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EDITOR'S NOTE

QATAR IS CONSIDERED to be Middle East's most resilient economy, thanks to its diversification from oil and gas. As the country prepares to host the 2022 FIFA World Cup and fulfil its National Vision 2030, its ambitious infrastructure programmes are attracting investment from across the globe, and the aggregate value of contracts is expected to reach US\$26.6bn in 2017. The lead analysis (p14) provides an insight. Project Qatar 2017 (p32) is back in May to facilitate the ongoing and upcoming projects in the country. Also, as construction activities remain buoyant in the Middle East, the off-road truck market (p20) is expanding driven by innovation. As always compressors (p28) remains a focus. Those of you looking for innovations can find all the updates from p40.

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

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TECHNICAL REVIEW

المنشور التقني - الشرق الأوسط

MIDDLE EAST

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Abu Dhabi announces expansion plans of free-trade zone

RESPONDING TO THE rising demand from both foreign direct and existing investors wanting to establish and grow their manufacturing and industrial business in UAE freezones, Abu Dhabi Ports, the master developer, operator and manager of commercial and community ports in the UAE and Khalifa Industrial Zone Abu Dhabi (KIZAD), revealed their expansion plans for the largest free-trade zone in the region

The announcement was made by senior Abu Dhabi Ports and KIZAD officials in March 2017.



The Khalifa Port Free-Trade Zone is located adjacent to Khalifa Port, the second-fastest growing port in the world. (Photo: KIZAD)

Khalifa Port Free Trade Zone (KPFTZ), a 100 sq km freezone area (across Areas A and B of KIZAD), is fully integrated with the region's first semi-automated port, which has already attracted wide portfolio of investment sectors to KIZAD including aluminium, automotive, engineered metals, port logistics, food processing, pharmaceuticals, packaging, polymer converting and other industries, that rely on their proximity to Khalifa Port.

The new free-trade zone offers a flexible master plan that is capable of accommodating more industries in the future from a land use perspective. Within the additional free zone territory allocated in the 16 sq km Area 'A' of KIZAD will be a new Business Park.

Mana Mohamed Saeed Al Mulla, KIZAD CEO, described KIZAD's announcement to expand current free zone area to a total of 100 sq km as "a new and attractive addition to the industrial investment landscape of Abu Dhabi", adding, "KIZAD is committed to adopting the latest innovations in all aspects of its industrial clusters that will support its main objective to build a sustainable economy and put the UAE at the forefront of many specialised industries in the region. With this new addition of Free Zone land, we intend to attract global interest from manufacturing investors that will bring new technology, product diversification and increased trade through our ports".

The Khalifa Port Free Trade Zone is located adjacent to Khalifa Port, the second fastest growing port in the world, and is poised to become the future of trade in Abu Dhabi, adding significant value to investors, while strengthening Abu Dhabi's position as a thriving maritime hub in the Middle East, Africa and South Asia (MEASA) region.

Approximately 40 companies currently operate in the Khalifa Port Free Trade Zone with a mixture of activities including industrial, trading and service orientations. The primary focus of business activities are on trading, logistics, packaging, food and beverage, aluminum, light, medium and heavy industries.



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ON THE WEB

A round-up of the leading developments and innovations recently featured on *Technical Review Middle East's* online portal. To read more or to stay up to date with the latest industry news, visit www.technicalreview.me

Dubai attracted US\$6.94bn in FDI in 2016, reveals Crown Prince

DUBAI ATTRACTED US\$6.94bn in foreign direct investment (FDI) inflows in 2016 and has maintained its position among the top 10 global cities in attracting foreign investment, announced Crown Prince of Dubai HH Hamdan bin Mohammed bin Rashid Al Maktoum. Dubai has also succeeded in attracting 247 new investment projects, as per the latest Dubai FDI Monitor report by Dubai Investment Development Agency (Dubai FDI) and *Financial Times* fDi Markets data. www.technicalreview.me/construction



HH Hamdan bin Mohammed bin Rashid Al Maktoum. (Photo: Government of Dubai)

Saudi Arabia to create joint investment fund to aid Jordan

SAUDI ARABIA WILL set up a US\$3bn joint investment fund for Jordan, among 15 cooperation agreements signed by King Salman bin Abdulaziz Al Saud during a visit to Amman. Other agreements include measures to boost power generation, tackle water shortages, and improve housing and health services, Jordan's official *Petra* news agency said. It said the accords covered uranium mining and water desalination projects, and that a memorandum was signed to build a US\$70mn solar power station on Jordan's eastern border. Jordan reportedly contains significant uranium reserves. www.technicalreview.me/power-a-water

DEWA and GE to collaborate on 3D projects

DUBAI ELECTRICITY AND Water Authority (DEWA) has signed an MoU with GE Additive to collaborate on 3D printing, additive manufacturing and digital technologies for the 'Industrial Internet'. DEWA CEO Saeed Mohammed Al Tayer said, "The 'Dubai 3D Printing Strategy' is a global initiative that aims to exploit technology to promote the status of the UAE and Dubai as a leading hub of 3D printing technology by 2030." www.technicalreview.me/construction



DEWA CEO Saeed Mohammed Al Tayer (right) with Mohamed Ehteshami, V-P for Additive Integration at GE Additive, at the signing ceremony. (Photo: DEWA)

Alara signs off-take agreement for Oman's copper mine

ALARA RESOURCES LIMITED, an Australian minerals exploration company with projects in Saudi Arabia and Oman, has signed an off-take agreement for the supply of copper concentrate from Al Hadeetha Project in Oman's Washihi Reserve. The company has entered an agreement with Statdrome PTE Ltd, who has more than 15 years' experience in non-ferrous concentrates trading, including copper sales in and out of Oman. Under the agreement, annual concentrate production of approximately 35,000 wet metric tonnes (wmt) will be shipped at regular intervals from the Sohar Port. www.technicalreview.me/construction

Mercedes-Benz to supply 540 trucks to Saudi Arabia firm



Al Khaldi Transport Group ordered the vehicles with a customised support package. (Photo: Daimler)

AL KHALDI TRANSPORT Group, from Damman, Saudi Arabia, has ordered 540 medium and heavy-duty Mercedes-Benz trucks, with all trucks coming with a full service and maintenance contract. With this deal, the Al Khaldi transport group has increased its total fleet of Mercedes-Benz trucks to approximately 1,045 units. www.technicalreview.me/logistics

JCB Power Products wins US\$11.22mn rental order in Middle East

GENERATOR MANUFACTURER JCB Power Products has won its biggest export order of the year for its new RS rental range with a multi-million dollar deal in the Middle East. Dubai-based Rental Solutions & Services (RSS) has bought more than 300 JCB generators in a deal worth US\$11.22mn. The order is the biggest yet for JCB's newly-launched range of RS generators specifically designed and manufactured in the UK for the global rental sector. The first five units have already been pressed into service in Oman supported by JCB dealer Muscat Overseas Group. They are being used by a global oil and gas company which needed urgent standby power to support their operations. RSS offers rental generators across the Middle East, providing power for construction sites, large infrastructure developments, and petrochemical facilities. www.technicalreview.me/power-a-water

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Since its entry into the market 40 years ago, FG Wilson has played an active role in the rapid industrial progress in the Middle East by supplying, installing and delivering complex power projects and ensuring power quality.

FG Wilson (Engineering) FZE's premises in Dubai. (Photo: FG Wilson)

THE GULF REGION has changed much in the last 40 years, rapidly becoming an exciting powerhouse for business and a focal point for innovation. As the region has grown in prosperity, generator set brand FG Wilson has been playing an active role in that progress, supplying, installing and continually delivering successful and complex power projects.

FG Wilson (Engineering) FZE has represented FG Wilson in the region since 1991, based in the Jebel Ali Free Zone, Dubai, and with a presence across the entire Gulf region. As the region has progressed, so has FG Wilson (Engineering) FZE, expanding from three employees in 1991 to a team of 140 highly technical and professional staff today. Since 1991, that adds up to almost 60,000 generator sets installed around the Gulf with enough combined electric power to supply a mid-sized European country.

Alok Rawat, chief executive at FG Wilson (Engineering) FZE, has watched these changes unfold. "Today in the Middle East, the power supply is stable but what is needed is quality power, with zero risk of power outage. As the world has become more digital and the risks or

costs of power outages and going offline become huge, now businesses are taking a stronger interest in protecting their power supply. That means reliable power generation products which are well supported. From the start, that is exactly what we have set out to do."

The FG Wilson product range offers power from 6.8 to 2,500kVA and FG Wilson (Engineering) FZE carries up to 600 units in stock for rapid delivery. While some customers walk in and drive away with a generator set, for others it is a major project – and this is one area which Alok has really focused on. "From Day One, we have been involved in large projects, working with consultants on load requirements, finding the right generator set, designing the complete layout of the generator set including exhaust and fuel systems, installation and commissioning. We have a dedicated technical engineering team and this is what they do. They are complete specialists. And of course our long working relationship with the FG Wilson team in the UK means we can call on that great expertise always. We are a very close team."

The flipside of ensuring power quality is what happens once the generator set is installed and operational. Alok says, "We are one of the very few companies in the region fully dedicated to providing real 24/7 support for generator sets. That means a helpline which is staffed 24/7 and a service team, which operates 24/7. It means true end-to-end support for the entire package or project, a single point for warranty and service."

For FG Wilson, the Middle East feels almost like a home market. It was the first region which the brand reached out to in the early 1970s, and one of the first major projects was in Abu Dhabi more than 40 years ago in 1976, with six 2,000kVA generator sets. ■



Ann Brown, managing director at FG Wilson, presents Alok Rawat, chief executive of FG Wilson (Engineering) FZE, with a plaque commemorating 25 years as a dealer. (Photo: FG Wilson)

To find out more about FG Wilson (Engineering) FZE visit

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25-27	The Big 5 Construct North Africa	CASABLANCA	www.thebig5constructnorthafrica.com

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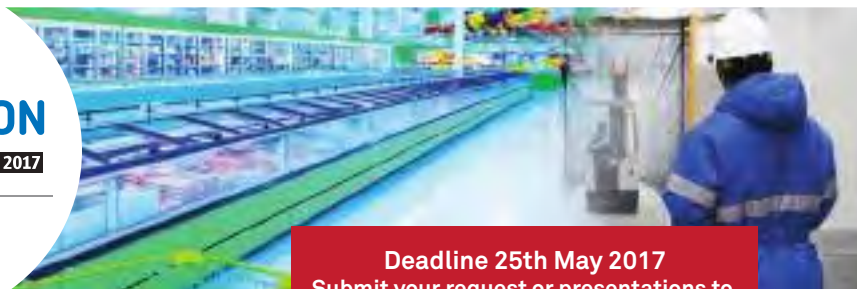
1-3	Oman Energy & Water Exhibition & Conference	MUSCAT	www.energyandwateroman.com
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8-11	Project Qatar	DOHA	www.projectqatar.com
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15-17	JIMEX 2017	AMMAN	www.jordanfairs.com
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The calligraphic sculpture by Sabah Arbilli that means "And amongst the sultans I stood out..." at Doha Corniche. Qatar boasts political stability, robust non-oil growth (compared to peer energy-based economies) coupled with a relatively unsaturated market, favourable tax regime and low inflation. (Photo: Fitria Ramli/Shutterstock)

'Project driven' Qatar leading the GCC

Economist Moin Siddiqi lays down indicators that makes the upcoming 2022 FIFA World Cup host the front runner in the region.

