

# TECHNICAL REVIEW

النشرة التقنية - الشرق الأوسط

MIDDLE EAST

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Vol 31/Issue Three 2015

## DREAMING BIG IN DOHA

AMBITIOUS QATAR TARGETS  
LONG-TERM ECONOMIC SUCCESS

### Facilities Management

Service improvements bode well for the region's FM firms

### Saudi Telecoms

The kingdom's telecoms sector on the hunt for new business



**KOHLER** 64  
Power Systems

Kohler Power Systems looks to build on growing business opportunities in Saudi Arabia

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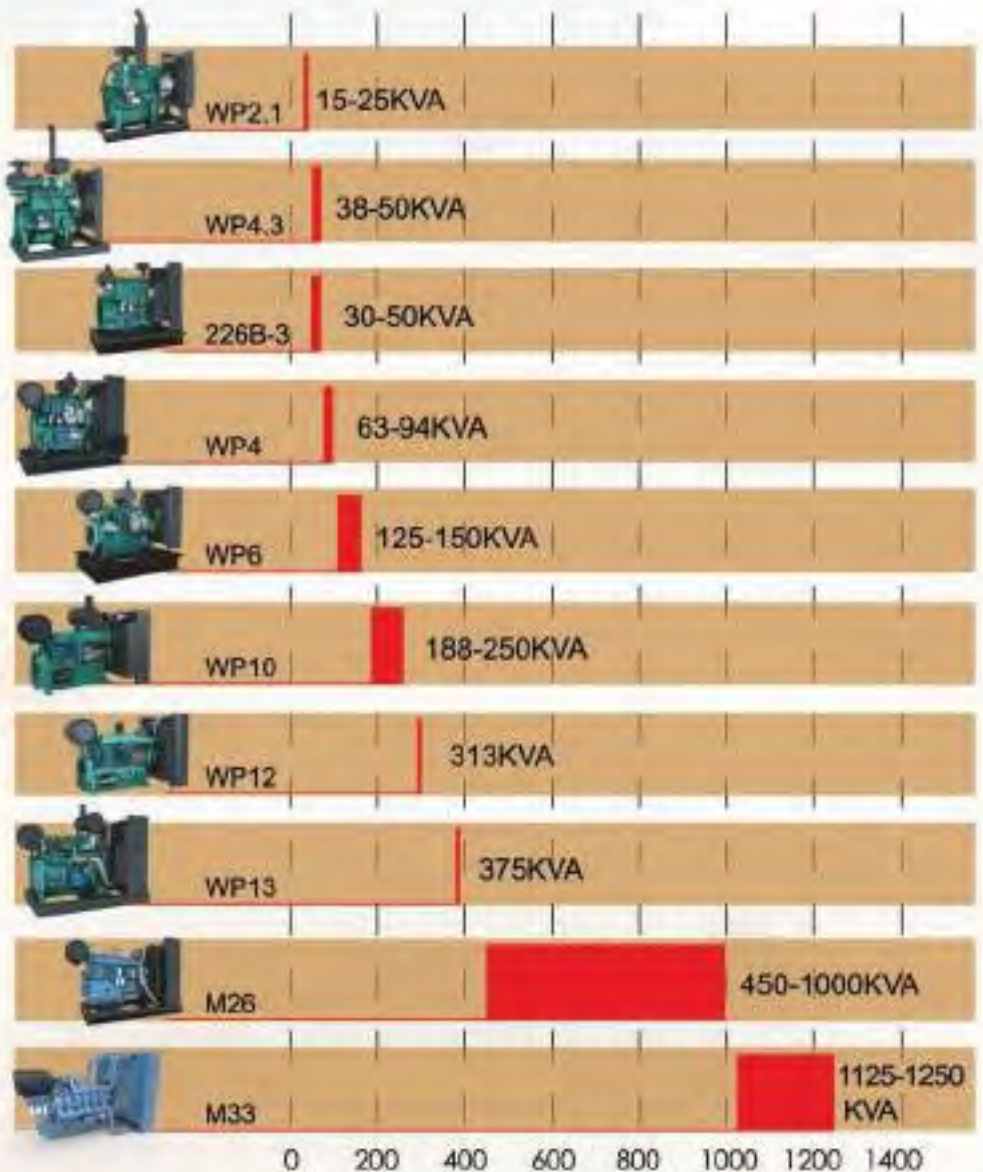
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## EDITOR'S NOTE

QATAR, A SMALL country with big ambitions, has high hopes for the future as a series of enormous infrastructure projects to cater for worldwide events get underway. Much like many of its Gulf neighbours, however, the country appears to know no bounds when it comes to investing big. We look at the legacy of Qatar's ongoing developments and what the future may hold for the peninsula's economy after the bustle of hosting a FIFA World Cup in seven years' time has died down (p16).

Project Qatar is also upon us once again and we've got all the news ahead of the industrial construction showcase (p68), as well as a round up of developments at March's Middle East Electricity (p50).

Elsewhere, we look at the region's road building plans (p30), developments in the facilities management sector (p26) and discover the latest advances in Saudi Arabia's telecommunications market (p46).

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

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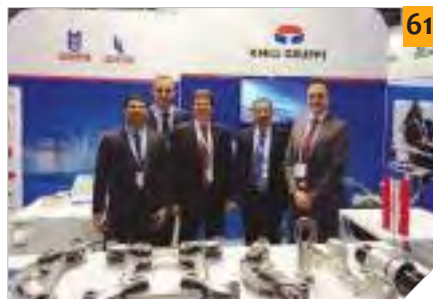
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الخدمة شركات المنطقة منذ 1981

SERVING THE REGION'S BUSINESS SINCE 1981

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## Briefly

### Jordan shortlists 15 bidders for solar plant

FIFTEEN PRE-QUALIFIED BIDDERS have been shortlisted for the construction of a US\$150mn solar power plant in Jordan.

The bidders include First Solar Electric, Spain's Elecnor, SunEdison Italia Construction, China Gezhouba Group International Engineering, Dongfang Electric International Corporation, Isolux Ingenieria and Guangdong Power Engineering Corporation of China Energy Engineering Group and Zhuhai Singyes Green Building Technology.

The project will be backed by a US\$5bn fund from the GCC grant, stated local reports.

The 75MW plant will be installed in Qweira, in Jordan's Aqaba governorate. The country is planning to install 1,800MW worth of renewable energy projects and connect them to the national grid by 2018.

Jordan currently imports 97 per cent of its annual energy needs and is aiming to increase the contribution of renewable energy to its overall energy mix to 10 per cent by 2020.

### Aluminium Bahrain considers development of sixth production line

ALUMINIUM BAHRAIN B.S.C (Alba) has said it will consider developing a sixth production line, with an expected capacity of 400,000 metric tonnes.

According to officials at Alba, members of the board and company shareholders will discuss the feasibility and technicalities surrounding the potential expansion. Once the new unit has been completed, Alba's total production capacity would increase to 1.3mn tonnes per annum.

Alba chairman Shaikh Daij Bin Salman Bin Daij Al Khalifa said, "We are optimistic about the future growth prospects from Alba's sixth production line."

"This new landmark would make Alba one of the largest single site smelters in the world and will be a major boost to Bahrain's economy."

Alba officials has said that once they receive the relevant approvals, it would expedite the execution of the production line. The Bahraini company is one of the largest aluminium smelters in the world.

## Qatar set for huge investment in sustainable development, says trade show organiser



IFP Qatar, organisers of the upcoming Project Qatar, have said Qatar will invest US\$350bn in sustainable development over the next 15 years (Photo: Andrzej Kubik)

QATAR WILL INVEST approximately QR1.27 trillion (US\$350bn) in sustainable development over the next 15 years, according to the organisers of international construction and building materials exhibition Project Qatar.

"Qatar in the run-up to the 2022 Fifa World Cup and in line with the Qatar National Vision (QNV) 2030 document will be investing nearly US\$350bn," said George Ayache, general manger of IFP Qatar.

"The figure includes the value of all the projects since the launch of QNV 2030 programme, including the industrial projects and the US\$70bn

investment dedicated to the country's hospitality and tourism sector development."

Qatar's economy has been predicted to record a 7.7 per cent growth in real GDP in 2015, with the non-hydrocarbon sector accounting for 50 per cent of GDP. A statement from IFP pointed out that the construction sector would remain vital in the country's development, playing a major role in achieving the ambitious targets of QNV 2030.

The 12th edition of the international construction and building materials exhibition will take place at the Qatar National Convention Centre in Doha on 4-7 May 2015.

## Masdar and ONEE partner for rural electrification project in Morocco

MOROCCO'S OFFICE NATIONAL de l'Electricité et de l'Eau Potable (ONEE) has signed a partnership with Abu Dhabi's renewable energy company Masdar for the latter to design, supply and install 17,670 Solar Home Systems in 940 villages in Morocco.

Upon completion of the project, 99 per cent of rural Morocco will have access to energy, according to Masdar.

H.E Dr. Sultan Ahmad Al Jaber, UAE minister of state and chairman of Masdar, who signed the agreement in Casablanca, Morocco, with ONEE director general Ali Fassi-Fihri, remarked, "The UAE has longstanding bilateral ties with Morocco, and this project reflects our commitment to work together to enhance economic and social opportunity."

Ali Fassi-Fihri noted, "The development of renewable energy is one of the most important economic policies of the government of Morocco. The government is committed to securing 42 per cent of the nation's energy from renewable sources by 2020.

"This project fits perfectly with the strategy of the Moroccan Government for the development of rural areas through the achievement of basic infrastructure," he added. "Rural electrification through Solar Home

Systems is part of an ambitious programme launched by the Moroccan government in 1996, which allowed access by connecting to the national grid more than 12mn people and equipped 51,559 homes with solar systems.

"This effort has greatly contributed to improving the living conditions of rural populations, especially those concerned by the National Initiative for Human Development."

The project will be funded through a grant from the Abu Dhabi government and the Solar Home Systems will be delivered by Masdar Special Projects, a division of Masdar Clean Energy with expertise in deploying renewable energy solutions to remote and rural communities.



