد البيع وسهلة التركيب.

• محركات New Long ومحركات Long: تم تصميم محركات Long وفقا لمواصفات تصميم محددة توفر مرونة وقيمة للعملاء الذين يحتاجون إلى إعادة التزود بالطاقة.

• محركات New Short ومحركات Short: قمثل محركات Short خيار إصلاح اقتصادياً يقلل كثيرا من زمن التوقف عن العمل، كما أنها تقدم حلا يُعتمد عليه في حالة تعطل المحركات الكرى.

- رأس جديد بالكامل: في حالة تضرر رأس الأسطوانة، بينما باقي المحرك في حالة جيدة، توفر الرؤوس الكاملة حلا سريعا وموفرا للتكلفة.
- منتجات وخدمات إضافية: لتكملة حلول المحركات البديلة، تقدم بيركنز أيضا منتجات حصرية لما بعد البيع، مثل الضمانات الممتدة، وزيت ومرد محرك بتركبية خاصة.

ووفقا لبيركنز، تقدم حلول المحركات البديلة، المعاد تصميمها الخاص بها، مزايا كبيرة للمستخدمين النهائين تتضمن:

- أداء المحرك مماثل لأداء المحركات الجديدة ولكن بجزء صغير من تكلفة المحركات الجديدة.
- تقليل تكاليف ترقية المستوى الباهظة من خلال محرك بديل بنفس أداء المحرك الذي تم ترقيته.
- عائد أكبر على الاستثمار من خلال تمديد العمر الافتراضي للآلة، وتحسين قيمة إعادة البيع.
- معالجة الطلب بنفس سرعة وسهولة شراء طلبية جديدة، مها يزيد الإنتاجية ويقلل زمن التوقف عن العمل.
- الموثوقية: تحتوي كافة حلول الإحلال على قطع غيار بيركنز الأصلية بنسبة 100 في المائة، كما تصاحبها ضمانات المصنع القياسية.

## مساعدة المستخدمين على الحفاظ على محركاتهم

تم عرض مجموعة جديدة من «أطقم الصيانة» الخاصة بمحركات الطاقة الكهربائية من بيركنز في معرض الشرق الأوسط للكهرباء لعام 2017. هذه الأطقم توفر للمستخدم النهائي كافة قطع الغيار التي يحتاجها لإجراء 500 ساعة و1,000 ساعة من الصيانة لمعظم محركات الطاقة الكهربائية القياسية.

تسهل أطقم الصيانة الجديدة من الطلب وإعادة الطلب، مع ميزة إضافية تكمن في تجميع كافة القطع في صندوق سهل النقل. تم أيضا ترقيم قطع الغيار، مما يجعل من السهل تتبع ما تم تغييره وتوقيت هذا التغيير.

هناك 12 طقم صيانة يغطي هياكل محركات الطاقة الكهربائية القياسية من المجموعتين 400 Series وفي نفس الوقت سيحصل المستخدمون النهائيون على ضمان بأن يعملوا باستخدام قطع غيار بيركنز الأصلية، حيث تأتي قطع الغيار هذه بسعر تنافسي للغاية بوصفها جزءا من الحزمة. ويأتي كل طقم بكل ما تحتاجه لإجراء الصيانة، ما في ذلك الزيت والوقود ومرشحات الهواء والسيور وغطاء الحاشية المتأرجح الصحيح لاستبداله عند فحص حزام الصمام، والمرشح المُسبق للوقود عند الحاجة ومرشح لسلامة الهواء.

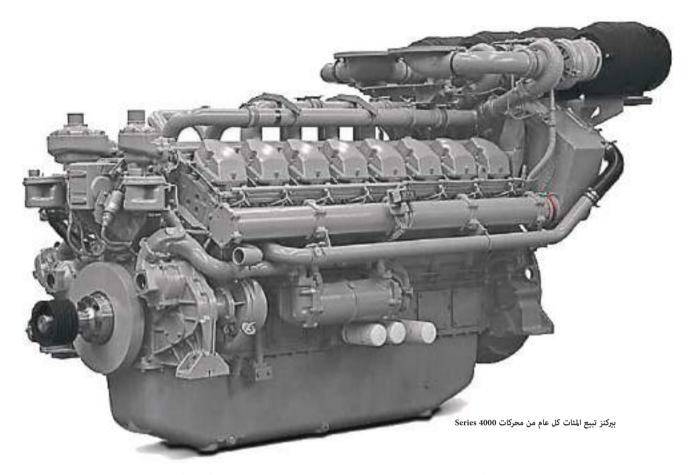
ستتمكن الشركات المصنعة لمجموعة توليد الطاقة من تقديم الأطقم إلى عملائها، بحيث تقدم للمستخدمين النهائيين قيمة من خلال ضمان حصولهم على قطع غيار بيركنز الأصلية مثبتة منذ اليوم الأول، ولكن يمكنهم طلبها أيضا على حدة بوصفها حلا بسيطا وسهلا للصيانة في الموقع، مع وجود كل شيء مطلوب في الصندوق.