QATAR IS A highly innovative and technocrat-led 'super-state', which, despite its small size and population of 300,000, punches well above its weight in global trade and investment flows. The country's sustainable diversification over the past decade-and-a-half is based on shrewd planning, underwritten by North Fields's vast natural gas reserves and colossal offshore assets. The number and size of government projects either being tendered or already underway in Qatar is staggering.

Qatar derives 70 per cent of its GDP from construction, financial services, retail trade, manufacturing, hospitality and communications.

While lower energy prices have affected all Gulf Co-operation Council (GCC) nations, Qatar has proved more resilient thanks to more diversification, substantial fiscal buffers, well capitalised banks with a non-performing loan ratio of only 1.2 per cent (the lowest in the GCC) and greater integration with world trade. Sheikh Abdulla bin

Saoud Al-Thani, Qatar Central Bank governor, said, "Supported by strong macro-economic fundamentals and sound regulations, banks remain resilient with adequate capital, liquidity positions, high asset quality and good profitability."

Public spending programmes and banks fund most mega projects (see Footnote).

The vast infrastructure spending has boosted domestic demand, further stimulating buoyant economic activities across all sectors. Qatar is most diversified of the GCC countries, with 70 per cent of GDP deriving from construction, financial services, retail trade, manufacturing, hospitality and communications. The International Monetary Fund estimated non-oil growth during 2012-16 at about nine per cent. Qatar is poised to achieve its National Vision 2030 of becoming an industrialised, knowledge-based economy, boosting greater skills, technology and productivity.

The construction industry in Q3 2016 grew at 12.4 per cent year-on-year and contributed 1.9-percentage points to non-hydrocarbon growth. By comparison, financial sector contributed 0.9-percentage points, according to the Ministry of Development Planning and Statistics (MDPS). This expansion should continue this year, with aggregate value of contracts awarded expected to reach US\$26.6bn, according to the Qatar Construction 2017 report.

The 2017 budget allocated US\$25.8bn for capital expenditures. This includes US\$12.7bn on new projects, split between infrastructure and transportation programmes worth US\$6.9bn;



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projects related to 2022 FIFA World Cup Qatar facilities valued at US\$2.3bn; health and education schemes of US\$1.6bn, along with projects valued at US\$1.9bn in other sectors. Total public spending is budgeted to reach US\$55.1bn. Last year's budget allocated US\$24.9bn to support the ongoing projects and rolling out new ones.

Strategic projects

The Qatar Public Works Authority (Ashghal) is reportedly working on medium to large-sized projects worth US\$200bn. In terms of the value of projects already underway, building contracts comprise 49 per cent of aggregate followed by infrastructure and energy works at 33 and 18 per cent respectively. Sheikh Abdullah bin Nasser bin Khalifa Al Thani, Prime Minister of Qatar and Interior Minister, said work was being carried out at "a steady pace", with 90 per cent of World Cup-related projects already awarded. The government in recent years has allocated US\$12.3bn on improving/expanding road networks, US\$11bn on a new international airport and US\$5.5bn on a deepwater seaport. Tourism is critical to diversification process where planned investment totals US\$20bn to US\$25bn on related infrastructures. By 2026, Qatar is projected to attract total 6.14mn foreign visitors (up from three million in 2015), with spending rising to US\$13.3bn (US\$9.4bn in 2015). Besides business travel, Doha hosts popular annual events such as the WTA tennis tournaments, the European Tour golf championship and the Tour of Qatar cycling race. The big prize is the 2022 FIFA World Cup.

Some projects are now nearing conclusion. These include the US\$40bn Lusail City (north of Doha) – due for completion in 2018.



*The interior of Hamad International Airport, Doha.
(Photo: Oleg Gawriloff / Shutterstock)*

Lusail City aims to accommodate more than 200,000 inhabitants across 19,000 multi-purpose districts. Work is also underway on Qatar Integrated Railway Project – comprising 32-km of lines and 35 stations (due on-stream 2020). The scheme – linking Qatar to the rest of GCC – is estimated to cost US\$35bn. The Doha Metro system is reportedly half-finished, with operations on schedule to start in 2019. Recently, the Hamad International Airport has unveiled plans to expand capacity from 30mn passengers to 65mn per year by adding a new concourse at existing terminal. Upcoming tenders will be open to international contractors; however, dates have not been announced.

By 2026, Qatar is projected to attract total 6.14mn foreign visitors, with spending rising to US\$13.3bn.

Coping effectively with construction boom-related imports, the Port of Hamad is undergoing major expansion (Phase 1 came online December 2016) increasing total annual container handling capacity from 750,000 to two million 20 foot equivalent units (TEUs). Once all phases are completed, the port will hold a capacity of six million TEUs/year, comprising a general cargo terminal, multi-use terminal, offshore supply base and centralised customs area.

Implementation of infrastructure, logistics and energy projects creates demand for leasing and insurance services. The equipment rental sub-sector is profiting from higher cost of equipment and influx of foreign companies on a per project basis prompting a hike in rental contracts. Market Research Company TechSci Research expects the rental equipment market in Qatar to reach US\$1.9bn by 2022, with cranes and earthmoving equipment reporting particularly strong demand.

Private consumption

Qataris have one of the highest, if not the highest, spending powers in the GCC. Additionally, rising population and high disposable incomes offer significant opportunities for foreign businesses, chiefly in utilities through joint ventures and concessions such as build lease transfer (BLT) and build own operate transfer (BOOT), which was used to implement the Ras Laffan IWPP (independent water and power project). Other sectors include high-end retail market, franchising, hospitality, financial services, medical, education and private security.

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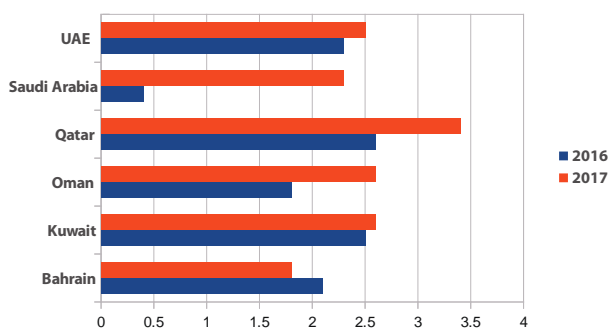
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According to US firm Boston Consulting Group (BCG), Qatar boasts the fourth highest concentration of millionaires in the world at 116 for every 1,000 after Switzerland (135), Bahrain (123) and Luxembourg (120). About 50,000 households possess private wealth of US\$1mn. Furthermore, some 300 ultra-high-net-worth individuals possess at least US\$30mn, including 12 billionaires. Hence, Qatar has become a hot spot for international asset managers.

Recent survey by German market research Company GfK (commissioned by American Express Middle East) indicated that rich Qataris spent on average US\$4,000/month on luxury items in 2015 – representing 12 per cent of their household income – twice as much as the GCC average. London-based BMI Research, which projected household spending growth in Qatar averaging 15.8 per cent/year until 2020, echoed this finding. According to official data, consumer confidence index averaged 184.67 (out of a possible scoring 200) during 2013-16 period, while private consumption hit a new high of US\$36.58bn in 2015, up from US\$32.54bn in 2014.

Doha-based investment house Alpen Capital forecasts a bullish outlook for local retail sector, with annual sales growth to exceed the GCC average of 7.3 per cent to register a 9.8 per cent hike from 2013 through to 2018. The real estate services firm DTZ said, “There is room for the sector to grow from existing levels. Occupancy for retail space is high, all the main outlets are full and some of the new malls coming online are doing well in the pre-lets.” DTZ envisages total

Qatar remains the GCC's fastest growing member-state (Real GDP growth)



Source: IMF, World Economic Outlook, October 2016.

Key Macroeconomic Indicators for Qatar (in US\$bn, unless otherwise indicated)

	Est. 2016	Proj. 2017	Proj. 2018	Proj. 2019	Proj. 2020	Proj. 2021
DOMESTIC ECONOMY						
Nominal gross domestic product (GDP)	157.88	173.53	193.11	202.25	216.30	227.25
o/w: Non-hydrocarbon sector (% of GDP)	71.4	69.5	69.8	71.3	72.4	73.3
Nominal GDP growth (%) *	-5.1	10.0	11.3	6.3	5.4	5.1
Non-hydrocarbon growth (%) *	6.5	5.6	5.3	4.7	4.2	3.8
Consumer price index inflation (average)	3.0	2.6	5.7	3.1	2.3	2.1
Overall fiscal balance //	-9.1	-8.3	-6.1	-4.4	-3.9	-3.3
Total government gross debt //	47.8	51.3	53.2	55.0	57.2	57.7
EXTERNAL SECTOR						
EXPORTS, FOB	58.8	67.4	71.2	72.0	72.6	73.6
o/w: Hydrocarbons (%) of total **	81.1	82.9	83.8	84.1	84.4	84.6
LNG (mn tonnes/year)	76.9	77.7	77.7	77.7	77.7	77.7
IMPORTS, FOB	29.2	34.4	36.0	35.3	35.1	35.7
Merchandise trade surplus	29.6	33.0	35.2	36.7	37.5	37.9
Current account balance	-3.3	-1.1	-1.3	1.3	3.7	6.0
Foreign exchange reserves #	33.3	37.3	37.8	38.3	41.0	41.5
External debt (%) of GDP	132.8	131.5	126.0	125.0	124.8	125.1
Qatari Riyals/US Dollar (period average) ~	3.6	3.6	3.6	3.6	3.6	3.6

* Annual per cent change; // Per cent of GDP; ** Includes crude oil, liquefied natural gas, propane, butane and condensates; # Excluding Qatar Investment Authority assets; ~ Exchange rate is peg to the US\$.