UAE minister of state and chairman of Masdar, H.E Dr. Sultan Ahmad Al Jaber and ONEE director general Ali Fassi-Fihri, signing the agreement in Casablanca, Morocco



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## Briefly

### ENEC submits operating license application for nuclear power plant units

EMIRATES NUCLEAR ENERGY Corporation (ENEC) has filed the Operating License Application (OLA) for Barakah Units 1 and 2 with the UAE Federal Authority for Nuclear Regulation (FANR), following a five-year-long documentation process.

ENEC and the Korea Electric Power Corporation (KEPCO), the prime contractor of ENEC's programme, had documented the safety of the planned operations and maintenance of the Barakah plant for the past half a decade ahead of the application.

Mohamed Al Hammadi CEO of ENEC, remarked, "This is a very important stage in the development of the UAE's peaceful nuclear energy programme.

"The successful and on-time submission of this OLA is a crucial milestone in our journey to becoming fully operational in 2017," he added.

### TATI awarded RTITB accreditation in Oman

TECHNICAL AND ADMINISTRATIVE Training Institute (TATI) has become the first organisation in Oman to become accredited to provide RTITB workplace transport training.

The private training organisation has been approved to deliver RTITB training to more than half of the major oil companies working in the country, including Shell, BP, and Oman Oil.

"The RTITB courses are very detailed and have rigorous requirements," said Mani Sankar, general manager at TATI.

"They definitely have value and are not like other courses, particularly in the practical elements and demonstrations."

TATI has been providing training qualifications, including technical national vocation qualifications, business-related health and safety, driver training and lift truck operator training, since 1993.

Employees with RTITB accredited training are automatically listed on the RTITB database and can then use the international certificate to prove their skills when seeking work for other companies or in other countries.

## Doosan Construction Equipment launches new parts distribution centre in UAE

DOOSAN CONSTRUCTION EQUIPMENT, in collaboration with logistics provider Agility, has opened a new parts distribution centre (PDC) in Dubai for Bobcat and Doosan Portable Power products. Hosted and managed by Agility, the new PDC is located at the Jebel Ali Free Zone.

The storage space for Bobcat and Doosan Portable Power parts covers an area of 1,540 sq m in the warehouse, stored in 3,500 separate parts locations.

The centre will provide parts support for dealers and customers of Bobcat and Doosan Portable Power products in the Middle East and Africa (MEA) region. With Doosan's existing PDC at Puurs in Belgium, the company will now be able to deliver parts to more than 90 per cent of the region within 24 hours of ordering.

At the inauguration of the new facility, Gaby Rhayem, regional director in Middle East and North Africa (MENA), said, "With the opening of the new Dubai PDC, we will be able to provide a much better parts service for our dealers and customers throughout the MEA region. As well as enhancing our aftermarket service, the new PDC demonstrates our strong commitment to the MEA market."

Erik Van Der Goot, head of parts for Doosan Construction Equipment in Europe, Middle East and Africa (EMEA), added that the new Dubai



(From left) Gaby Rhayem, Martin Knoetgen and Erik Van Der Goot at the launch of Bobcat's new PDC in Dubai

PDC would strengthen brand loyalty for Bobcat, while creating more customer solutions.

"Our dealers do a wonderful job of selling the first machine to our customers, but with the increased parts support from the Dubai PDC, we can have a very important role in helping to secure the sale of further machines to the same customers."

According to Martin Knoetgen, president of Doosan Construction Equipment in EMEA, the new facility will likely have a positive impact on the regional business for Doosan and its partners.

## Metito wins water project contracts in Egypt

METITO, THE TOTAL intelligent water management solutions provider, has announced its participation in four municipal water projects in Egypt.

The company, which has its headquarters in Dubai, will take advantage of the recent economic recovery in Egypt to participate, to varying degrees, in the four projects for around US\$29mn.

The National Organisation for Potable Water and Sanitary Drainage (NOPWASD) assigned Metito the Arymon Waste Water Treatment Plant (WWTP) and the Shahidy Sewage Treatment Plant (STP), which are expected to be completed in 2016.



Karim Madwar, managing director of Metito Africa

El Gharbia Company for Water and Waste Water, a division of HCWW, also contracted Metito to perform a reconstruction and extension of the Muhalla Water Treatment Plant in El Mahalla El Kobra City, while the final project, Toshka Compact Surface Water Treatment Plant for the New Urban Communities Authority (NUCA), is set to be completed in Q4 2015.

"Concluding several years of political and economic volatility, Egypt's economic recovery is now becoming steady with a clear resurgence of smaller scale municipal projects that are important to the continued industrial development of the country, as well as large municipal projects critical to bigger needs of the Egyptian community in residential and commercial sectors alike," said Metito Africa's managing director Karim Madwar.

"The projects we have been recently awarded are just four examples of this upturn that we see continuing."





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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.technicalreviewmiddleeast.com](http://www.technicalreviewmiddleeast.com)

## Qatar to build world's largest concrete reservoirs

QATAR GENERAL ELECTRICITY and Water Corporation (Kahramaa) has awarded a contract worth US\$608mn to MENA contractor Habtoor Leighton Group (HLG) to build the world's largest concrete reservoirs in Qatar.

The contract is for the construction of the Mega Reservoir Primary Reservoir and Pumping Stations (PRPS) 3 comprising five reservoirs. Each will have a capacity of 100mn gallons.

The project will commence in April 2015 and is scheduled for completion in Q2 2018.

[www.technicalreviewmiddleeast.com/power-a-water](http://www.technicalreviewmiddleeast.com/power-a-water)



*The reservoirs will have a capacity of 100mn gallons each, making them the largest in the world (Photo: werner22brigitte/Pixabay)*

## 'UAE could achieve 10 per cent increase in clean energy mix by 2030'

THE UAE IS aiming to achieve a 10 per cent increase in its renewable energy mix by 2030, according to a report by International Renewable Energy Agency (IRENA). Currently, the UAE's target is only 0.9 per cent, but IRENA officials are hopeful that the country can achieve the 10 per cent target by 2030, which would also lead to energy savings amounting to US\$1.9bn annually.

[www.technicalreviewmiddleeast.com/power-a-water](http://www.technicalreviewmiddleeast.com/power-a-water)

## Dammam airport launches its own cargo village

DAMMAM'S KING FAHD International Airport (KFIA) in Saudi Arabia has unveiled the King Fahd Cargo Village, which will position the airport as a multi-modal shipment and clearance destination. The new facility, which spans 50,000 sqm, grants direct access to the kingdom, bypassing the need for cargo to trans-ship

through neighbouring countries, said project officials. The cargo village will maximise convenience for airlines and freight companies operating from KFIA.

[www.technicalreviewmiddleeast.com/logistics](http://www.technicalreviewmiddleeast.com/logistics)



*The King Fahd Cargo Village will make the transport of cargo more convenient from Saudi Arabia, reducing the country's dependence on others for the same service (Photo: tpsdave/Pixabay)*

## Louis Berger signs transport deal for Madinah services

LOUIS BERGER HAS signed the deal with Al Madinah Al-Munawarah Development Authority to manage Madinah's Public Transportation Program (MPTP).

Company representatives signed the US\$100mn programme management office consultant (PMOC) contract with Al Madinah Al-Munawarah Development Authority (MMDA) chairman HRH Prince Faisal bin Salman bin Abdulaziz Al Saud in April 2015.

The contract will last five years, during which time Louis Berger will assist with MPTP's strategic planning, as well as controlling, guiding and overseeing the service delivery of the various project and construction management consultants and advisors.

The MPTP project will include a comprehensive metro and bus network, as well as upgrades and fresh construction on the network of roads and various other facilities, including stations, park-and-ride lots, depots and advanced intelligent transportation systems.

[www.technicalreviewmiddleeast.com/construction](http://www.technicalreviewmiddleeast.com/construction)

## Canon's new programme to boost printer sales in Bahrain

JAPAN-BASED PRINTING AND imaging solutions vendor Canon has launched a new channel programme to boost sales of its printers and further consolidate its position in Bahrain

According to the company, the channel programme focuses on sales targets set for main body printer business in Bahrain. The results and details of the top performing dealers will be announced in 2016.

[www.technicalreviewmiddleeast.com/it](http://www.technicalreviewmiddleeast.com/it)



*According to Canon, 35 dealers have already signed up for the channel programme in Bahrain (Photo: Moshe Reuveni/Flickr)*

## Doble Engineering to take on Saudi Arabian consultancy deal

SAUDI ARABIA'S MARAFIQ Power and Water Utility Company has contracted South Africa's Doble Engineering Company to provide consulting and training services for best quality transmission and distribution.

As part of the contract, Doble Engineering will be expected to provide a comprehensive review of Marafiq's operations and maintenance practices. It will also work on extensive transmission and distribution equipment technical training and provide reliability-centred maintenance (RCM) coaching and facilitator-assessments.

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# EXECUTIVES' CALENDAR 2015

## MAY 2015

4-7	<b>Project Qatar</b>	DOHA	www.projectqatar.com
6-7	<b>Trans Middle East</b>	DOHA	www.transportevents.com
10-12	<b>Saudi Safety &amp; Security</b>	DAMMAM	www.sss-arabia.com
10-12	<b>Airport Show</b>	DUBAI	www.theairportshow.com
11-12	<b>Global Airport Leaders' Forum</b>	DUBAI	www.globalairportleadersforum.com
11-13	<b>Saudi Power</b>	RIYADH	www.saudi-power.com
14-17	<b>Erbil Building</b>	ERBIL	www.erbilbuilding.com
18-20	<b>FM Expo</b>	DUBAI	www.fm-expo.com
18-21	<b>INDEX</b>	DUBAI	www.indexexhibition.com
19-21	<b>Oman Energy &amp; Water</b>	MUSCAT	www.energyandwateroman.com
24-26	<b>GCC Environment Forum</b>	RIYADH	www.gccenvironmentforum.com

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2-4	<b>Hardware+Tools Middle East</b>	DUBAI	www.hardwaretoolsme.com
8-11	<b>Project Iran</b>	TEHRAN	www.project-iran.com

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

### Security issues to be discussed in Dammam

THE ANNUAL SAUDI Safety & Security Forum and Exhibition (SSS Arabia) will return to Dammam in May 2015.

Set to take place at Dhahran International Exhibitions Centre from 10-12 May 2015, the event will combine an international exhibition and strategic conference.