ويلخص جوليان وود، مدير تسويق قطع الغيار، قيام أطقم الصيانة بتوفير مزايا رئيسية للشركات المصنعة للمعدات ويؤكد على ميزة الحصول على قطع غيار بيركنز الأصلية المضمونة.

يقول وود: «تم اختيار هذه الأجزاء بعناية لمساعدة المستخدمين على إتمام كل شيء مطلوب في صيانتنا الموصى بها. وقد تم تصميمها بدقة لكي تناسب المحركات، وبالطبع خضعت لاختبارات جودة صارمة.

كذلك تم تصميم القطع الخاصة بنا لتتناسب مع خصائص المحرك الفردية عبر مجموعة محركات بيركنز بأكملها لكي تناسب المحرك من أول مرة، وتوفر تكاليف زمن التوقف عن العمل الباهظة».





للكهرباء في مجالات الاستخدام الرئيسية حول العالم. تبیع بیرکنز مئات من محرکات Series 4000 سنويا في سوق الطاقة الرئيسية، فقد صممت أكثر من 50,000 محرك من مجموعة 50,000 لبعض من أكبر الشركات في العالم، ويُخصص ما يقارب 30 في المائة من ذلك العدد للاستخدام الرئيسي في قطاع الطاقة الكهربائية. وقد ساعدت بيركنز في توفير الطاقة الكهربائية في المستشفيات وشركات الاتصالات ومراكز البيانات والمصانع.

هذا وتتضمن المجموعة عالية الأداء محركات تعمل بالديزل والغاز تحتوى على ما بين 6 إلى 16 أسطوانة، مع نسب قدرة إلى الوزن استثنائية، وتصميم مدمَّج. وهذه المحركات سهلة النقل والتركيب والصيانة. يقول سايمون جراي، مدير تسويق المنتجات: «لقد نفذت بيركنز، لما يزيد عن 20 عاما، استثمارات رئيسية في تصميم مجموعة

Series 4000 وتصنيعها. ويعود إرث مجموعة شركة بيركنز بتمديد فترة الضمان على المجموعة Series 4000 من محركات الديزل والغاز إلى أوائل التسعينيات. وكثيرا ما كان يُنظر إلى منصة 4000 Series على أنها فقط محركٌ احتياطيٌ في السوق، ولكن نفذت بيركنز، على مدار ما يزيد عن 20 عاما، استثمارات رئيسية في تصميم المجموعة 4000 Series وتصنيعها. وتغيرت المنصة الحالية تماما عن الأصلية حتى أنه يصعب مطلقا مقارنتها بالأصلية». ويضيف جراى قائلا: «لقد أطلقنا المجموعة 4008 بنهاية عام 2015 إلى جانب تجديد المجموعات 4006 و2012 و4016. وبهذا أكملنا خط الإنتاج الإجمالي للمنتجات. ويجدر بالذكر أن المجموعة Series 4000 توفر طاقة يُعتمد عليها سواء في المستشفيات أو شركات الاتصالات أو مراكز البيانات أو المصانع، طوال اليوم، وعلى مدار السنة».

ولثقتها الشديدة في كفاءة هذه المحركات، قامت

Series 4000 إلى عام واحد من ساعات الاستخدام غير المحدودة، وسنتين أو 6,000 ساعة لمستخدميها كمصدر طاقة رئيسي، وثلاث سنوات أو 1,500 ساعة (بحد أقصى 500 ساعة يوميا) للاستخدام الاحتياطي. ويضيف جراي قائلا: «لدينا برنامجٌ للتحسين المستمر مطبقٌ بصورة ملائمة، ويركز على تصميم مكونات مثل: مانعات التسرب والحشيات محكمة السد والحواقن والصمامات، وذلك لرفع أداء محركاتنا وكفاءتها ومتانتها باستمرار. واليوم تعتبر المجموعة Series 4000 تجسيداً للجودة والكفاءة. فهي لم تعد مخصصة للاستخدام الاحتياطي فحسب، بل أيضا للاستخدام الرئيسي. وبما أن الجودة والكفاءة هما الغاية الأسمى، فإنه مكنك الاعتماد على المجموعة Series 4000 من بيركنز للاحتفاظ بالطاقة... وعلى الدوام».