Source: IMF staff estimates

1] Qatar is the world's No.1 LNG producer. The government recently unveiled plans to merge Qatargas and RasGas.

2] Trade is important to the Qatar economy; the value of exports and imports taken together represented over half of 2016 GDP. The average applied tariff rate is 3.4 per cent. Main export markets (per cent of total 2015): South Korea (19.4 per cent); Japan (19.2 per cent); India (13.1 per cent). Main sources of imports (per cent of Total 2015): US (16.3 per cent); France (12 per cent); UK (10.8 per cent).

3] The assets of QIA's sovereign wealth fund are estimated at US\$335bn.

retail space in Doha rising to 1.85mn sq m by end-2019, up from 838,000 sq m at end-2016. Nine new malls are planned to open in the next three years.

Qatar boasts political stability, robust non-oil growth (compared to peer energy-based economies) coupled with a relatively unsaturated market, favourable tax regime and low inflation. So, Qatar is receiving a lot of interest from global investors. In May 2014, it was upgraded to emerging-market status. Shashank Srivastava, CEO of Qatar Financial Centre, said, “Qatar is one of the very few countries that can offer emerging-market returns at developed-market risk levels.” ■

Footnote

Contractors and sub-contractors are provided credit facilities by both local and foreign banks. Banks require the contractor to assign the ‘receivables’ that are generated from such construction contracts to them. Once the receivables are assigned, the bank has direct recourse to national authority sponsoring the project (the “Government Authority”). Hence, revenue-flows are ring-fenced. The bank typically treats these receivables as a form of quasi security and accordingly cost of funding the credit facilities is low given the favourable risk weightings given to Qatar. This, in turn, makes the pricing of such credit facilities more attractive to contractors who have undertaken various public works.

FACT FILE

Area (sq. km): 11,521. Population (March-2016): 2.53mn (of which about 85 per cent are non-Qataris). GDP in (purchasing power parity) terms: US\$319.8bn (2016). GNI per capita: US\$85,430 (2016). Five-year compound annual growth: six per cent.

Sovereign credit rating: Moody's Investor Services (Aa2); Standard & Poor's (AA) (highest in the Middle East). Proved hydrocarbons reserves: Natural gas (866.2 trillion cubic feet), third-largest after Iran and Russia; Crude oil (25.7bn barrels).

Total hydrocarbons output (2015): 5.17mn barrels of oil equivalent daily, making Qatar globe's fourth biggest producer. Major

industries: Qatargas; RasGas; Qatar Petroleum; Qatar Petrochemical Co; Qatar Chemical Co; Qatar Fertiliser Co; Qatar Vinyl Co; Qatar Steel Co; Qatar National Cement Co. Total foreign direct investment: US\$146bn (2014); oil/gas and associated downstream manufacturing activities comprised 90 per cent of the total. Largest investors: The USA, Japan, Singapore and South Korea. Corporation tax: 10 per cent; Withholding taxes – Dividends: zero; Interest: 0/7 per cent; Royalties: 0/5 per cent. Major financial institutions: Qatar National Bank – MENA's largest bank; Commercial Bank of Qatar and Qatar National Bank.

Power generation capacity: 8.6 GW (2015), projected to reach 13 GW by 2018.



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Mercedes-Benz Trucks MENA launched special edition truck to celebrate its flagship model Actros' 20th anniversary. (Photo: Mercedes-Benz)

Driving change in a competitive market

The off-road trucks sector serving the GCC's mighty construction market is competitive but expanding, driving the need not only for improved vehicle performance and ongoing innovation, but an unflinching commitment to service and support. Martin Clark gives an overview.

THE ACTIVE CONSTRUCTION market in the Middle East continues to drive demand for off-road trucks and vehicles. It is spurring ongoing innovation among vehicle manufacturers, suppliers and distributors to better serve the market.

With its extreme weather conditions, the GCC presents some of the most challenging terrain for commercial trucks, both on and off road. And that trend for innovation will continue to shape the commercial trucks industry for the foreseeable future, experts argue.

"Global demand for innovative solutions in the transportation and energy sectors will continue to rise," Germany's MAN, leading commercial vehicle manufacturer, noted in March this year when presenting its annual results. And business seems pretty good too. In 2016, MAN noticeably improved its operating profit by over US\$100mn to US\$204mn, and it expects more of the same this year.

In Qatar, Domasco, part of Al Futtain and

the authorised local distributor for Volvo Trucks, also reported strong sales growth for 2016 – around a 35 per cent increase over 2015 – despite what it called "harsh market conditions".

Mohammad Majeed, sales and marketing manager of commercial vehicles at Domasco, said the 2016 figures prove that the "Volvo Trucks brand is as durable as the vehicles themselves."

Overall, this helps to create an environment where the major players can plan ahead, invest and think long-term in how they approach and service the GCC market.

Business is good

Given the extent of the region's long-term development ambitions, and the visible level of construction taking place across all key markets, it is not hard to find evidence of that uplift.

At the end of March 2017, Mercedes-Benz Trucks announced a major contract in Saudi

Arabia for the supply of 540 new vehicles. The company will supply its Actros, Atego and Accelo models to Al Khaldi Transport Group, based in Damman.

The medium and heavy duty trucks will operate across the energy and infrastructure sectors, and come with a full service and maintenance contract.

"It's a major win for the company," said Stefan Buchner, head of Mercedes-Benz Trucks, adding, "It is our clear ambition at Mercedes-Benz to build trucks fulfilling the highest standards and requirements, delivering quality and excellence to our customers."

He said the latest order to Al-Khaldi Transport, one of its existing customers, is further proof that the company is succeeding in that ambition.

With this latest deal, Al Khaldi Transport raises its total fleet of Mercedes-Benz trucks to more than 1,000 units.

It has been offering transport services for oil fields, construction sites and the chemical

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industry since 1972, underpinning Saudi Arabia's growth in recent decades.

The kingdom has long been a core market in the Middle East and North Africa (MENA) region for Mercedes-Benz trucks too.

More than 43,500 Mercedes-Benz trucks have been delivered by its local retail partner Juffali Industrial Products Company since 2002, underlining its strong position in the heavy duty transportation market.

Service and support

Of course, innovation does not always mean eye-catching change. Small breakthroughs, such as improvements to service, can make a huge difference when competing for big projects.

The Mercedes-Benz contract with Al Khaldi Transport, for example, includes a full service and maintenance contract that covers comprehensive training for drivers and mechanical engineers and a 24/7 roadside assistance guarantee.

According to Buchner, the role of the group's new regional Dubai office also played a role in securing the business.

"This fleet deal is also the result of our



With a wide range of robust product types offering high gross combined weights (GCWs) and gross vehicles weights (GVWs), Quester, manufactured by Japanese firm UD Trucks, reduces the fuel consumption per tonne carried. (Photo: UD Trucks)

new regional centre for the MENA region in Dubai, which makes us even more effective in the region – not only in sales, but also in customer services." He added the latest Al Khaldi order is further proof of the successful sales and services activities of Daimler's Regional Centre for the Middle East North Africa (DCV MENA).

Buchner said that the Dubai hub brings the brand "even closer to the market beat,

capitalising on long-standing product and service competence combined with the broad vehicles portfolio of Daimler Commercial Vehicles (DCV)."

DCV MENA sells trucks, vans and buses from across the group's brands: Mercedes-Benz, FUSO and Setra.

New product lines

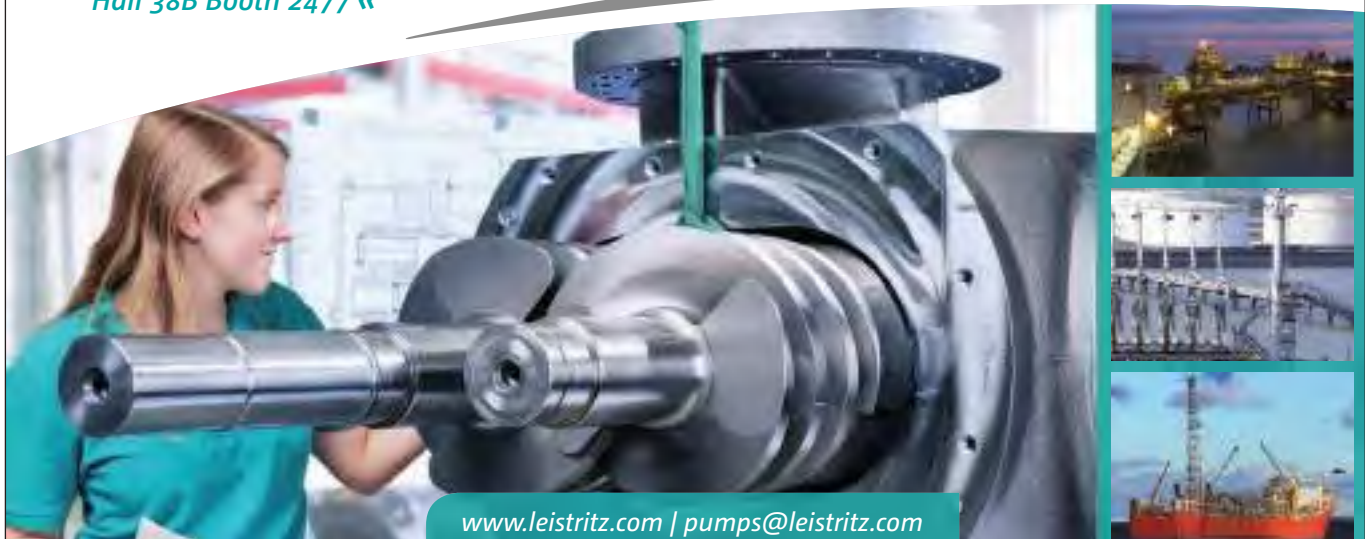
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remains critical for truck makers too, keen to differentiate themselves in a competitive market and, at the same time, refresh the product line.

Mercedes-Benz Trucks launched a special edition truck at the start of 2017 to celebrate the 20th anniversary of its flagship model, Actros, another milestone in the story of its iconic truck in the MENA region. And competition for business gets ever tougher, as new entrants stake their claim on the Gulf's busy trucks and construction market.

Tata Motors, India's largest automobile manufacturer, launched its new-look Tata Prima heavy duty trucks in Saudi Arabia in February this year.