The event, which first took place in 2011, will look to attract safety professionals and security experts, who will discuss key issues at a time of heightened security concerns throughout the Middle East.

Officially endorsed by Asis Chapter 72, the global association for security professionals, more than 3,000 industry experts will be on hand to share their experiences and discuss the latest initiatives, products and technologies to hit the market place.

Last year, the event attracted more than 60 exhibiting organisations, while industry leaders discussed international standards and best practices on safety- and security-related topics at the supporting conference.

Held in parallel to the international exhibition, in recent years the conference has brought together companies from across the globe, who have been able to showcase their expertise in safety, security and fire prevention, with products, services and technologies on display that will shape the future of the industry.



*Fire safety will be a prominent focus of the upcoming Saudi Safety & Security Forum and Exhibition (Photo: Nonnakrit)*

### Environmental focus for Saudi Arabian forum

THE SUCCESS OF THE GCC Environment Forum (GEF) has seen the event grow in popularity over the past few years, with the show now asserting itself as Saudi Arabia's flagship environmental event.

Last held in 2013, GEF 2015 will combine an international exhibition with a strategic conference and a prestigious awards ceremony.

Launched in 2010, the event aims to serve all sectors of the environmental industry, with the next edition scheduled to take place in Riyadh's Al Faisaliah Hotel on 24-26 May 2015.

Building on the success of previous editions, GEF 2015 will focus on topics such as energy efficiency, renewable energy, waste management, water and wastewater and environmental technologies.

Highlights from the 2013 edition of the event included public sector representatives and senior decision makers from the private sectors discussing the latest industry insights.

More than 1,000 environmental experts and industry VIPs interacted to talk about legislation, project opportunities and technological breakthroughs, which will all be up for discussion again at this year's event.



*GEF 2015 will focus on a range of topics, including renewable energy and waste management (Photo: WDG Photo)*

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# Weichai plots Middle East expansion

Weichai, the Chinese automobile and equipment manufacturing group, used its platform at 2015's Middle East Electricity to launch a powerful new range of generator sets, highlighting the company's ambitious expansion plans throughout the region and beyond.

**H**AVING EXHIBITED AT Middle East Electricity (MEE) for the past two years, Weichai's management team noticed that the footfall and quality of visitors at the annual exhibition would provide the perfect backdrop to the international launch of its latest range of engines for generator sets.

Speaking to *Technical Review* shortly after the global product launch of the Weichai Baudouin M33 Series Engines at the Dubai exhibition, Amit Deshpande, sales and marketing director for Weichai Middle East, said, "Africa and the Middle East are among our emerging markets, where we have achieved our highest growing rate last year, and this event was about introducing the latest developments of our engines, which have greatly expanded the quality and range of Weichai in the high-speed engine sector."

The new product range (see page 55), which Deshpande said had been created in response to a gap in Weichai's portfolio, has enabled the company to offer complete genset packages ranging in size from 12 kVA up to 1,250 kVA.

"Having carried out a lot of testing, we felt now was the time to conduct a global launch of the products outside of China, and we chose MEE for its popularity throughout the industry," he added.

The company has experienced average year-on-year growth of 38 per cent since 1998, with a number of international acquisitions adding to the turnover of the company.

"I also think that the Weichai operating model and Weichai's core principles are very strictly focused on the quality of the products, while keeping them very competitive in terms of price," Deshpande noted. "We have balanced that very well by manufacturing reliable products at a very competitive rate."

The globalisation of Weichai is another area Deshpande pointed towards in regards to the group's growth, as it continues its expansion into more international markets, growing in terms of international reach and localising its

workforce in targeted regions. "Weichai is not going into these market as a Chinese company," he stated. "We are trying to be a local company in local markets."

## Investing in R&D

The new engines were jointly designed by 100-year-old French engine manufacturing company Baudouin, a company Weichai acquired in 2009, which through its extensive experience in marine engine development has built up a reputation for manufacturing engines for challenging environments.

"We started the development of this new engine project jointly with Baudouin's research and development (R&D) centre in France and our R&D centre in China, so we had a set of engineers dedicated to the development of these engines," Deshpande noted.

Weichai invests US\$200mn annually into R&D leading Deshpande to note that, in comparison with fellow Chinese companies, the group is leading the way in terms of R&D expenditure, which forms a core part of its annual spending strategy.

"Weichai benchmarks itself against international competitors," Deshpande noted. "We are an international US\$22bn company, so that's one reason it's important to be in this region and in attendance at events such as MEE in Dubai.

"A lot of our targeted customers, such as the generator set OEMs, and all of our competitors are present at the MEE, so it is nice to be at the event to find out what's new in the industry and what the new products in the market are."

Last year the company built 750,000 engines and – with a capacity to manufacture one million engines from its facilities in China – the company's ambitious expansion plans are not without foundation.

## Building an international brand

While manufacturing facilities in the Middle East may be some way off, Weichai's local



Amit Deshpande, sales and marketing director for Weichai Middle East, during the unveiling of Weichai's latest engine range at Middle East Electricity 2015

presence is continuing to grow, with the group heavily investing in new facilities in the Middle East and Africa (MEA) region.

"We established an office in Jebel Ali Free Zone in 2013, which is primarily a parts distribution centre for the MEA region. We do not manufacture or repair equipment at that facility at the moment, but we are looking at options if we find the right partners."

Deshpande joined the company in 2014 and was among the firm's first intake of non-Chinese employees. Weichai has set a target of employing 500 non-Chinese workers for its international team by 2020. With the figure currently standing at 75, the company looks set to easily achieve its goal as it looks to build its presence in markets outside of China.

"I think one of the biggest steps Weichai has taken over the past year is that it has completely rebranded its logo, giving it a more international look, and we have been spending a lot of money on enhancing our brand image," said Deshpande. "Weichai is one of the sponsors of the Ferrari F1 team and we organise a lot of events around that association between Weichai and Ferrari. Ferrari is a very well-known brand and that association has helped the firm to quickly enhance its brand on the international stage."

With a growing brand presence throughout the region, and a willingness to become one of the leading players in the international market for generator sets and engine development, the Weichai brand looks set to continue strengthening its presence in a market long dominated by the historic brands of Europe and North America. ■

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*The new US\$11.5bn Hamad International Airport was built on a 29 sq km site, of which 60 per cent was on reclaimed land (Photo: Hamad International Airport)*

# Qatar: Building a sustainable future

With the world's most ambitious economic development and infrastructure programme underway, Valerie Hart examines Qatar's blueprint for long-term growth outside of the oil and gas sector.

**QATAR'S MEGA CONSTRUCTION** projects are helping drive its diversification agenda as investment spending accelerated growth in 2014 to an estimated 6.5 per cent. Driving this was an 11.9 per cent expansion of the non-hydrocarbon sector, while hydrocarbon output fell 1.3 per cent; the non-hydrocarbon sector now accounts for more than half of nominal GDP, according to Qatar National Bank. Investment spending is estimated to have reached 31.2 per cent of GDP in 2014 compared with 29.6 per cent in 2013.

As the GCC's fastest-growing economy, Qatar has the means to push ahead with one of the world's most comprehensive and ambitious economic development and infrastructure programmes. The government aims to create a sustainable economy by diversifying revenue sources away from hydrocarbons. The National Vision 2030 requires key infrastructure to stimulate economic growth, enhance local potential and development, and help boost tourism through promoting Qatar as an international business, arts and health centre.

Major infrastructure projects include the

new deepwater port, railways, roads, stadiums and facilities for the World Cup 2022, as well as the development of whole new urban areas. For instance, Lusail City covers 38 km with entertainment and housing venues, while Education City is being planned as a Gulf-wide centre for educational excellence.

"The scale of construction work taking place in Qatar is unprecedented in terms of density of development, the scale and complexity of projects and the timescale for delivery," says Roger Cruickshank, director of strategic transport planning at Atkins, the engineering firm involved in some of Qatar's biggest projects.

Transportation-related projects include a new national railway system, featuring the 230 km Doha metro, light rail, freight and high-speed lines. An integrated pan-GCC rail network, along with the development of major highways, will soon connect Qatar with neighbouring countries. The Expressway Programme will also provide vital transportation links across Qatar, delivering more than 900 km of new roads and an array of underpasses, flyovers and multi-level interchanges.