جناح بيركنز في معرض الشرق الأوسط للكهرباء

## محركات Series 4000 ومعها المزيد من بيركنز

عاد فريق شركة بيركنز إلى معرض الشرق الأوسط للكهرباء لعام 2017، والذي أقيم في دبي، لترويج مجموعة بيركنز الكاملة من محركات الطاقة التي تعمل بالديزل والغاز. وتحتل منصة Series 4000 مكان الصدارة. فهذه المحركات صُممت لتوفير الطاقة الرئيسية أو الاحتياطية في الاستخدامات الهامة.

### تطور مجموعة Series 4000 من بيركنز

على مدار عدة سنوات بفضل استثمارات بيركنز الشركات المصنِّعة للمعدات الأصلية والمستخدمين الظروف. كما تثبت أنها مصدرٌ ثابتٌ وموثوقٌ به

الضخمة. ويعنى تطورُها أن المحرك يُستخدم في النهائيين. وتتميز مجموعة Series 4000 بالقوة تطورت مجموعة Series 4000 تطوراً مطرداً مجالات الاستخدام الرئيسية والاحتياطية من جانب والمتانة وتقدم أداءً متسقاً ومنسجماً في أقسى

## صعود الشرق الأوسط وشمال أفريقيا كمركز عالمي للنقل والخدمات اللوجستية

تصعد منطقة الشرق الأوسط وشمال أفريقيا سريعا بوصفها مركزاً لصناعة الخدمات اللوجستية، حسبما ورد في تقرير شركة الماسة كابيتال، وذلك مع النمو السريع لسوق الخدمات اللوجستية العالمي، والذي من المتوقع أن يولد إيرادات قدرها 15,5 تريليون دولار أمريكي بحلول عام 2024.

وتعد المملكة العربية السعودية والإمارات العربية المتحدة أكثر الأهداف جاذبية في هذه المنطقة للاستثمارات في الخدمات اللوجستية، وأسهل الأسواق التي يمكن العمل بها، وفقا لتصريح الرئيس التنفيذي شاليش داش لصحيفة «خليج تايمز». كما تصعد أيضا دولٌ أخرى في منطقة الشرق الأوسط وشمال أفريقيا، وخصوصا دول مجلس التعاون الخليجي، مثل قطر وعُمان والكويت والبحرين، مع المغرب والأردن بوصفها وجهات محتملة للاستثمار.

ويقول التقرير إن المبادرات الحكومية إزاء التنويع الاقتصادي، هي ما يدفع نهو خدمات النقل والخدمات اللوجستية في المنطقة نحو التحول من صناعات معتمدة على الطاقة إلى التوسع في القطاعات التجارية الأخرى، مثل التجارة والاستيراد والتصدير والسياحة.

وأضاف التقرير: «إن هذا التركيز المتجدد على القطاعات التجارية، يجهد الطريق للاستثمارات في مجالات النقل والبنية التحتية، بما في ذلك الموانئ والمطارات ومبادرات السكك الحديدية الكبرى عبر المنطقة».

وتشير بيانات منظمة التجارة العالمية إلى أن منطقة الشرق الأوسط وشمال أفريقيا تشترك بأقصى قدر من تجارة البضائع مع آسيا (بنسبة 55 في المائة من كافة الصادرات والواردات) تليها أوروبا (31 في المائة) ثم أمريكا الشمالية (ثمانية في المائة). هذا علاوة على أن منطقة الشرق الأوسط وشمال أفريقيا تأتي في المقدمة بالنسبة لطرق التجارة البحرية والجوية. فالإمارات العربية المتحدة والمملكة العربية السعودية، تأتيان ضمن «أعلى 10 ممرات للشحن الجوي» عالميا. والمنطقة بها 134 ميناء بحريا تتولى مناولة إجمالي 48,3 مليون وحدة حاويات مكافئة لعشرين قدما من حركة الحاويات. علما بأن دول مجلس التعاون الخليجي تستأثر وحده عالم بأن دول مجلس التعاون الخليجي تستأثر



تعتبر سوق الخدمات اللوجستية السعودية من أكبر الأسواق في المنطقة

في المائلة من حركة الحاويات في الموانئ.

وإلى جانب النقل البحري، يوجد بالمنطقة 114 مطاراً دولياً ومحلياً، منها 43 مطاراً في دول مجلس التعاون الخليجي. ووفقا لما ورد بالتقرير، تعد الإمارات العربية المتحدة - التي تحتضن 34 منطقة تجارة حرة مع عدم وجود ضرائب على الشركات وحقوق ملكية كاملة وسماح غير محدود بتحويل الأرباح إلى الوطن- بيئة جذابة للمنتجين والشركات المصنعة على حد سواء. هذا فضلاً عن مزودي الخدمات اللوجستية.