Developed with Tata Motors subsidiary, Tata Daewoo Commercial Vehicles, it says the trucks set new benchmarks in styling and features, with a combination of power, world-class performance, fuel efficiency, superior technology and safety, uncompromisingly built for long-distance and long hours of transportation.

With a range extending up to 49 tonnes and engine options up to 400 bhp, the Tata Prima is a workhorse for moving goods and materials across all distances and terrains, according to Rudrarup Maitra, Tata Motors' head of international business, commercial vehicles.

The two new heavy-duty trucks – the Prima 4438.S (4X2) tractor head and the Prima 4038.K (6X4) construction tipper – were launched with Saudi dealer-partner, Manahil International Company, a unit of Mohamed Yousuf Naghi & Brothers.

"An integral part of introducing the Tata Prima range is Manahil International Company," said Maitra. "They are as customer-centric as we are. Through this partnership, we look forward towards further strengthening our relationship with customers in Saudi Arabia."

Costs and economics

Delivering cost savings is another key market driver that will always catch the attention of major fleet buyers.

Japanese manufacturer UD Trucks recently flagged eight key features of its new Quester range and the aftermarket service that are helping Middle East businesses to run with greater efficiency.

Among other onboard innovations, Quester comes with a real-time fuel coach system, which gives instant feedback and assistance to the driver to help him or her drive as economically as possible.

The system has seen significant increase in fuel efficiency across applications with



With the range extending up to 49 tonnes and engine options up to 400 bhp, the Tata Prima is an ideal work horse for movement of goods and material across distances and terrains, at the same time delivering efficiencies to the trucking business. (Photo: Tata Motors)

results ranging from 10-30 per cent in savings.

Equally important as these physical features is customer support, in this case through UD Genuine Service and UD Genuine Parts, which the company says can help cut customer's long-term costs.

Essentially, it means Quester customers need to visit workshops only three to four times per year rather than the average of six to eight times.

"The key to lowering the cost of ownership for our clients lies not only in the reliable and durable design but also in smart maintenance," said Mourad Hedna, president of UD Trucks Middle East.

"Long-term cost saving is dependent on having proper service right from the start. By engaging UD Genuine Service, Quester's customers can increase vehicle uptime, and protect investment."

Autonomous trucks

Perhaps one of the most intriguing topics up for discussion right now is the prospect of self-driving vehicles in the GCC, where no driver is needed. And, according to some experts, such autonomous trucks are no longer visions of a distant future.

New technologies and connectivity systems could change the entire logistics and transport industry, advocates believe, which was the theme of an international conference in Germany at the end of March. It is a subject keenly monitored by all the big

off-road truck manufacturers and innovators.

Volvo Trucks, for example, is stepping up its research on autonomous vehicles with trials in the field. Over the next year and a half, self-driving Volvo FMX trucks are being tested in regular operations on a working mine in Sweden. The aim is to examine how this technology can contribute to safe and productive transportation in tough, geographically limited areas.

This has potentially immense implications for the GCC region, where most freight moves by truck, and where more than one million trucks are in operation, a number that increases by more than five per cent each and every year.

In a recent report, consultancy Strategy& said that GCC countries stand to benefit from autonomous trucks more than any other region in the world. "The technology can reduce fuel costs, dramatically reduce the number and cost of accidents, reduce expatriate labour and create high value added technology jobs and firms," said Dr Ulrich Kögler, a partner with Strategy&. "By thinking proactively about these issues, GCC countries have a real opportunity to become a global leader in an evolving technology."

The consultancy adds that autonomous trucks are likely go into mass production within 10 to 15 years.

For sure, this game-changing shift on its own will force ongoing innovation in the GCC trucks market. ■

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New quick coupler released for Bobcat E25 to E55 excavators

DOOSAN BOBCAT EMEA has extended its excavator quick coupler offering with the launch of a new hydraulic pin grabber coupler for attachments used on the seven Bobcat compact excavators from the E25 up to the E55 models. The new Bobcat Hydraulic Coupler is available both as a factory installed option and as an aftermarket product for use with all the pin-on fitting attachments for the E25 to E55 excavators. The new quick coupler complements the existing range of mechanical couplers from Bobcat including Klac and Lehnhoff systems.

Bobcat excavators, equipped with the factory-installed hydraulic coupler, are now supplied as tailormade systems, ready-to-go from the start. All controls are incorporated within the operator area, so there is no need for additional controllers, switches, displays, hoses and/or wire harnesses to be connected. The factory installed option is designed not to compromise machine efficiency, its robustness and overall performance.

Key features and benefits of the new quick coupler include its triple lock design for greater safety, exceeding the ISO 13031 norm. There is a wide variable pin centre, to pick up multiple pin-on attachments.

A robust, yet compact design that ensures maximum breakout force and is free of maintenance. Powerful springs are activated in case of pressure loss to avoid any risk and reversibility.



The new hydraulic pin grabber coupler for attachments used on the seven Bobcat compact excavators.

Important features include the increased safety and compliancy offered by a hydraulic pin grab coupler, which enables the operator to rapidly and safely change between non-hydraulic attachments from the comfort of the cab. The pins in the system are under constant pressure from the hydraulic cylinder ensuring the attachment is tightly gripped, even when there has been pin wear over longer term use. In the unlikely event of a hydraulic cylinder failure or hydraulic pressure loss, the attachment will remain securely

connected, thanks to two powerful springs. The front and rear locks ensure the attachment remains in position at all times.

The 'curl to release' safety protocol is an additional step to release the attachment in a safe position. A bucket, for example, must be in the fully curled in position, locked on its hooks with the front lock, to allow the changeover process to start. The front lock, in green, is a highly visible indicator for the operator to check if the attachment is properly locked. An acoustic alarm will engage when releasing the attachment to warn everyone around the excavator that the operation is in progress.

The operator can also change non-hydraulic attachments without leaving their seat. This means more comfort for the operator as well as higher productivity.

The proven and tested design has no greasing requirements and very few moving parts with no maintenance requirements (other than the daily inspection), guaranteeing a hassle-free coupler.

With the pin grabber coupler, the operator can operate the bucket in both the normal position and in the reverse position, without any modification or extra components, to excavate against walls and under pipes for greater flexibility. The pin grab concept allows the operator to connect to a widely available range of pin-on attachments for greater versatility. This makes this coupler an ideal choice for the rental business.

MB Crusher's smallest model gets an upgrade

AUTONOMY HAS ALWAYS been a priority for many building companies. Being able to be independent in terms of fleet and operators allows for increased competitiveness in a sector in continuous evolution, that of recycling and construction. This means not having to hire equipment or depend on hired skills, thus optimising costs and increasing competitiveness.

These are exactly the positive features underlined by the owner of the German company Schäuble Hoch- und Tiefbau GmbH. The company purchased a BF60.1 crusher bucket in September 2016. And it was already aware of the advantages of MB in terms of cost reduction; advantages resulting from the possibility to recycle materials on-site with the opportunity of selling the same materials as new aggregates for the building industry.

"We mainly deal with materials from demolitions, which we then re-use for other kinds of work, such as filling excavations or for road



The new series 4 BF60.1 from MB Crusher.

beds. However, I would never have imagined that such a small bucket (the BF60.1) applied to my 12-tonne Komatsu PC118 excavator would also allow for such highly efficient crushing of basalt. I am very satisfied with the reliability and productivity of this piece," said the company spokesperson.

Suitable for equipment from eight tonnes upwards, MB's smallest model is now presented in the new S4 version. This is an updated and

strengthened version, both in terms of structure and in a number of important technical details. First, restyling of the structural layout which allows for more agile movement and increased speed during crushing operations, facilitating its use on the excavator; the reinforcing of parts, which are subject to stress, the new options for regulation, widening the range of the dimension of the crushed material, and lastly a new centralised greasing system that simplifies and speeds up on-site maintenance operations.



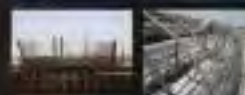
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Electric portable compressor – the ideal alternative from Kaeser

Zero emissions and substantial savings in operating costs – wherever a power supply is available, electric portable compressors are a worthwhile alternative to conventional models.

From large building projects to city centre sites or indoor operations – emission-free electric-powered portable compressors are exceptionally quiet and are significantly easier on the wallet than diesel units. Kaeser Kompressoren is now adding electric versions, powered by motors rated at 15kW–25kW, to its highly successful family of Mobilair M27, M31 and M50 compressors. The flow rates range between two and five cu/m/min for pressures from seven to 14 bar.

These machines will be waved through the gates into any environmentally sensitive area, including clean air zones or building sites near hospitals, for example. On large construction projects, where power hook-ups are usually available, the electric compressors make even more sense, as electricity is generally much cheaper than diesel fuel. Another advantage: electric compressors cost far less to maintain. The new models will also come in very handy in tunnel construction or as bridge compressors for industrial stations.

Keeping power consumption to a minimum are the IE3 premium efficiency motors, which meet the IP55 enclosure and Class F insulation standards. The electric portable compressors are equipped as standard with the advanced sigma control smart controller and Kaeser's patented anti-frost control. The sigma control smart makes

set-up and operation – such as pressure adjustments – quick and simple with an easy-to-read colour display, and the anti-frost control protects tools from frost and corrosion.

The new portable compressors can be used under the most stringent operating restrictions.



*The models are available with a choice of a rotational moulded polyethylene or metal enclosure and in both road-going and stationary versions.
(Photo: Kaeser Kompressoren)*

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Atlas Copco compressors selected for Sharjah power plant

SHARJAH ELECTRICITY & WATER Authority (SEWA) has selected six units of Atlas Copco two stage water-cooled oil-free screw compressors – model ZR75 – to replace their existing aging fleet of reciprocating compressors at its Layyah Power Plant, which is the largest in the UAE emirate.

SEWA, owned by the Sharjah government, has crafted an ambitious strategy 'SEWA Vision 2020' to enhance its competitiveness. To build up green planet as a pillar of the vision, SEWA aims to reduce energy and water consumption and carbon emissions in the emirate as well as reduce the environmental impact of its operations.

Essa Al Suweidi, power generation manager at Layyah Plant, said, "These units together have improved plant reliability many folds, while reducing maintenance cost to a fraction of what was being spent on the older reciprocating units, and to top it all these units have reduced the energy consumption by over 20 per cent, which is meeting the vision 2020 of the SEWA management."