## Depth in shipping services

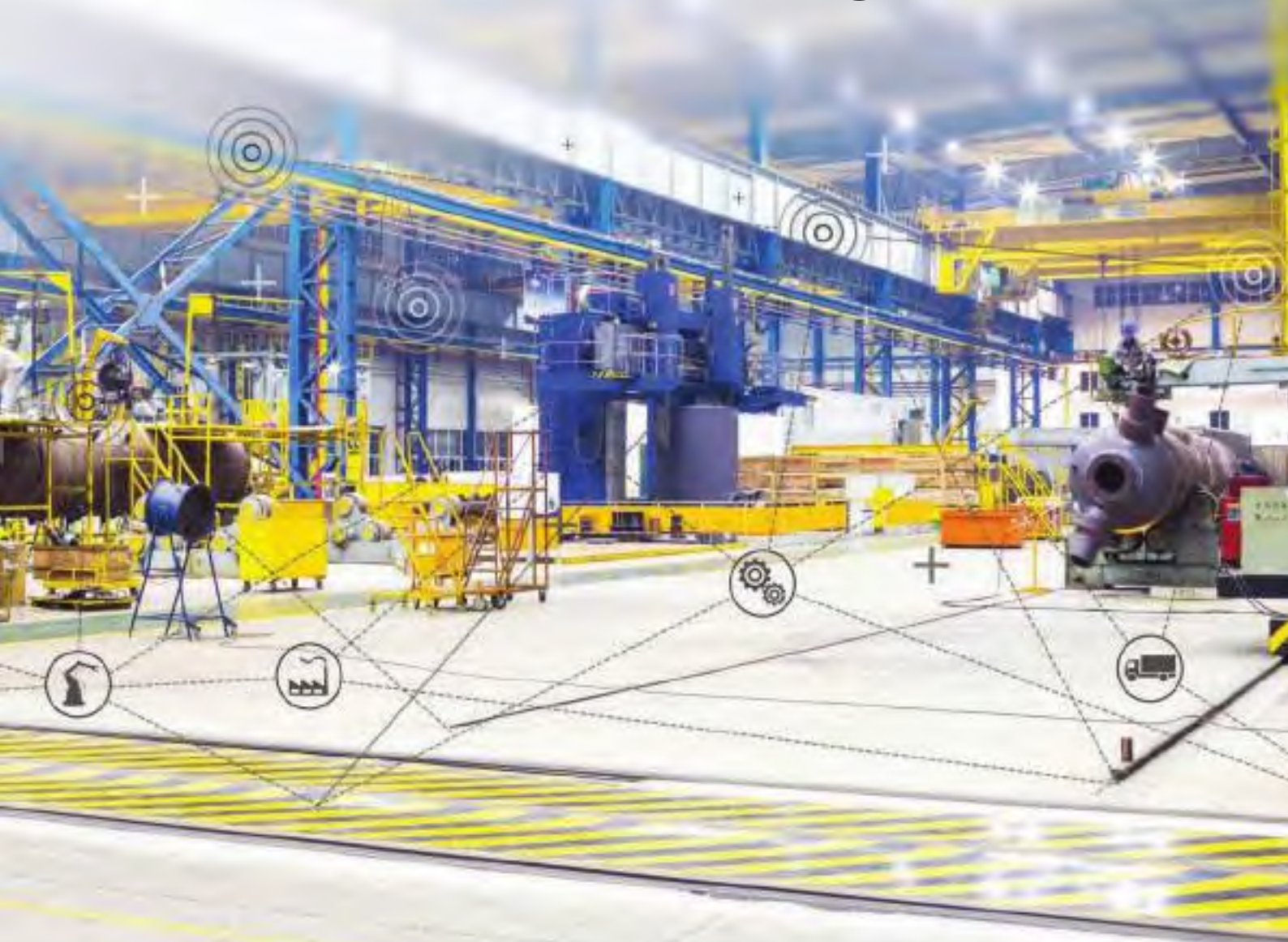
A vital component of Qatar's infrastructure is the US\$7.4bn world-class deep-sea port being built to ease traffic congestion in Doha. The new port will comprise three container terminals with an eventual combined annual capacity of more than six million containers a year. Reportedly, it will be one of the world's largest and most technologically advanced ports. Importantly, too, it is aimed at maximising synergies with the neighbouring economic zone and Mesaieed Industrial City, providing opportunities for future investment and local employment.

Being awarded the 2022 FIFA World Cup set a date by which a lot of transport and social infrastructure is needed, providing impetus for accelerating work. As a result, the number of contracts awarded in 2014 increased significantly. However, Qatar still faces huge challenges in being ready in time for the World Cup.

Cost overruns and delays have been problematic. There have been reports of ships waiting outside Qatar's existing Mesaieed Port to get cargo clearance for longer than a week.



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*DHL Express Qatar country manager Nael Attiyat*

The construction boom has led to sharp increases in the cost of supplies and materials and exposed bottlenecks in both regional and local supply chains.

With the fall in energy prices and construction costs escalating, the government has started prioritising projects and deferring some non-essential infrastructure schemes. For instance, the Sharq Crossing, a 12 km series of channels and bridges connecting with Hamad International Airport, was postponed recently. In March, legislation was introduced to grant the finance ministry more powers to rein in overspending departments.

Cruikshank says, "Challenges faced by consultants operating in the Middle East are unique compared to other markets. For example, the complexity of immigration processes in attracting highly sought after skilled staff can sometimes be a challenge, as can issues around staff mobilisation, including adequacy of accommodation and access to services."

To ease pressure, the government is trying to streamline recruitment policies and procedures and reform parts of the local Labour Law, especially around the issue of which nationalities are eligible for visas.

### **Ensuring sustainable development**

Sustainability is another issue for the infrastructure being created in Qatar.

"Although the 2022 World Cup is a major driver for activity in Qatar, construction and light industries could peak around that time, raising the question of sustainability," says Srinath Manda, programme manager, transportation and logistics practice, Middle East, North Africa and South Asia at Frost & Sullivan.

"Everybody wants to be in Qatar for the World Cup; for example, all the major hotel brands are looking to set up there. But what happens to all this capacity created for the purpose of the World Cup afterwards is not clear. It is to be seen whether the World Cup boosts the number of expatriates and creates a new industrial base in Qatar."

Key to Qatar's diversification plans is to develop sources of income away from hydrocarbons, such as light manufacturing. Government initiatives include development of economic zones alongside the port and airport that benefit from integrated systems of transport and storage facilities. Qatar's strategic location and new transport links will enable companies to distribute easily around the region. The first phase of a one million square metre, self-contained logistics hub became operational in 2011. Since then, the Logistics Village Qatar, which provides customisable storage and distribution space, has gone through several expansionary phases.

DHL Express Qatar country manager Nael Attiyat says, "Having different economic zones definitely helps the flow of foreign direct investment and encourages multinational companies to set up a presence in the country. At the same time, these zones offer many benefits for small- and medium-sized companies to establish businesses, as well as drive and diversify the overall economy."

Qatar is, however, up against considerable competition from other GCC countries as they also attempt to diversify away from oil and gas.

"The trend is to set up a port with a free trade zone as a transshipment hub, replicating Jebel Ali Port and Free Zone. There will be a significant amount of cannibalising between them because only so much cargo passes through the region,



*Ghassan Barghouth, country president for Qatar, Kuwait and Bahrain at Schneider Electric*

while the scope for population growth and export potential for local manufacturing is relatively low," opines Manda. Meanwhile, a new megaport planned at Saudi Arabia's King Abdullah Economic City will add further to available capacity in the Gulf.

"Every GCC nation is trying to attract manufacturing industries, but there are so many manufacturing hubs within a small distance of between 200 and 300 km," says Manda. "Maybe companies new to the region might consider setting up in one of these new economic zones, but existing ones are unlikely to want to open another branch so close by."

The economic zones also have to compete with larger economies, such as India, in terms of cost base.

Another challenge is neighbouring ports still have a long way to go in terms of efficiency and capacity to catch up with Jebel Ali. Some smaller ports have, however, been gaining prominence in the past few years as they develop their own characteristic hubs. Salalah port in Oman, for example, has proved popular for certain types of cargo that do not need to be distributed around the Gulf.

### **Creating an aviation hub**

One of the biggest projects in Qatar has been the new US\$11.5bn Hamad International Airport, which opened to passengers last year, five years behind schedule. The airport is extremely impressive, having been built on a 29 sq km site, of which 60 per cent is land reclaimed from the Gulf, and comprising around 100 buildings.

Hamad International is a hub and spoke airport, with more than 70 per cent of passengers using the terminal to connect to other flights within 90 minutes of landing. The final phase of the airport's construction

**"The scale of construction work taking place in Qatar is unprecedented in terms of density of development and complexity of projects"**

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would effectively increase its capacity to more than 50mn against its current capacity of 30mn travellers annually.

Air passenger traffic in Qatar has climbed rapidly in recent years, growing by more than 10 per cent each year to reach 23.27mn in 2013. This is even before the additional flows expected for the World Cup. It has been reported that a second terminal is being considered, particularly as it is hoped the huge number of projects in the tourism sector either underway or planned will establish Qatar as a major tourist and venue centre. These include hotels and resorts, shopping venues, sports facilities, convention centres, museums, theme parks and even a zoo.

Manda believes there is scope for a second terminal at Doha Airport because of the success of Qatar Airlines over the past few years.

“Qatar increasingly would become more of a trans-shipment hub for passengers like Dubai is now. If the World Cup establishes Qatar as a shopping and tourist destination like Dubai, then this capacity would be well used, even after the World Cup.”

### Meeting energy-efficient standards

The new infrastructure is being built to meet the highest standards of contemporary urban design in terms of sustainability and energy efficiency. Smart city developments within Doha, such as Msheireb and Lusail, are leveraging state-of-the-art technology to integrate infrastructure and make services as



*Qatar plans to build at least eight stadiums for the 2022 FIFA World Cup, with a number of other stadiums set to be refurbished ahead of the tournament (Photo: Philip Lange/Shutterstock.com)*

seamless as possible for residents and businesses.

Ghassan Barghouth, country president for Qatar, Kuwait and Bahrain at Schneider Electric, a global leader in energy management, says, “We are responding to the demand for smart solutions and the imminent energy threat by applying the concept of smart grids to utilities which will improve customer service, increase network reliability and facilitate the integration and management of renewable energies, along with the future of electric vehicles.”

In 2014, the Qatari government

announced plans to install energy- and water-saving devices in mosques and government schools across the country to help rationalise and reduce the consumption of these resources.

“Qatar’s investment towards cutting edge systems and solutions will not only make it more sustainable and smart, but also diversify its economy and provide skill-based employment opportunities to professionals. It will become an economy focusing on knowledge, awareness and education rather than resources,”

Barghouth added. ■

## Qatar at the cutting edge of technology

THE SHEER SIZE and scope of the construction projects underway in Qatar, not to mention the tight timeframes needed for many of them to be ready for the World Cup, mean the most cutting-edge technology and efficient processes have to be applied. Increasingly, Building Information Modelling (BIM) is being used in the design, planning and construction stages of these hugely complex and ambitious architecture projects.

According to Han Shi, head of emerging technologies – IT at KEO International Consultants, “Since 2014, most of the large-scale government projects have been using BIM methodology. BIM is not just a technology, it is a methodology, which incorporates people, processes and technology. Qatar has become the leader within the GCC region in deploying BIM,

and, in that sense, Qatar is at the cutting edge of technology.”

Allen Holland, BIM manager at KEO’s Design Division, remarks, “From Doha’s metro system to the sporting stadiums, BIM should enable project teams of architects, engineers, building and infrastructure owners and construction firms to use 3D digital models to collaborate and support building projects throughout their lifecycle to ensure that projects are delivered to the required specifications on schedule and within budget.”

Shi says, “BIM is at its most effective when utilised across the life-cycle of a project, involving all the major stakeholders from project management, planning, design and construction through to operations and maintenance. KEO

currently uses BIM in all the disciplines except operations and maintenance since none of the BIM projects in Qatar has yet reached that phase.”