أما من حيث الحجم، فمن المتوقع أن تبلغ صناعة النقل والخدمات اللوجستية 92,1 مليار طن بحلول عام 2024. وذكر التقرير أيضا أنه من المتوقع نمو معدل النمو السنوي المركب لسوق مقدمي الخدمات اللوجستية الخارجي العالمي بما يتجاوز خمسة في المائة بحلول عام 2020. ويعد التحول السريع نحو العولمة، وتزايد حجم التجارة، وانتعاش الاقتصاد العالمي، بعضا من العوامل الرئيسية المساهمة في نمو سوق مقدمي الخدمات اللوجستية الخارجي.

وبتسليط الضوء على دور القطاع في التجارة الدولية، يذكر التقرير أن التجارة المتينة، وسياسات النمو والتحرر الاقتصادي التي تتبعها الكثير من الدول في جميع أنحاء

العالم، قد أدت إلى زيادة حجم التجارة، وبالتالي تعزيز الاحتياج إلى النقل والمناولة والتخزين، والتي أدت ـ بدورها ـ إلى الحاجة إلى حلول لوجستية متكاملة.

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bola.olowo@alaincharles.com

annabel.marx@alaincharles.com

stephen.thomas@alaincharles.com

michael.tomashefsky@alaincharles.com

يتم سداد ثمن المحلات لدى: Rahway, NJ.

برید إلکترونی: production@alaincharles.com

الإشتراكات: بريد إلكتروني: circulation@alaincharles.com

Fax

(27) 466245931

الوكيل البريدي بالولايات المتحدة: النشرة التقنية ـ الشرق الأوسط Technical Review Middle East ISSN 0267 5307

Alain Charles Publishing , University House, 11-13 Lower Grosvenor Place, London, SW1W 0EX, UK

(91) 80 65684483 (91) 8040600791

(44) 20 7834 7676 (44) 2079730076

ملخص محتويات القسم الانجليزي

التطورات: تطورات السوق.

تحليلات: نظرة على الاقتصاد الإبراني، استئجار المركبات وتمويلها.

إنشاءات: قوالب الخرسانة والسقالات، طلاءات ودهانات.

فعاليات: معرض الشرق الأوسط للكهرباء، بيج فايف السعودية، معرض

ترمكو إلبروك.



#### في خدمة شركات المنطقة منذ ١٩٨٤ SERVING THE REGION'S BUSINESS SINCE 1984

Alain Charles Publishing Ltd

University House, 11-13 Lower

London SW1W 0EX UK

هاتف : ۲۰۷۸۳٤۷٦۷٦ (۰) ٤٤+

فاکس : ۲۰۷۹۷۳۰۰۷۱ (۰) ٤٤+

Grosvenor Place

بريد إلكتروني: trme@alaincharles.com

فريق التحرير والتصميم: بوب آدمز، هيريتي بايرو، أندرو كروفت، رانجانات جي إس، براشانت إيه بي،

زا تيبت، سجال بات، ميريام بريتكوفا، جورجيا لويس، راؤول بوتينفيدو، نكي فالسماكس ، فاني فينوجوبال، لويز ووترز .

الناشر: نــك فوردهـام

مديرة النشـــر: بلافي باندي

مدير مبيعات المجلة: جراهام براون

هاتف: ۹۲۱۰ (۶) ۴۶۸ (۶) (۱۹۷۱ ، فاکس: ۹۲۱۱ (۶) ۴۶۸ (۶) (۱۹۷۱ ، برید إلکترونی:graham.brown@alaincharles.com المكتب الرئيسي:

مكتب الشرق الأوسط الإقليمي:

Alain Charles Middle East FZ - LLC Office 112, Loft 2B

مدينة دبي للإعلام

دبي - الإمارات العربية المتحدة - صندوق بريد: ٥٠٢٢٠٧

هاتف : ۹۷۱ (٤) ٤٤٨ ٩٢٦٠

فاكس : ۹۷۱ (٤) ٤٤٨ ٩٢٦١

المترجم: عزالدين م. علي ezzeddin@movistar.es alnajjar722@gmail.com التصميم والإخراج الفني: محمد مسلم النجار

**الطباعة:** مطبعة الإمارات ـ دبي

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مدير البريد: أرسل التصحيحات إلى: Alain Charles Publishing Ltd, c/o Mercury

Agent: Pronto Mailers International, 200 Wood Avenue, Middlesex, NJ 08846

الإنتاج: دوناتيللا مورانيللي، ناتانييل كومار، صوفيا هوايت، نيكيتا جين، بريناكا تشربوتري.

Airfreight International Ltd, 365 Blair Road, Avenel, NJ 07001. US

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