Khalid Shaikh, regional business line manager of Atlas Copco, stressed the fact that Atlas Copco Z series of oil-free compressors are best-in-class in the industry and Atlas Copco is a compressed air partner to the power industry that seeks reliable and efficient compressed air systems.

Also, Atlas Copco has recently acquired Orcan Basincli Hava Makinalari San. ve Tic. Ltd., a Turkish distributor and service provider of Atlas Copco industrial air compressors and related products. Orcan is based in Istanbul and operates throughout the European part of Turkey and its business is focused on distribution and service of Atlas Copco compressors and air treatment systems for use in such areas as manufacturing and general industry.

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Omicron's new test set excels in innovation for basic testing in electrical energy systems

COMPANO 100 IS the universal and easy-to-use solution for all types of basic testing duties in electrical energy systems. Controlled electronic sources allow the user to obtain exactly the desired value and to output signals with variable frequencies and other signal forms, automated ramps, and pure DC. The highly flexible inputs are configurable, for example, as binary inputs for relay testing, AC or DC voltage inputs or current inputs.

Due to its light weight – only 10 kg, small size and unique battery operation, COMPANO 100 can be moved around easily and used for commissioning, maintenance and troubleshooting in utilities, industry plants and by service providers.

A large variety of testing tasks can be conveniently and easily solved using this device: e.g. wiring and polarity checks, burden measurements, single-phase protection relay testing, CT/VT ratio checks, and micro-ohm resistance testing.



COMPANO 100 from Omicron. (Photo: Omicron)

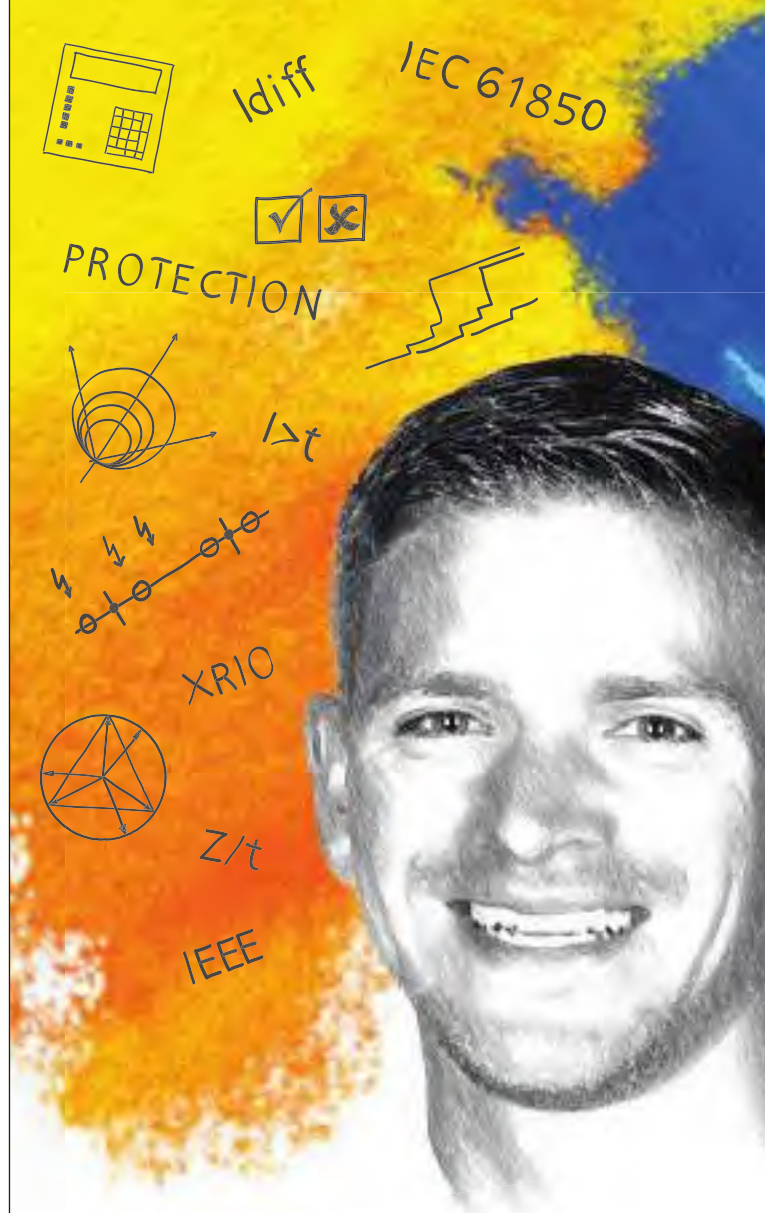
In utilities, hundreds of connections have to be verified during commissioning and re-commissioning, especially in high voltage environments CTs and VTs are often far away from the relay and control room. Due to the battery-operated and light-weight COMPANO 100 users can perform convenient wiring and polarity checks, even without mains supply. As COMPANO 100 can also inject current from the primary side to the CT and an independent voltage signal to the VT/PT path, it is possible to detect all potential wiring errors, missing grounds, unwanted additional grounds, swapped wiring and even the CT direction setting in the relay.

In industry plants an easy-to-use and portable test set with outstanding capabilities is indispensable. With COMPANO 100 users can generate high currents and variable voltages for testing, easily test overcurrent protection relays and ductors.

Service providers benefit from the high versatility of COMPANO 100. Wiring checks by primary or secondary injection, basic relay tests, continuity checks with high currents or even MCB tests are possible with a single device.

BENEFITS OF USING COMPANO 100

- Accurate output of desired value
- Run complex predefined sequences and ramps
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- Runs without mains power supply for several hours
- High versatility
- Portable due to light weight



Florian Fink
Application Engineer

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Qatar's construction sector witnesses steady incline

As the country moves closer to hosting the 2022 FIFA World Cup Qatar, the 14th edition of Project Qatar will demonstrate up-to-date technologies to fast track projects for the event, and beyond.

EVEN AS QATAR recently announced the slashing of the 2022 FIFA World Cup Qatar by 40-50 per cent, the country is investing heavily in developing infrastructure and construction projects, with more than US\$220bn worth of investment opportunities in new roads, football stadiums, facilities and other major projects such as hotels and leisure to meet its Qatar National Vision (QNV) 2030 and the National Development Strategy.

Ventures Onsite reported that Qatar is the fastest growing construction market in the GCC. The country's 2017 budget has been received favourably by construction companies and experts alike and the sector is estimated to peak in first half of 2017. Construction would account for 45 per cent of investment between 2015 and 2018. The budget has also paved the way for an increase in construction activities on various projects, which will lead to higher allocations for major projects in the coming fiscal years.

Also, the investment plan of US\$13bn for the current year will impact positively on the country's construction sector.

According to Qatar's Ministry of Development Planning and Statistics, construction will continue to expand through to 2018. Although volatile oil prices continue to pose a challenge, ongoing government initiatives to promote economic growth through flagship programmes such as QNV 2030, Qatar Rail



Project Qatar 2017 will take place in Doha Exhibition and Convention Center in May. (Photo: Project Qatar)

Development Program (QRDP) and National Tourism Sector Strategy 2030 are expected to support the industry's expansion from 2017 through 2021.

The government's aim to diversify the economy with a particular emphasis on non-oil sectors is expected to drive funding towards construction projects over the forecast period. In addition, the effort to enhance regional connectivity by focusing on the development of the country's transport infrastructure is expected to support the sector's rise.

Project Qatar 2017 will be taking place at the Doha Exhibition and Convention Center

(DECC), from 8-11 May and will attract key buyers and industry leaders looking for the most up-to-date technology and state-of-the-art equipment available on the market. According to organiser IFP Qatar, Project Qatar is now established as Qatar's most important exhibition for highlighting the latest products and services needed for the country's fast growing construction sector and has become a destination of choice for regional and international industry professionals. The show will provide a unique and dynamic platform for buyers and suppliers to make contacts and drive future developments in Qatar's multi-billion dollar construction sector and the exhibitors would benefit from exposure to premier regional agents, dealers, buyers and distributors. From innovations to earthmoving machinery, it will all be assembled under one roof.

Project Qatar 2016 hosted 663 exhibitors representing more than 1,050 companies and brands displaying their products to 37,683 visitors, within 17 national pavilions from 38 countries. ■

Project Qatar aims to support the country's construction sector, giving local and international traders in-depth insights into the latest products and services in the field of construction.

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Solar and wind energy in focus

THE MIDDLE EAST and North Africa (MENA) region's energy landscape has undergone a tremendous change in the last couple of years and going forward, the system could rely primarily on renewable energy by 2030. A new study reveals that the cost of wind and solar power in the region could fall as low as US\$39 to US\$58 per MWh, if energy resources were connected to a "super grid", allowing for the transmission of high volumes of electricity across longer distances. Researchers at Finland's Lappeenranta University of Technology found, for example, that if Iran's energy system ran with 100 per cent renewables, it would be 50-60 per cent cheaper than nuclear or fossil fuel carbon capture storage (CCS) options.

A low carbon future presents big opportunities for businesses and policy makers in the MENA region. Globally, the low-carbon economy is already worth US\$5.5 trillion a year and US\$90 trillion will be invested in the world's infrastructure, agriculture and energy systems by 2030.

A recent study for the Arab Forum for Environment and Development (AFED) has estimated that the cost of environmental degradation in the Arab region is approximately five per cent of GDP, and leading economic analyses of the impacts of climate change demonstrate that the costs of inaction far outweigh the costs associated with a transition towards a lower carbon economy. Businesses will increasingly be required to disclose climate change impacts and risk exposure and sustainability, and climate change credentials are coming under greater scrutiny from governments, consumers, employees and investors. Even governments in the region are committed to energy reforms, while mergers and acquisitions in the renewables sector are picking up after a long slump. Greenfield activities continue to dominate power and utility transactions, attracting US\$8.7bn of investment last year.

With vast stretches of desert, windy coastlines and some of the highest solar



*A low carbon future presents big opportunities for businesses and policy makers in the MENA region.
(Photo: Jason Winter/Shutterstock)*

radiation levels in the world, MENA is a natural home for renewable energy. In the last decade, MENA region has started to harness the abundant natural energy resources that it has in plenty – namely, solar power – but also, more recently, it has looked to take advantage of the power of the wind.

To augment this movement, MENA New Energy 2017, on 25-26 April, will facilitate the discussions between governments looking to add renewable energy to their country's grid with potential developers. ■



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GCC smashing its own construction records

With mammoth projects currently underway in the MENA region, Middle East Stone will 'leave no stone unturned' to fulfil developers' demands.