Qatar’s drive to keep costs down and improve efficiency has gained extra importance as government revenues are impacted by falling hydrocarbon prices. “The whole point of adopting BIM methodology is to reduce costs over the life cycle of the project,” notes Shi.

Another focus for the Qatari government is energy efficiency and a clean environment. According to Holley Chant, executive director at KEO’s sustainability and commissioning division, “Most sustainability/green building rating systems require thermal modelling. Thermal models are used to quantify energy efficiency in the design.”



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*Industrial productivity and sustained economic growth would benefit throughout the GCC from economic diversification away from the hydrocarbons sector*  
(Photo: Sophie James)

# Time for a new economic model

In the final part of his series on economic diversification in the GCC region, economist Moin Siddiqi looks to other hydrocarbon producing nations and examines how they increased productivity, sustained growth and ensured their private sectors became more vibrant and competitive away from oil and gas.

**H**YDROCARBON PRICES ARE a key source of macroeconomic volatility. Export earnings in 2015 are projected by the International Monetary Fund (IMF) to fall by around US\$300bn, leading to significant declines in the fiscal and external balances in the GCC region. Except for Kuwait and Qatar, all other countries are expected to incur budget deficits, with current account surpluses shrinking substantially. Economic growth will also falter.

“Looking ahead, government spending will likely be constrained for a number of years. This means that the current growth model, which is anchored in rising oil prices and government spending, will no longer work. Instead, countries will need to further diversify their economies and enable the private sector to become a self-sufficient engine of growth and jobs,” the IMF advises.

The GCC growth model rewards firms that produce in the nontradables sector such as construction, retail trade, transportation services and hospitality, as opposed to the tradables (export) sector, which is more challenging and riskier, because firms must continually invest in new technologies to remain competitive. This provides incentives for economic activity to focus mainly on low-skilled sectors, contributing to declining labour and total factor productivity (i.e. quantity of goods/services produced using available machinery and capital).

There is a need to fundamentally alter the incentive structure to fill a “missing link” in current GCC policies, the IMF has recommended. Genuine diversification requires realigning incentives for firms and indigenous labour to invest and work in the higher value-added areas of the tradables

sector. Improving the business environment, investing in infrastructure and reducing regulations are prerequisites to spur tradables production, but will not be sufficient unless the incentive structure within the economy also changes in tune with global trends.

Measures could include reorienting public spending, strengthening competition in sub-economic sectors, developing backward/forward linkages across sectors with a comparative advantage, and implementing labour market reforms to incentivise private sector employment of nationals as well as encouraging non-energy exports and reducing incentives for low productivity production.

## **Not yet fully diversified**

Swelling government spending on infrastructure and wages in the past decade



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– made possible by recycled oil revenues – has led to the rapid expansion of low value-added sectors. In these sectors, producing goods and services to meet the consumption and investment needs of the local marketplace offers a reliable income source, while an ample pool of low-wage foreign labour has helped extract larger rents for firms. The government as employer of first and last resort discourages nationals from pursuing entrepreneurship and private sector employment.

Non-oil output has expanded markedly in the GCC since 2000, but progress towards genuine diversification has remained modest. Growth in non-oil output averaged 6.8 per cent during 2000–13, while the share of the non-oil economy in total real GDP rose by 12 percentage points to 70 per cent, driven largely by Saudi Arabia and the UAE. However, higher non-oil GDP growth was strongly correlated with rising oil prices, which enabled governments to finance rapid increases in spending. That in turn, fuelled a consumption boom and the continuous growth of the low productivity domestic nontradables sector.

In terms of export diversification, while non-oil exports have risen over time, export quality has remained low. Diversification has progressed; from 2000 to 2013, total non-oil exports (goods and services) rose from 13 to 30 per cent of non-oil GDP. Within non-oil exports of goods, manufactured items (in per cent of non-oil GDP) have increased the most in the UAE and Saudi Arabia, followed by Oman. Excluding Bahrain and the UAE, manufacturing exports are mostly concentrated in petrochemicals. This is unhealthy because the chemicals sector is

## The bearish outlook for oil prices highlights the need to properly diversify Gulf economies



Providing vocational training schemes should increase the availability of high-skilled labour, asserts the IMF (Photo: Praphan Jampala)

heavily hydrocarbons related and may not help reduce economic volatility.

The Theil index (a measure of concentration in a country's export structure) reveals modest progress toward export diversification since 1990; according to this index, export product diversification has increased in the UAE and Oman, but Saudi Arabia and Kuwait have witnessed greater export concentration, and Bahrain and Qatar have experienced little change over the period.

This is unsurprising since oil/gas dominates the export basket (constituting over four-fifths of total merchandise exports) and Gulf countries tend to export few new non-oil products, making the GCC-countries' exports considerably less diversified than many other countries (see Table 1). The increase in manufacturing exports in some countries has not resulted in quality upgrading – indicators of export quality have shown only slight improvements in the GCC since the early 2000s, and compares unfavourably with other regions.

### Effective national strategies

Historical experience offers few examples of successful diversification from natural resources, particularly when the production horizon remains long. Algeria, Nigeria and Venezuela, among others have had little success in diversification. Whereas, Indonesia, Malaysia, Mexico and to some extent, Chile have benefited from a diverse output base – achieved over many years by export diversification and quality upgrading to induce firms to develop export markets, whilst supporting workers to acquire the relevant skills and education to get jobs in new areas.

While each country followed its own path, a number of common themes were evident during the initial development phases:

- **Investing in high-productivity industrial clusters, even when there was no prior comparative advantage.** Despite starting from a low-technology base, these countries increased their export sophistication by focusing on specific manufacturing clusters, which facilitated an upgrading of technology. Chile used

Table 1: Export Composition of GCC, 2010 (per cent)

	Minerals, Crude materials	Chemicals	Manufactured Goods	Food/Livestocks, Beverages, Tobacco & Veg.oils	Machinery and Transport Equipment	Misc. (Manufactured articles)	Others
Kuwait	92.0	8.0	-	-	-	-	-
Oman	75.0	6.0	4.0	2.0	2.0	-	11.0
Qatar	93.0	5.0	2.0	-	-	-	-
Saudi Arabia	86.0	12.0	2.0	-	-	-	-
U.A.E.	58.0	5.0	25.0	3.0	7.0	2.0	-

Sources: United Nations Statistics Division; and Country Authorities.



export subsidies and public-private partnerships (PPPs) to establish new firms, and upgraded technical skills of workers in specific sectors.

- **Developing horizontal and vertical linkages from industrial clusters.** Creating networks of local 'supply-chains' around existing export industries boosts the job potential of a given sector, providing, however, domestic source chains are efficient and lead to improved competitiveness. Malaysia integrated its upstream and downstream activities centred on rubber and palm oil to build linkages with the broader economy and upgraded research capabilities and technology.
- **Using foreign capital to promote technological transfer.** In the 1980s, Indonesia attracted foreign direct investment (FDI) through the creation of free-trade zones, provision of tax incentives, and the easing of tariff restrictions. Similar policies were implemented in Malaysia and Mexico. The latter's accession to the North American Free Trade Agreement (NAFTA) was instrumental in attracting FDI that promoted the development of the automobile sector.
- **Providing vocational training schemes to ensure the availability of high-skilled labour.** Creating industry clusters demands infrastructure and industrial facilities, as well as enhancing human capital and skills relevant to the sector. Malaysia and Mexico focused on technical and vocational skills development (TVSD). Greater investments in knowledge and skills contributed toward an employable and globally competitive work force.
- **To some extent, export subsidies, fiscal incentives, and better access to finance for small and medium-sized enterprises (SMEs) can help reduce the risk for entrepreneurs in infant industries.** Chile provided financial assistance to SMEs and monitored their performance through a specialised development agency. Malaysia also focused on SMEs. Entering new sectors or export-oriented activities is risky for private firms, hence support provided by development banks, venture capital funds, and export promotion agencies can reduce risk.

**Figure 1: Breakdown of Merchandise Trade, Manufactures\* (Share in Total Exports, 2012)**

**Gulf States versus Peer Countries**

GCC:	(%)	Others	(%)
Saudi Arabia	16.0	Egypt	44.0
U.A.E	20.0	Morocco	63.0
Kuwait	4.0	South Africa	41.0
Bahrain	9.0	Brazil	35.0
Oman	10.0	Chile	12.0
Qatar	5.0	Mexico	72.0

Source: Country Trade Profiles database

\*Manufactures refer to iron and steel, chemicals, other semi-manufactures, machinery & transport equipment, textiles and other consumer goods

The current growth model is unsustainable over longer-term. Economic diversification would help increase productivity and sustained growth, whilst making the Gulf's private sector more vibrant and competitive to compete in international markets on a level with peers in other regions. In short, the bearish outlook for oil prices highlights the need to properly diversify Gulf economies.

But it takes considerable time and efforts to foster an efficient non-oil export oriented economy. Malaysia reached a level of sophistication comparable to some advanced (OECD) countries after 20 years of industrial diversification. ■

*This article is based on findings of an IMF report, 'Economic Diversification in the GCC: Past, Present and Future,' December 2014.*

# Hi-Force

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Facilities management firms provide a host of building services, ranging from standard cleaning procedures to occupancy monitoring (Photo: Sasilssolutions)

# Mastering the art of building management

As the region's cities embrace smarter building designs and solutions, the services and solutions provided by FM suppliers continue to increase in number, benefitting both residents and businesses alike.

**T**HE MIDDLE EAST'S facilities management (FM) sector has blossomed in recent times, following years of rapid development within the region's construction industry. The FM sector has benefited from the growing requirement for developers, property management firms, investment firms and, in some cases, tenants, to safeguard their varying interests within the property market.

The FM market has seen a number of new players join established FM companies such as UAE-based Imdaad and full service property management company Farnek, all keen to offer the highest level of service and encouraging competition between rival firms.

Industry exhibitions such as Dubai's FM Expo and organisations such as the Middle East Facility Management Association (MEFMA)

**“The region's FM sector is set to utilise innovative and groundbreaking technology to support the ‘smart’ shift”**

have also acted to provide vocal platforms on which the sector has been able to promote itself.

“The current boom in the GCC's construction sector has created lucrative opportunities for regional and international FM companies,” says Jamal Abdullah Lootah, CEO of Imdaad. “The UAE market is driven towards integrated FM solutions where companies offer informative, transparent and ultra-modern services to its clients.”

These ‘integrated solutions’ have encouraged FM companies to enter the Middle East where they have utilised their experiences of established FM markets outside of the region and combined them with region-specific solutions. As FM Expo senior project manager Jaafar Shubber points out, “The growth in the UAE's construction sector has created fresh opportunities in the regional FM industry. The customer has become more aware and is demanding integrated, sophisticated FM contracts that not only ensure enhanced services, but also result in improved cost efficiencies.”

## Smarter solutions

Speaking at the recent MEFMA Confex, held in Dubai in March 2015, Imdaad's Lootah, who is also the current president of MEFMA, remarked, “With the GCC states driving towards a ‘smart city’ model led by Dubai, the focus on the implementation of cutting edge products and systems has increased considerably. The region's FM

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sector is set to utilise innovative and groundbreaking technology to support the 'smart' shift."

Recently, ETA Facilities Management announced it would be implementing smart solutions in its key business areas in the UAE, with a particular focus on its workforce management (WFM) and logistics operations.

The move, which targets the UAE's ongoing smart transformation efforts, will no doubt reinforce the country's status as a key market for integrated FM services.

The company plans to introduce a number of smart FM solutions and services utilising technologies that monitor the total distance travelled by lifts, excessive vibration of cooling fans, and heat, water and air flows. It also plans to provide what it terms "soft FM services" such as cleaning and gardening.

### Keeping costs down

Described by the firm as a "cost-efficient tool in managing design and planning", smart logistics help building operators control supply chain processes. Modern sensors, for example, can monitor occupancy rates of a building, providing further information on overall maintenance costs and asset lifespan, and enabling the collection of data in order to implement trend analysing and modelling.

ETA Facilities Management CEO Dr Hayan Sayed notes, "Smart building management now requires the adoption of smarter logistics for enhanced and efficient FM services. It is a key factor in addressing challenges related to logistics planning, productivity, costs, and compliance with international laws and regulations.



*The Middle East has witnessed an influx of FM firms introducing their services to the region's cities in recent years (Photo: Anna Omelchenko)*

"It is important to leverage smart WFM solutions to enable FM managers to ensure optimal use of human resources at reduced costs," Sayed adds. "These solutions are poised to make a positive impact on the overall performance and quality of services of any FM company."

The work carried out by FM companies in introducing such advanced systems to manage building services will often go unnoticed by residents and businesses located on a premises, as often it is only when things go wrong that complaints will occur. While successful FM companies may be denied the publicity of ensuring successful and smooth operation, platforms such as the FM Expo have helped to amplify the industry's voice, providing an arena in which new and innovative solutions can be promoted.

**"It is important to leverage smart WFM solutions to enable FM managers to ensure optimal use of human resources at reduced costs"**

From fleet management for building service employees and data monitoring services, to pest control and lift maintenance, FM companies have, in recent years, adopted a range of cost-effective solutions and sustainable FM functions.

Well established firms such as Imdaad have also been branching out into areas previously considered outside of the FM remit, with sustainability acting as an inspiration to the services on offer.

Mahmood Rasheed, COO of Imdaad, remarked, "Imdaad is the only FM company in the UAE that uses biofuel in its waste collection vehicles. We also made heavy investments in environment-friendly technologies to promote recycling and reusing of raw materials."

Throughout the industry, the focus on the latest service options are on the increase. From data analysis to automatic controls, the FM market is being inundated with innovative ideas, helping to increase living standards across the Middle East. Perhaps, finally, the industry may be beginning to receive the acclaim it deserves for introducing building service solutions that help businesses to run smoother and residents to lead less stressful lives. ■

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LEED principles promote the use of local materials during road building construction projects  
(Photo: S-F / Shutterstock.com)

# Roads to the future

Sustainability in design and construction is becoming a new mantra for the road building industry.

**T**HE LEED<sup>1</sup> SYSTEM of ratings for sustainable design and construction techniques has been widely adapted and adopted for buildings throughout the Gulf. So far, however, little attention has been paid to its potential application to roadwork construction developments, changes that actually affect many more residents.

A modern highway is, after all, essentially a low-rise building constructed in the horizontal, rather than vertical plane. So is an airport runway. Both offer considerable savings in inputs of materials and energy in the long term if built to the latest international standards of sustainability.

The outstanding local exception is Abu Dhabi, where a regionally-adjusted *Greenroads Manual* has already been prepared and a short stretch of the very busy highway to Dubai converted to sustainable standards, on a pilot basis, recently. This is now being evaluated.

Internationally of note is the 100-plus 'Greenroads' points rating system first put forward by specialists at the University of Washington in association with engineering design consultants CH2M Hill, back in 2007. The Foundation of this name produces (and regularly updates) its own online *Manual* (we recommend the abridged version for an initial assessment), which lists the criteria covered and how these are measured at all stages of implementation of a road project.

Greenroads is primarily a US-based NGO<sup>2</sup>, but its pioneer work has many implications for road designers and contractors. A

complementary body in the USA, representing mostly individual state interests, is known as the Green Highways Partnership<sup>3</sup>.

## Finding definition

For any kind of rating system to work for highways the individual grading categories have to be unambiguously defined and perceived, and of demonstrable benefit to both the community and the state. The original Greenroads concept was based on the following clear criteria:

- Sustainable alignments that minimise damage to the natural environment, and serve the primary purpose of the structure
- Low environmental impact on materials extraction and transportation to/from site
- Adequate and appropriate standards of stormwater management
- Overall design standards that promote energy and environmental control, such as minimising light and air pollution, maintaining health and safety, ensuring quality of life for enforced neighbours (including wildlife), and interaction with other forms of transport
- Minimising impact during the construction process, including sustainable handling of waste
- Special credits to be awarded for innovations in design unique to the specific area through which the road passes.

But, just as the LEED system's standards have been progressively raised over the years, so too have the criteria for a road to be

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considered environmentally-friendly today. Hence the high level of international interest in Abu Dhabi's breakthrough scheme.

Essentially, as pointed out by the Institution of Civil Engineers in a special *Briefing Sheet* issued overseas recently, sustainable road design (the critical phase) is seen in terms of two key parameters.

First of all, there is the impact that the design and eventual construction of the highway makes in the first place, when it is built (and ultimately maintained) from scratch. There is an environmentally-friendly way of doing this, and many that are not. By the original standards proposed by those who were trying to extend the LEED principles into road building in the first place, it was and remains essential to use as many local materials as possible – including recycled ones if available, of course. This is in order to minimise the number of “truck-kilometre movements” that the project will require. And with that, of course, comes noise, disturbance, runoff management issues and so on. It has subsequently come to be recognised that locally-sourced materials (especially surfaces) nearly always contribute positively to the quality of the resulting built environment, too. Many sites in Riyadh, Jeddah and other Gulf cities bear witness to this today.

Secondly, the latest thinking takes into account also the total energy consumption (nearly all fossil, of course) that the new road will be responsible for, at all stages of its development, use, maintenance and ultimate replacement. This includes:

- Minimising the number of major earthmoving operations needed to prepare the route's foundations
- Incorporating suitable recycled materials into the design of the

basement and top mixes; in the second this can be used to boost fuel economy (via reduced rolling resistance, for example), and also safe braking/skid reduction

- Flattening out gradients by cut-and-fill operations so that both fuel consumption and unnecessary braking are reduced
- Building in perceptible curves and eye-catching features to reduce driver fatigue and inattention.

With all this in mind a seven-country group within the European Union has sponsored the preparation of special energy-evaluation software such as 'JOULESAVE' to be used by designers. One of the earliest findings of this was that energy-costly changes to the alignment of a road can actually provide long-term savings over its entire operational life. Another is that energy saving in maintenance operations can result eventually in more expenditure in terms of actual use. And a third is that there is an enormous difference in the fuel consumed by different classes of vehicle – as well as their age/standard of maintenance, of course – and a much smaller one according to the type of road they actually use.

Truly sustainable highways have to be designed to take account of this. Dual-lane designs specially prepared for heavy trucks travelling at economic speeds are often found to be the most environmentally-friendly solution. ■

<sup>1</sup> *Leadership in Energy & Environmental Design*; [www.usgbc.org/leed](http://www.usgbc.org/leed)

<sup>2</sup> [www.greenroads.org](http://www.greenroads.org)

<sup>3</sup> [www.greenhighwayspartnership.org](http://www.greenhighwayspartnership.org)





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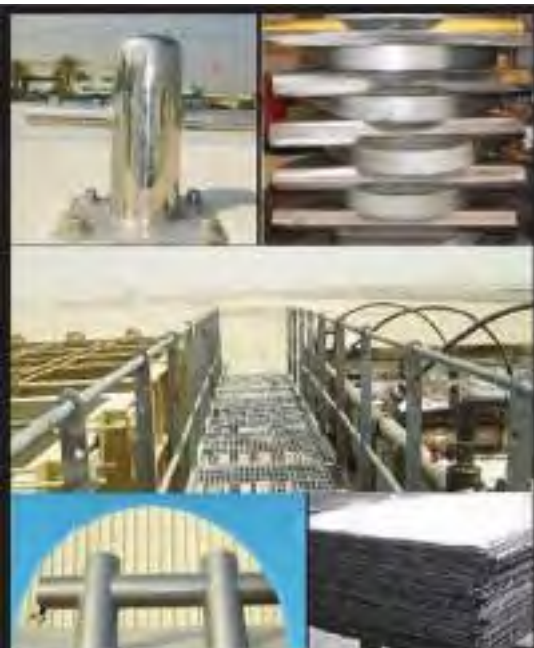
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## Clean air for clean products

SCHOLZ, A HIGH-TECH company in the plastics industry, has been revolutionising its compressed air supply and is experiencing reduced energy costs as a result.

Based in Kronach, Germany, Horst Scholz GmbH & Co. KG is a manufacturer of precision plastic parts for products used in medical technology and precision engineering parts primarily used in the automotive industry, medical technology industry and for lifestyle products.