The GCC is currently responsible for 92 per cent of all stone-heavy urban construction projects across MENA.



THE VALUE OF ongoing urban construction projects across the GCC has smashed the US\$1trillion mark – prompting the UAE's leading dedicated stone show to gather one of the most significant pools of marble, granite and tile suppliers to have ever exhibited together.

Now in its third year, Middle East Stone will unite the world's most influential natural stone, marble and granite exporters' trade groups in the world in Dubai from 22-25 May 2017 as the key decision makers from the MENA's stone community hunt for the surface materials required for the 16,405 builds currently underway across the GCC.

New research commissioned by Middle East Stone and compiled by data analysts BNC found that those projects are worth a combined US\$1,098bn. Buildings and sprawling urban developments account for more than half of that sum, valued at a combined US\$745.1bn. Across the GCC, more than 12,200 buildings are under construction along with massive 204 urban mega projects. Put into perspective, the GCC is currently responsible for 92 per cent of all stone-heavy urban construction projects across the whole of the Middle East and North Africa (MENA), accounting for 80 per cent of the total value of all builds within the region.

That demand has prompted Middle East Stone – the UAE's premier networking platform for stone professionals – to gather key suppliers from the world's top stone exporting nations to meet with the leading decision-makers responsible for the GCC's catalogue of ongoing construction projects.

Exhibitors from 25 countries including Italy, Brazil, Turkey, USA, Canada, India, Iran, Portugal, Greece, China, the UAE and Spain, will gather under the theme *Bring Stone to Life*, where the focus will be on innovative stone design for the likes of façades, cladding, pavements and flooring.

Yan Wang, event director at Middle East Stone, said, "Breaking through the US\$1 trillion mark may be the most obvious indication yet of how construction market is booming across the GCC. To have that scale of investment – across more than 16,000 infrastructure, hospitality, healthcare, retail and educational projects – is unprecedented. These builds rely on the world's best stone, and Middle East Stone will provide those direct links and facilitate international business. The UAE alone is the third largest importer of stone in the world, demonstrating again the nation's huge potential for further growth."

Along with business opportunities, the exhibition will also offer CPD accredited free-to-attend knowledge and learning sessions, where the emphasis will be placed on case studies, industry insights, technical and architectural processes as well as workshops tailored specifically for exhibitors on how to trade in the GCC. ■



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'Saudi Power' returns as 'Saudi Elenex'

The event, now organised by Riyadh Exhibitions Company (REC), aims to attract top global investors for lucrative T&D and renewable energy projects in Saudi Arabia.

SIGNIFICANT INVESTMENT TOWARDS existing power grids and the development of new plants, coupled with growing electricity demand, is stimulating the growth of the energy sector in Saudi Arabia. The kingdom is also witnessing a move towards achieving its ultimate goal of becoming not only a world leader in renewable energy, but also an exporter of renewable energy with government investment of US\$30-50bn by 2023.

As the kingdom moves to reduce its reliance on oil as the main source of energy, turning the National Renewable Energy Program's (NREP) objectives into reality is increasingly becoming a necessity.

Energy minister Khalid Al-Falih launched the NREP in July 2016.

The programme, which falls under the Ministry of Energy, Industry and Mineral Resources, is working toward achieving the target of 3.5 GW of renewables by 2020, and 9.5GW by 2023 has stipulated in 'Saudi Vision 2030'.

Saudi Aramco is also pushing its renewable energy industry growth, both within and outside the kingdom. Recently, Saudi Aramco signed two separate MoUs with Abu Dhabi National Oil Company (ADNOC) and Masdar, Abu Dhabi's renewable energy company, to cover energy and technology collaboration, renewables, and carbon management. Under the terms of the agreement, Masdar and Saudi Aramco will collaborate on sustainable development and renewable energy to yield advancements in clean electricity generation, and carbon capture for Saudi Arabia, the UAE and the world.

According to the Middle East Economic Survey, the Saudi Electric Company (SEC) plans to increase the kingdom's electricity generating capacity to 120 GW by 2032. The SEC currently maintains a kingdom-wide network amounting to 14,081km of transmission lines, approximately 83,685km of distribution lines, and more than 85,295km of service connections. It is also developing power transmission and distribution and is looking at establishing an internationally focused company exporting excess capacity in off peak months to other countries of the GCC, Egypt, and eventually Europe. Domestically, the trend seems to be shifting towards smart grid, which would suggest strong demand in metering equipment, smart grid, and IT/big data support to allow for a more efficient distribution and management of produced electricity.

Also, SEC has set out US\$34mn for the development of different electricity infrastructure projects such as converter stations and transmission infrastructure. A BMI report estimated that non-hydropower renewable generation will increase to 2.23TWh in 2025, from an estimated level of 0.1TWh in 2016 in the kingdom.

To provide the infrastructure needed for industrial diversification and expansion, Saudi Arabia needs the investment in its electricity grid in order to develop alternative energy and provide for greater efficiency.

Saudi Elenex, established in 1997, will held under the high patronage of the Ministry of Water and Electricity, Saudi Arabia. Covering all sectors of the power industry including power generation, transmission and distribution, solar energy technologies and services, modern lighting products and technologies, the event will be co-located with Saudi Aircon. Saudi Elenex will be held at Riyadh International Convention and Exhibition Centre from 14-16 May 2017. ■

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In a conventional mechanical refrigeration system without Visco Fan, fan speed remains constant despite radiator's high or low temperatures, engine's higher or lower load rate. Thus, the fan is always consuming the same amount of power from the engine, keeping fuel consumption and noise emission constant.

When the system has Visco Fan installed, the CIU engine control unit adapts fan speed to engine temperature and workload using a Visco fan. Therefore, if the engine is working below 80 per cent of its nominal load, Visco adjusts the fan speed down, since not much cooling is required. The same thing happens when the work temperature is low.

According to INMESOL, Visco Fan



Visco Fan provides savings in fuel up to three to eight per cent at a 50-75 per cent load. (Photo: INMESOL)

provides savings in fuel between three to eight per cent at a 50-75 per cent load.

Fans generate a sound emission that is proportional to its rotational speed and to the amount of air that move. Thus, a fan working at lower revolutions and moving less air will generate less noise. Visco Fan facilitates

reduction in fan noise levels up to two dB.

All models with VOLVO engines ranging from 200kVA PRP up to 595kVA PRP support this device. The Visco Fan is ideal for applications where gensets work long hours at 80 per cent of their load, such as the rental, construction or events.

Driving eco-friendly innovation in the fluid sealing industry

IN 2015, INMARCO FZC successfully launched its first eco friendly sheet and speciality gasket insulation kits manufactured by its Korean partner M/s. JEIL E & S Company Limited who have successfully embarked approval from Saudi Aramco and have qualified on 9COM (6000000366) as certified manufacturer under ID10036961/Plant ID30007592.

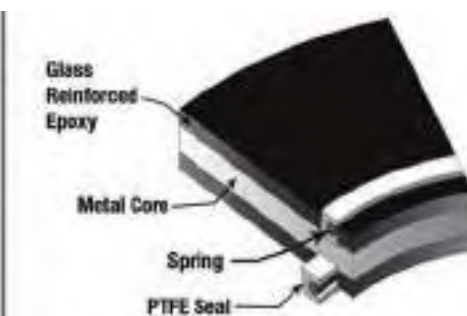
These eco-friendly gasket materials are manufactured without use of solvents that are carcinogenic. This is a step towards creating industrial material that reduces health hazards. Apart from being eco-friendly, this material has many other advantages.

The Startec branded insulation gasket kits are specially designed for critical applications boasting of construction with specialty reinforced epoxy, metal cores and high performance sealing materials made of specialty rubbers/PTFE with spring energisation confirming to fire safe specification. The components of insulation kits like sleeves, washers, nuts and bolts are designed to high end specification where conventional insulation kits fail to perform.

According to Inmarco, these Startec branded Insulation gasket kits have outperformed the expectations of clients. The company has also won orders for Saudi Aramco projects awarded in UAE to the

tune of US\$ 0.5mn and are currently working on a sales revenue over US\$2mn for the year 2017.

INMARCO FZC has brought many innovations in fluid sealing industry at most economical prices into the Middle East market. According to the company, it has received approvals from ADNOC, Petroleum Development of Oman (PDO) and Qatar Petroleum (QP), and many certifications in 2016 like US-FDA for proprietary for Pure PTFE yarns and gasketing sheets. Completing its 12 years of strong presence in Middle East market, the company looks forward to new innovations to be launched this year.



The three different types of Startec insulation gasket kits available. (Photo: Inmarco)

Multiphase pumping to recover low energy wells

MULTIPHASE PUMPING IS an economic solution for ageing oilfields, where, over time, the natural reservoir pressure drops off to a point where some wells lose the ability to overcome the back pressure generated by the surface flow lines and the first stage separator of the process facility.

The conventional alternatives considered by operators are increasing the flow line size and the installation of a significantly lower pressure first stage separator that would be significantly larger. These alternatives have been carefully reviewed. However, the costs and necessary permissions by the appropriate authorities have proven to be significant and not economical.

Engineering technologies company, Leistriz, specialises in multiphase pumping solutions for oilfields. Leistriz had initialised a project study in 2015 with its client to draw down the back pressure on the producing wells with the help of a multiphase wellhead pumping system to about 200 PSIG, which would allow the wells to produce oil and gas at an acceptable rate.

To overcome the flow line pressure including some reserve, the pressure boosting of the multiphase pump had to be around 500 psi in order to reach the line backpressure of 700 psig.

The multiphase wellhead system (Model L300) based on the Leistriz twin-screw pump was selected, proposed and purchased in the summer of 2015.

The system had to be designed for remote unmanned operation and the outside of power supply had to be completely self-supporting. Remote access of the operating parameters was achieved over the internet by a secure access for the operator as well as for Leistriz.

Installation and commissioning of the system took place in Q2 2016. The unit has performed as expected and adding significant production for the operator. This case study points to the opportunities using multiphase pumping in lieu of other back pressure reducing alternatives.

The multiphase pump together with VFD speed control has proven its flexibility to instantly adapt to actual field conditions and to optimise production with lower flowing wellhead pressure.

The advertisement for SLIC shoes features a dark, high-contrast background image of a construction site. Silhouetted workers are visible on a steel framework, with vertical rebar extending upwards. The SLIC logo, consisting of the letters 'SLIC' in a stylized font, is positioned in the upper left. To its right, the company name is written in Arabic 'الصناعات الجلدية' and English 'Leather Industries', with 'Since 1981' below it. The central text, 'COMFORTABLE FOOTWEAR FOR TOUGH JOBS', is displayed in large, bold, white capital letters. In the lower foreground, a pair of black, rugged work shoes is shown. One shoe is prominently displayed, showing its side profile and a strap across the midfoot. A small, rectangular SLIC logo is visible on the side of the shoe. In the bottom right corner, there are two circular logos: one for 'SABIA' and another for 'SGS'. The website address 'www.slicshoes.com' is printed in white at the bottom center.

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Seven seconds: That's all that HIMOINSA gensets need

HIMOINSA ensures continuity of power supply to the massive Doha Festival City with five generator sets that start up within seven seconds in the event of a failure in the electricity grid.

DOHA FESTIVAL CITY, celebrating the best in entertainment, retail and hospitality in Qatar, has ensured the continuity of its power supply by installing generator sets that start up in record time in the event of a failure in the electricity grid.

Occupying 670,000 sq m in the very heart of the Middle East, Doha Festival City will be home to more than 500 stores, including over 100 restaurants, and a world-class entertainment complex, with both indoor and outdoor attractions unique to Qatar.

With footfall expected to exceed 1.6mn people per month, safety and the proper operation all business units at Doha Festival City will heavily rely on a system capable of supplying power in the event of an emergency. Not only that, such a system must meet the requirements that the Qatar Civil Defence has envisaged for public spaces.

To feed such a huge complex and to respond quickly in the event of a power cut, HIMOINSA has supplied five generator sets, which each supply 1,736kVA of stand-by energy. These generators guarantee an uninterrupted supply of electricity with generator sets capable of starting up in synchronicity with 100 per cent of the load and in less than 10 seconds in the event of a failure in the supply of electric power.

According to the company, the detailed programming study and testing protocols of its control units ensure that the generator sets guarantee a synchronised start-up in just seven seconds, which, in fact, exceeds the project's technical specifications.

The five HTW-1745 T5 generator sets supply a total of 8.7MVA of stand-by power and respond seven seconds after any power failure. The units feature Mitsubishi engines and Stamford alternators that have been oversized and fitted with sophisticated control systems that synchronise the gensets. They are also capable of working in a



HIMOINSA genset at Doha Festival City. (Photo: HIMOINSA)

maximum ambient temperature of 55°C.

"The biggest challenge of this project," states Al Futtaim Auto and Machinery Company (FAMCO) regional general manager Terry McGuire, "was to meet the stringent requirements of Qatar Civil Defence. We needed to prove that all the gensets would be able to run from a dead start, synchronise and produce power within 10 seconds. We managed to show this by the factory test, where we achieved 7.8 seconds and we also proved the same results on site."

HIMOINSA's technical team subjected the five generator sets to a stringent test protocol, pushing the units to the limit of their operational capacity, to predict and guarantee a suitable response.

HIMOINSA sales engineering manager Massimo Brotto says, "We measured both the synchronisation times and the quality of the voltage and the current. We ran single-step load impact tests at 100 per cent, guaranteeing a stable and rapid recuperation. We also simulated all the possible combinations of breakdowns. And we did not endorse the tests until we had established that the units were reliable in all these situations." ■



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Kanoo Group's PSG eyes Saudi Arabian expansion with Kanoo Machinery

POWER SYSTEMS GULF LLC (PSG), member of The Kanoo Group and authorised Perkins distributor for the GCC, is responsible for the group's business in Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, the UAE and Yemen. Based in Dubai, PSG looks after regional Perkins distribution strategy, management of Perkins engine distribution and product support capability across the GCC region.

PSG is a Perkins authorised district training centre meeting the training needs for Perkins engines for original equipment manufacturers (OEMs), OEM dealers, government establishments, large fleet users and end customers. PSG also offers maintenance, service, technical and application engineering training on Perkins. This is to ensure that all Perkins customers thoroughly understand the operational and maintenance requirements so as to optimise lifetime cost of ownership. PSG has a fully equipped dedicated training facility in Dubai with two Perkins approved trainers to meet customer requirements.

Graeme De Villiers, general manager at PSG, said, "The PSG team members have a vast

experience with Perkins products and work hand-in-hand with Kanoo Machinery, which is our appointed Perkins dealer for the UAE, Saudi Arabia and Oman."

Kanoo Machinery has five branches across Saudi Arabia – Dammam, Riyadh, Jeddah, Jubail and Yanbu. The Dammam, Riyadh, and Jeddah facilities have full size workshops, while Yanbu has a satellite workshop and Jubail will

have an operational workshop within the next six months, according to the company.

Kanoo Machinery has a dedicated team of Perkins trained and certified technicians as well as Perkins trained cross functional technicians who work across multiple brands including Perkins. In addition to this, there are a number of dedicated Perkins service vehicles available across Saudi Arabia.

This kind of product support capability is essential to meet the demands of the ever changing product support requirements for the new generation of technologically advanced Perkins engines entering the markets, according to PSG.

Perkins diesel engines are used in sectors including agricultural, oil and gas, construction, material handling, power generation and industrial.

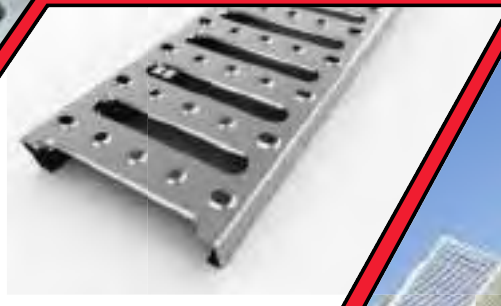
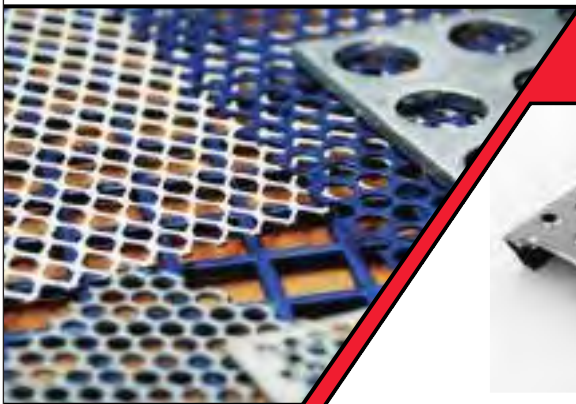
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حصلت شركة دايكين اليابانية، عملاق صناعة مكيفات الهواء، على علامة الجودة الإماراتية (EQM)

معدلات ممتازة لكفاءة استخدام الطاقة، مع ترشيد استهلاك الكهرباء بشكل كبير، إلى جانب الأداء المحسّن. فالأنظمة الجديدة تستخدم مُبرد البورون الذي يحقق التوازن البيئي، ولا يصدر أي مواد كيميائية مستنفدة للأوزون، كما أنه غير قابل للاشتعال وغير أكّال.

من جانبه، ذكر جورجيو إليا، نائب رئيس شركة UTC Climate, Controls & Security في الشرق الأوسط أن مجموعة المنتجات «توضح التزامنا بالاستدامة وبالتحسين المتواصل لكفاءة استخدام الطاقة». وعلى مستوى دول مجلس التعاون الخليجي، يعمل هذا التوجه نحو الجودة، والمتمثل في تحسين أداء الطاقة وتحقيق تصنيفات صناعية أعلى جودة، على إبراز استجابة المُصنعين للقواعد والمبادرات الحكومية الجديدة في مجالات تتنوع بين الرقابة البيئية الدقيقة والصحة والسلامة. ولك - عزيزي القارئ - أن تتوقع استمرار هذه التوجهات في صناعة منتجات التدفئة والتهوية وتكييف الهواء والتبريد، مع تأصيل هذه المبادرات.

أُقيم في جدة في مطلع هذا العام، حيث اجتمع الآلاف من الخبراء في هذا المجال لاستكشاف التقنيات الجديدة وتقييم تطورات السوق. ومن بين هذه الأسماء التجارية العالمية الشهيرة في توفير منتجات التدفئة والتهوية وتكييف الهواء والتبريد تأتي أيضا شركة كاريير التابعة لشركة UTC Climate, Controls & Security، والتي عرضت آخر إبتكاراتها التي تتضمن نظام التدفق المتغير للهواء البارد (VRF) والوحدات التي تحقق كفاءة استخدام الطاقة والمركبة أعلى الجدران، وهي تستخدم تقنية عاكسة، وتوفر

للحريق في الدوحة. وقال ديباك بهادرا، المدير العام للشركة: «سوف يتيح الخط الجديد لشركة ليمينار تلبية المتطلبات المتزايدة لمقاولي أجهزة التدفئة والتهوية وتكييف الهواء من أنظمة قنوات الهواء المقاومة للحريق، وهو مجال يشهد توسعات كبيرة، تماشيا مع البروتوكولات واللوائح الصارمة للسلامة من الحرائق».

وإلى جانب اللوائح المُشددة، يتضح أن مبادرات كفاءة استخدام الطاقة وإدارة الطلب عليها، قد عززت الإبداع على مستوى الصناعة لابتكار حلول أكثر حماية للبيئة، وكفاءة في استخدام الطاقة. وقد ركزت على هذا المسار أسماء تجارية كبرى، مثل شركة دايكين اليابانية عملاق صناعة مكيفات الهواء، وحصلت على علامة الجودة الإماراتية (EQM) عن منتجات تكييف الهواء. ويعتبر ريجوي سانو، رئيس شركة دايكين في الشرق الأوسط وإفريقيا، أن علامة الجودة هي دفعة كبيرة للشركة في الإمارات. وقد ذكر سانو أن الشركة تنوي مواصلة الابتكار والريادة «بطرح المنتجات عالية الجودة الأكثر كفاءة في استخدام الطاقة وصديقة البيئة في الأسواق». وسوف تحمل منتجات تكييف الهواء من دايكين الآن علامة الجودة الإماراتية، التي تدل على التزامها بمتطلبات السلامة وكفاءة استخدام الطاقة التي حددتها هيئة الإمارات للمواصفات والمقاييس. ظهر هذا التوجه جليا أيضا في المعرض السعودي للتدفئة والتهوية وتكييف الهواء والتبريد، الذي



افتتحت شركة ليمينار وحدة لتصنيع قنوات الهواء المقاومة للحريق في الدوحة

*كتبه مارتين كلارك



سوق التدفئة والتهوية وتكييف الهواء والتبريد ستدر ما يزيد على ١٦,٢٣ مليار دولار بحلول ٢٠٢٢

دور رائد لكفاءة استخدام الطاقة

لا يزال التوجه القوي نحو الإنشاءات، في دول مجلس التعاون الخليجي، يدعم الطلب على منتجات سوق التدفئة والتهوية وتكييف الهواء والتبريد. فبينما شهد الاقتصاد الإقليمي تراجعاً بسبب انخفاض أسعار النفط، يواصل نشاط الإنشاءات مسيرته بوتيرة سريعة، وهو ما يزيد ا. وهذا - بطبيعة الحال - أمرٌ إيجابيٌّ على وجه العموم، على الرغم من أن القواعد واللوائح الجديدة تعمل على تغيير مجالات الأعمال.