Scholz recently modernised its existing compressed air station, with the company's management opting for a compressed air contracting arrangement to ensure that the compressed air supply will always meet the latest technical standards. In this arrangement, the compressed air station remains the property of the air system provider, while the customer simply uses the compressed air as needed, paying only for the volume of compressed air used at a fixed rate.

With space at a premium at Scholz's production premises, a compact solution was required, and the new station was installed in a container on the roof of the company's building, requiring precision work during installation.

Following a detailed compressed air audit to identify the company's exact compressed air needs, Scholz's compressed air station was designed to incorporate the latest technology. The ease of maintenance, together with

networking and integrated control features consistent with the Industry 4.0 environment also played a key role in laying the foundation for predictive maintenance.

The data gathered during compressed air system analysis were input into the controller of the new system, a Sigma Air Manager (SAM 2), providing the foundation for the efficient operation of the entire station.

Since the compressors and compressed air treatment components are equipped with integrated industrial PC technology, they were able to forward their data to the master controller, which can monitor all components, as well as the environmental and production conditions. It was also able to precisely adapt compressed air production to match the company's actual compressed air requirement.

The SAM 2 also optimises pressure values, automatically adjusts compressor system air delivery to accommodate fluctuating air demand and optimises system efficiency through constant analysis of the relationship between control losses, switching losses and pressure flexibility.

This advanced controller also enables the compressed air station to benefit from future services, such as predictive maintenance and allows remote diagnostics capability.

To ensure rapid, secure transmission of data both internally and externally, the compressed air station at Scholz is



*The Sigma Air Manager (SAM 2)*

additionally equipped with Sigma Network. This powerful and secure closed network is Ethernet-based and guarantees optimal monitoring and efficient control of the compressed air station as well as maximum data security.

When service is needed, the master controller sends notification and the material-flow infrastructure is managed in parallel through the manufacturer's worldwide data centre.

Karl-Herbert Ebert, head of technology and development at Scholz, said, "The entire compressed air supply ran smoothly right from the outset. The container was delivered and once connected, we had our air supply."

The new compressed air station also provided Scholz the opportunity to take advantage of the benefits of heat recovery for the first time, with the company now using the recyclable heat from the compressors to heat the company's facilities.

## Bauer Plastics Technology Group introduces the Bauer N2IT™

THE NEW BAUER N2IT™ made its moulding debut at leading international plastics trade show NPE 2015.

Rick Goralski, business development manager for Bauer Plastics Technology Group, announced that the product, which combines a nitrogen generator, a high-pressure nitrogen compressor and nitrogen process control unit in one portable package, was demonstrated with working units on the show floor.

According to Bauer, for Gas Injection Technology (GIT) processors, the product "changes everything". The Bauer N2IT™ will produce, compress and store enough nitrogen for most GIT process applications, achieving the "most precise" GIT process control available to the industry. Bauer has developed True Track Ramping® which allows the processor to increase/decrease the gas pressure at any rate and eliminates unnecessary pressure stages.

"We have been working on this project for many years," said Goralski. "This type of solution will simplify the entire process and level the playing field for small moulders."

NPE 2015, the International Plastics Showcase, took place in Orlando, Florida, in March 2015.



*The Bauer N2IT™ was on show at NPE 2015*

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The new Mahindra Powerol DG Sets are low-noise and are built with high grade materials. So they deliver high levels of performance, safety, durability, reliability. This has made Mahindra Powerol the fastest growing brand in the demanding Telecom Sector. Now equipped with Diesel Efficiency Technology, Mahindra Powerol DG sets have arrived in Africa, to bring high efficiency and low cost of ownership to you.

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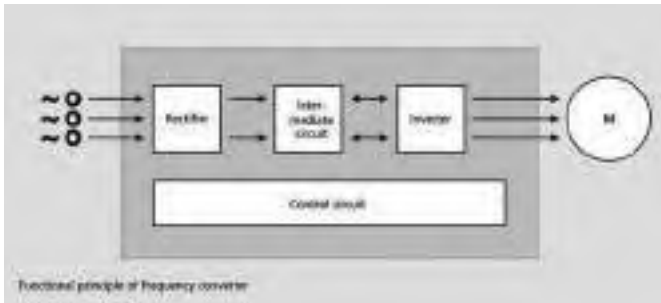
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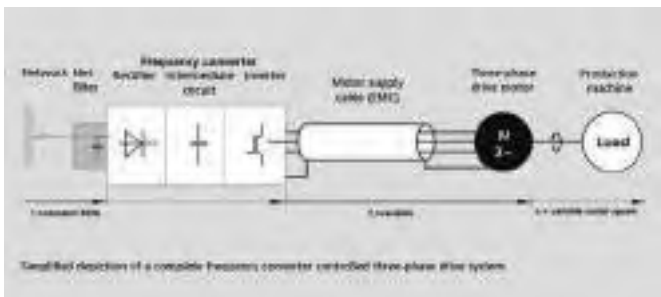
# Helukabel solutions for 'erratic' electrical issues

Germany cable manufacturer brings solutions for servo and variable frequency drives (VFD) to the fore.

**E**LECTRIC DRIVE SYSTEMS with continuous torque and speed control are widespread today. They allow an optimal adjustment of the drive with respect to the application. Standard drive systems consist of three-phase — alternating-current, asynchronous motors and related controls via frequency converters.



A frequency converter consists of two Insulate Gate Bipolar Transistor (IGBT)-controlled units: 1) a rectifier that is connected to a three-phase, alternating current with a given frequency ( $f_1$ ) (for instance, 50 or 60 Hz), which generates a pulsating direct current; 2) an inverter that reconverts the direct current in a new alternating voltage with variable level and frequency ( $f_2$ ) (0 to 400 Hz). Using the motor supply cable, the speed of the servo motor can be precisely controlled by changing the frequency  $f_2$ .

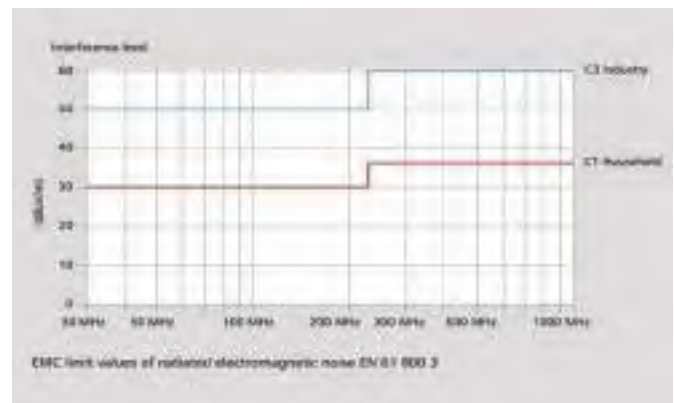


## Negative effects

The benefits of frequency converters come along with certain negative effects that should be taken into consideration:

- Strong electromagnetic interference through the motor power supply cable
- High overvoltage in the supply cable
- High leakage and interference currents

The strong electromagnetic interference results from the extremely short turn-on and turn-off-times of the IGBTs (nanoseconds) and from the high pulse frequencies of the frequency converter (up to 20 kHz). This leads to a very high proportion of harmonic waves of the sinusoidal output voltage of the converter. The strong electromagnetic emissions, emanated especially from motor supply cables, result in major interference with the distribution network, the devices and data transfer.



As a consequence, the European standard EN 61 800-3 specifies the maximum interference level of drive systems in order to ensure that signal transmissions are adequately protected against interference. This regulation, which differentiates between category C1 'residential areas' and category C3 'industrial areas,' establishes the maximum permissible interference levels of the radio interference voltage from 0.15 MHz up to 30 MHz, and of the radiated electromagnetic interference from 30 MHz up to 1,000 MHz (1 GHz). However, interference can be avoided if well-shielded cables and, in special cases, cables with additional line filters are used.

## Problems with electrical surge

The voltage generated by the frequency converter has a fundamental wave with an approximate sinusoidal course and an impressed frequency between 0 and 400 Hz, depending on the set motor speed. That process also creates harmonics in a high frequency range of approximately 100 MHz. The fundamental wave and the harmonics are transmitted to the motor via the motor supply cables.



When the characteristic impedance of the motor supply cable is changed, impulse waves are generated at the beginning and

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end of the cable, which in turn generate electrical surge through reflection of the harmonics (called reflected wave phenomenon). This only occurs if the length of the motor supply cable is greater than the wavelength of the harmonic. With short cable lengths, (i.e. if the cable length is shorter than the wavelength), transient responses appear at the frequency converter output. As a result, voltages are generated that are two to three times greater than the motor voltage. Those voltage peaks place a recurring load on the insulation of the motor supply cable. For this reason the insulation must be dimensioned in such a way that those voltage peaks do not have any harmful effects.

The high frequencies at the converter output mean that high capacitance leakage currents are generated, which flow over the shield and the motor housing to the earth, and thus determine the cross-section of the braided shields and the shield connections. The shield must be designed in such a way that it is not excessively heated by the current flowing through it. Especially with long cable lengths, high ground capacitance can result in reactive currents, which burden the frequency converter. Due to the inverter's over-current limit, it might no longer be possible to transmit the necessary active power to the motor. Adequate care must also be taken to properly ground these currents and not change the voltage potential which will affect the clock timing. Using a HELUTOP® EMC cable gland and attaching the cable ground wire to the panel bus ground terminal are good practices to help prevent this problem.

The reactive current does not contribute to torque generation at the motor and flows to the ground as current leakage via the shield and metallic motor parts. It can also flow through the ball bearing of the motor shaft, which can result in damage, such as depressions in the ball bearing rings.

In order to compensate for the above-mentioned effects of frequency converter technology, Helukabel offers motor supply cables with optimized characteristics. Both the material used and the design are specially adapted for this application.



### Helukabel TOPFLEX®-EMV UL/CSA

The electromagnetic compatibility (EMC) requirements according to EN 61800-3 are fulfilled by a double shielding of special aluminium foil and an optimized braided shield of tinned copper wire with a high degree of coverage (approximate 80 per cent). The special suitability in the frequency range from 30 to 1,000 MHz is easily demonstrated using comparative measurements of the radiated electromagnetic noise from unshielded power supply cables and shielded EMC power supply cables from Helukabel. For the low frequency range of 1 MHz up to 30 MHz the high interference protection is shown by the extremely low coupling resistance of the shielded cables.