الضخم أيضاً لدعم الطلب على منتجات التدفئة والتهوية وتكييف الهواء والتبريد، وهذا - بدوره - يشجع على ضخ استثمارات جديدة في الإنتاج والمنشآت. وقد افتتحت شركة ليمينار لصناعة مكيفات الهواء مؤخراً خط تصنيع مزود بأحدث التجهيزات لتصنيع قنوات الهواء المقاومة

المتوقع تبدل الحال عقب 2017، ودعم المزيد من الاستثمارات العامة والخاصة في البنية الأساسية، وتحريك السوق المحلية الخاصة بتكييف الهواء. ومن المتوقع أن ينطبق هذا الحال أيضاً على دول أخرى في المنطقة، مثل دولة الإمارات العربية المتحدة ودولة قطر، حيث يؤدي الإنفاق

من المنتظر - في الكويت - أن تشهد سوق تكييف الهواء نمواً بمعدل سنوي يبلغ 4,45 في المائة حتى العام 2022، وذلك وفقاً لتقرير خاص بسوق تكييف الهواء في الكويت بين عامي 2016-2022. ويذكر التقرير أن معدل النمو قد تراجع بسبب انهيار أسعار النفط، غير أنه من



سيتم شحن إنتاج المركز السنوي من ميناء صُحار

حالة إعادة تشغيله. غير أن النموذج المالي للمشروع يتيح الشحن البحري، ويأخذ في الاعتبار الرسوم الأخرى المرتبطة ببيع المركز من ميناء صُحار، حسبما ذكرت شركة «الارا ريسورسز المحدودة». وتشمل الاتفاقية أيضاً سداد مبلغ 6 ملايين دولار أمريكي مقدماً للمساعدة في تمويل تكاليف إنشاء المشروع وبدء العمل في المنجم، على أن يتم سحب المبلغ على هيئة أقساط خلال مرحلة إنشاء المشروع، والتي من المقرر أن تبدأ فور إصدار ترخيص التعدين. هذا، وتعد هذه الاتفاقية جزءاً مهماً في تمويل وتطوير المنجم ومصنع المعالجة في وشيحة، وقد تم استكمال المناقشات المتعلقة بها مع ممثلي البنوك.

«أكسس» توفر خدماتها لملاعب قطر

بالملاعب الأربعة الأخرى قيد الإنشاء في قطر. وإلى جانب هذه التعاقدات الأخيرة الخاصة بملاعب كأس العالم، تم التعاقد مع شركة خدمات تكنولوجيا الإنشاء المتطورة (أكسس) لتنفيذ أعمال مراقبة الجودة لمشروعات أخرى عملاقة في منطقة الشرق الأوسط، وتشمل مشروع مترو الدوحة ومترو الرياض ومطار الملك عبد العزيز الدولي وبرج المملكة، الذي يعد أول ناطحة سحاب في العالم بارتفاع كيلومتر واحد، يجري إنشاؤه بمدينة جدة في المملكة العربية السعودية.

شركة «خدمات تكنولوجيا الإنشاء المتطورة» لتنفيذ العديد من الأعمال الجيوتقنية والجيوفيزيائية الأخرى، إلى جانب اختبار المواد الإنشائية الخاصة بالاستاد نفسه. علماً بأن هذا الاستاد يتسع لحوالي 40 ألف متفرج، ويقع تقريباً على مسافة 15 كيلومتراً جنوب الدوحة، ومن المقرر أن يستضيف مباريات ربع النهائي. وهو يتميز بتصميمه المستوحى من المراكب الشراعية التي كانت تنقل الصيادين القطريين وغواصي البحث عن اللؤلؤ. كذلك تعكف الشركة في الوقت الحالي على تنفيذ أعمال

أعلنت شركة خدمات تكنولوجيا الإنشاء المتطورة (أكسس)، المتخصصة في توفير الخدمات الاستشارية في مجال مواد البناء والهندسة الجيوتقنية، عن توفير خدماتها لخمسة ملاعب كبرى، إلى جانب ثلاثة مراكز طاقة متعلقة بها، يتم إنشاؤها في إطار الاستعدادات لكأس العالم الذي من المقرر أن تستضيفه قطر في العام 2022.

وقد أعلنت الشركة عن انتهائها من أعمال المسح الجيوفيزيائي لاستاد الوكرة. كما وقع الاختيار أيضاً على

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- ٨ - ١١ معرض مشروع قطر الدوحة
- ١٥ - ١٧ معرض ألومنيوم الشرق الأوسط دبي
- ١٥ - ١٨ معرض جيمكس التجاري الدولي عمان
- ١٧ - ١٨ مؤتمر قطر للصحة والسلامة والبيئة الدوحة
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و5000 ميجاواط بحلول 2030، باستثمارات إجمالية تصل إلى 13,61 مليار دولار أمريكي.

كذلك تعتبر هذه المرحلة من مجمع الطاقة الشمسية أول وأكبر مشروعات الطاقة الشمسية في المنطقة، وفق نظام المنتج المستقل (IPP). وقد تم تنفيذ هذا المشروع من خلال شراكة بين هيئة كهرباء ومياه دبي والائتلاف الذي تقوده شركة «أكوا باور» السعودية، المُطور الرئيسي للمشروع، وشركة «تي إس كي» الإسبانية، المقاول الرئيسي، بتكلفة تصل إلى 326,6 مليون دولار.

يجدر بالذكر أن هذه المرحلة توفر الطاقة النظيفة لنحو 50 ألف مسكن في دبي، ومن شأنها تخفيض نحو 214 ألف طن من انبعاثات الكربون سنوياً. وتضمنت هذه المرحلة تركيب 2,3 مليون لوح من الألواح الشمسية الكهروضوئية على مساحة 4,5 كيلومتر مربع. وحقق العمل في المشروع مليون ونصف ساعة عمل آمنة من دون تسجيل أية إصابات خلال عملية التنفيذ. وكان لجهود شركة شعاع للطاقة 1، التي أسستها هيئة كهرباء ومياه دبي مع الائتلاف الذي تقوده شركتنا «أكوا باور» و «تي إس كي»، دوراً فاعلاً في إنجاز الأعمال بكفاءة وحرفية عالية.

وأضاف الطائر قائلاً: «تقود دولة الإمارات العربية المتحدة اليوم الجهود الدولية في مجال الطاقة النظيفة والمتجددة من خلال استراتيجياتها واستثماراتها. وسوف تسهم المرحلة الثانية من مجمع محمد بن راشد آل مكتوم للطاقة الشمسية، ذلك الصرح الوطني، في تحقيق سعادة المجتمع والأجيال القادمة. كما أنه يضاف إلى المسيرة المباركة للإمارات العربية المتحدة تحت قيادة صاحب السمو الشيخ خليفة بن زايد آل نهيان رئيس دولة الإمارات، وبتوجيهات صاحب السمو الشيخ محمد بن راشد آل مكتوم نائب رئيس الدولة رئيس الوزراء حاكم دبي».



صاحب السمو الشيخ محمد بن راشد آل مكتوم أثناء حفل الافتتاح

افتتاح المرحلة الثانية من مجمع محمد بن راشد آل مكتوم للطاقة الشمسية

الذي ينتج 200 ميجاواط من الطاقة النظيفة قبل الموعد المقرر له، جاء ثمرة الدعم غير المحدود من صاحب السمو الشيخ محمد بن راشد آل مكتوم، نائب رئيس الدولة ورئيس مجلس الوزراء وحاكم دبي.

ويعد المجمع واحداً من أكبر المشروعات التي تقيمها هيئة كهرباء ومياه دبي لتحقيق هذه الإستراتيجية الواعدة. وهو أكبر مجمع للطاقة الشمسية في العالم في موقع واحد وفق نظام المنتج المستقل. ومن المخطط أن تصل طاقته الإنتاجية إلى 1000 ميجاواط بحلول 2020

افتتح صاحب السمو الشيخ محمد بن راشد آل مكتوم، نائب رئيس الدولة رئيس مجلس الوزراء حاكم دبي المرحلة الثانية من مجمع محمد بن راشد آل مكتوم للطاقة الشمسية بقدرة 200 ميجاواط في مارس/آذار 2017.

في كلمته خلال حفل الافتتاح، قال سعيد محمد الطائر، العضو المنتدب والرئيس التنفيذي لهيئة كهرباء ومياه دبي: «إن نجاحنا في استكمال هذه المرحلة من مجمع محمد بن راشد آل مكتوم للطاقة الشمسية،

المعدن غير الحديدية، والتي تشمل مبيعات النحاس داخل عمان وخارجها. وسيتم، بموجب الاتفاقية، شحن إنتاج المركز السنوي، الذي يبلغ 25 طناً مترياً من الوزن الرطب تقريباً، على فترات منتظمة من ميناء صُحار. كما تتوفر أيضاً إمكانية توريد المواد إلى مصهر عمان في

الأرا توقع اتفاقية لشراء مُركّز النحاس من عُمان

النحاس من مشروع الحديثة في محمية وشيخة بعمان. وقد أبرمت الشركة الاتفاقية مع شركة Statdrome PTE Ltd التي تمتلك خبرة أكثر من 15 عاماً في تجارة مُركّزات

وقعت شركة «الأرا ريسورسز المحدودة» الأسترالية للتقريب عن المعادن، والتي تقيم مشروعات في المملكة العربية السعودية وعُمان، اتفاقية شراء إنتاج لتوريد مُركّز

المحتويات

القسم العربي

أخبار

- افتتاح المرحلة الثانية من مجمع بن راشد آل مكتوم للطاقة الشمسية ٤
- ألا توقع اتفاقية لشراء مركز النحاس من عُمان ٤
- «أكس» توفر خدماتها لملاعب قطر ٥

تحليلات

- دور رائد لكفاءة استخدام الطاقة ٦



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إنشاءات: شق الطرق.

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