### EMC tests on motor supply cables

The results of the interference level measurements show clearly that the Helukabel motor supply cable with an optimal shield did

not exceed the limit values for interference field strength according to EN 61 800-3. Moreover, the interference field strengths of the unshielded cable are significantly above the limit values for industrial and residential areas, especially at low frequencies.

### Results of measurements of the coupling resistance R<sub>k</sub> (Ohm/km)

**Cable type:** TOPFLEX®-EMV 2YSLCY J 0.6/1kV

**Manufacturer:** HELUKABEL® GmbH

In the low frequency range between 1 MHz and 30 MHz a low coupling resistance was measured, resulting in low interference field strength in the surrounding area.

No. conductors x cross-sec. (mm <sup>2</sup> )	1 MHz Ohm/km	30 MHz Ohm/km
4 x 2.5 (AWG 14)	18	210
4 x 4 (AWG 12)	11	210
4 x 6 (AWG 10)	6	150
4 x 10 (AWG 8)	7	180
4 x 16 (AWG 6)	9	190
4 x 25 (AWG 4)	4	95
4 x 35 (AWG 2)	3	85
4 x 50 (AWG 1)	2	40
4 x 70 (AWG 2/0)	2	45
4 x 95 (AWG 3/0)	1	50

The conductor insulation of TOPFLEX®-EMV and TOPFLEX® MOTOR-EMV cables consists of electrically high-quality materials based on polyethylene (PE). The special insulation is designed for the permanent voltage peaks of the converter's nominal voltage.

Nominal voltage:	U <sub>0</sub> = 600 V
Max. Permissible operating voltage:	U <sub>b</sub> = 1200 V

The frequency converter output can also be equipped with an electrical filter which filters out the high-frequency harmonics and smoothes out the voltage peaks.

### Impedance matched cables

Due to the low dielectric constant of the special conductor insulation the TOPFLEX®-EMV and the TOPFLEX® MOTOR-EMV have a lower operating and shield capacitance than traditional PVC-insulated motor supply cables. As a result, the capacitance disturbance currents are considerably reduced, enabling low-loss power transmission from the converter to the motor. Moreover, the high quality of the cable insulation provides a long service life. These characteristics are further improved by a symmetrical cable structure with three balanced power conductors and a ground conductor which is divided into thirds (3 + 3 -conductor design) in the cable types TOPFLEX®-EMV 3 PLUS and TOPFLEX® MOTOR-EMV 3/3 cables. This results in an additional optimisation of the power transmission from the frequency converter to the motor.

### TC-ER and continuous flex applications

In addition to high-end motor cables, Helukabel offers a wide range of tray rated cables according to UL 1277, NFPA 79 2007 and CSA FT4 for fixed or continuous flex applications. The TRAYCONTROL® 600 and TOPSERV® 600 VFD cable possess a superior oil performance of Oil Res I and II and are designed for use in dry, high humidity and damp environments and in the open unprotected installation in the cable tray or track. ■



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## BellissMorcom

### VH compressor

Performance summary

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- 90 to 260 kW direct zero drive loss 'shaftless' motor
- Oil free
- Water cooled
- 3 stages
- Capacity control - 0 to 100%
- Variable speed capacity range from 50 - 100%
- Fully balanced operation

### WH compressor

Performance summary

- 1.680 to 3.200 m<sup>3</sup>/hour at 40 bar (g)
- 280 to 550kW direct zero
- Oil free
- Water cooled
- 3 stages
- Capacity control - 0% / 50% / 100%
- Variable speed capacity range from 30 - 100%
- Fully balanced operation

## Briefly

### Empower awards US\$50mn contract for cooling facility in Dubai

UAE DISTRICT COOLING company Empower has awarded a US\$50mn contract to Gulf District Cooling to develop a 45,000 refrigeration tonne (RT) plant at Dubai's Business Bay. This will be Empower's third district cooling facility in Business Bay and will come on stream by Q2 2016, Empower officials stated.

Empower CEO Ahmad Bin Shafar said, "Because of its complexity, reach and size, Business Bay represents one of the most important facets of Empower's growing project portfolio. Our newest facility reaffirms our commitment to this dynamic and vibrant community. We hope this serves as an example to developers that real estate plans can integrate sustainable principles that are in-line with the UAE's Vision 2021."

According to the contract, a 45,000 refrigeration tonne (RT) facility will be built that will provide cooling services to 40 commercial, retail and hospitality buildings in Business Bay. The new facility, when completed, will form part of Empower's 135,000 RT network in this part of Dubai.

One of the company's existing plants, which became operational in 2014, is the first in the Middle East to obtain a Gold rating in Leadership and Energy Efficient Design (LEED), a global benchmark in sustainable design.

Established in 2003 as a joint venture between Dubai Electricity and Water Authority (DEWA) and TECOM Investments, Empower has experienced substantial growth, currently having a district cooling capacity of around one million RT. It serves more than 45,000 customers and has a market share of over 70 per cent in the UAE, providing its services to various landmark projects including Dubai International Financial Centre, Dubai Healthcare City and Jumeirah Lake Towers.

The increasing focus on environmentally-friendly and energy-efficient cooling solutions has resulted in widespread adoption and implementation of District Cooling Services (DCS) throughout the region.

## District cooling faces 'stagnation threat'

DC PRO ENGINEERING UAE, a leading authority in the field of District Energy and a sustainability leader in the field of green building MEP designs in the region, has revealed that district cooling faces the danger of stagnation as the technology is advancing at a much slower rate than other heating, ventilation and air conditioning (HVAC) applications.

George Berbari, chief executive officer of DC Pro Engineering UAE, made the remarks during his presentation, which was entitled '*The Threat of Technology Stagnation on District Cooling*', during the 3rd Annual DC (District Cooling) Stakeholders Summit held at the Dusit Thani hotel in Dubai in March.

"The district cooling industry continues to apply a 10-year-old technology with the only advancement coming from chiller manufacturers improving their efficiency," Berbari said.

"Meanwhile, newer HVAC systems pose additional threats to district cooling as air cooled chillers and air cooled ducted split systems

continue to enjoy popularity with a 70 per cent market share."

Berbari further noted that other HVAC technologies such as small ultra-efficient water cooled chiller plants with magnetic bearing and variable speed drives have fewer power savings than district cooling plants, and pointed out the lack of field validation data in the UAE for air-cooled Variable Refrigerant Flow (VRF) systems.

He emphasised in his presentation that a synchronisation of district cooling tri-generation with renewable energy sources can result in 75 per cent savings in primary energy as compared to electric powered district cooling. Already, district cooling systems offer a 40 per cent saving on power consumption compared to air-cooled systems. This has led to more than five million tons of district cooling system capacity to be installed over the past 15 years in the GCC region.

"Tri-generation in district cooling synchronised with renewable energy has already captured the attention of intellects and has been honoured with awards," Berbari explained.

"Greater electric power savings can be achieved by utilising renewable energy sources, which will help cover modern cities in the coming years. Therefore, the district cooling industry needs to focus on renewable energy in tri-generation," he added.

"Currently the UAE has committed to generate seven per cent of its electricity from renewable energy by 2020. This is indeed a step in the right direction for tri-generation systems."

An example of this model is the district cooling plant that DC Pro Engineering designed for the Research Council Innovation Park in Oman.



George Berbari, CEO of DC Pro Engineering UAE

## HVAC facility to provide job opportunities for Saudi Arabians

A NEW, STATE-OF-THE-ART HVAC manufacturing facility and training centre in King Abdullah Economic City's (KAEC) Industrial Valley is set to create 1,000 new jobs.

The manufacturing facility, which will be built on more than 200,000 sqm of land, will be constructed for Al Salem Johnson Controls (ASJC), a joint venture between the Al Salem Group of Companies and global multi industrial company Johnson Controls. It will use Johnson Controls' globally acclaimed manufacturing and quality control systems, and has been designed to produce integrated solutions that increase energy efficiency and operational savings.

Al Salem Johnson Controls, an energy efficient HVAC solutions provider, has been serving businesses in the kingdom for more than 25 years. According to Mohanad Alshaikh, CEO of Al Salem Johnson Controls, the company



The launch of the new HVAC manufacturing facility

has long identified itself with initiatives to diversify the kingdom's economy.

"The establishment of this manufacturing and training facility is an important step in this direction," he said.





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# Morocco unlocks its port sector potential

Morocco's strengthening economy, strategic geographical position and political stability are presenting further opportunities for major foreign investment in the country's ports, but challenges remain. Lynda Davies reports.



*With direct rail and road links with Casablanca and other Moroccan cities, Tanger Med is handling a growing proportion of Moroccan trade (Photo: Eurogate Group)*

**M**OROCCO IS EMERGING as a project powerhouse. In the port sector alone, the country has earmarked up to an estimated US\$8bn worth of investment in new infrastructure. In a move away from the traditional model of state funding, the country's authorities have been allowing public-private partnerships to speed up their investment plans and promote greater competitiveness.

The centrepiece of the country's ports development programme is Tanger Med in northern Morocco. Built to serve both the local market and transshipment trade, the first container terminal at the port became operational in June 2007. Today, the port handles more than three million TEU a year across two terminals and plans are well underway on Tanger Med 2, which ultimately envisages Tanger Med becoming one of the most important transshipment hubs in the Mediterranean.

Located some 35 km east of Tangier, Tanger Med is strategically positioned on the Strait of Gibraltar at the crossing of two major maritime routes and just 14 km from the Spanish mainland. Annual throughput at Tanger Med is already exceeding operational capacity with the number of containers handled annually passing the three million TEU level for the first time late last year. The port processed 3.07mn TEU in 2014, representing a 20 per cent increase on the 2.55mn TEU handled in the previous year, according to a statement from the Tanger Med Port Authority (TMPA). According to TMPA, Tanger Med has had good success in attracting business away from some of the Spanish ports, particularly Algeciras, on account of lower costs and also greater efficiency.

Netherlands-headquartered APM Terminals (APMT) manages and operates Tanger Med's container terminal 1 (TC1) as the majority shareholder (90 per cent) in partnership with Morocco's Akwa Group (10 per cent). TC2, which opened in late 2008, is managed and operated by Eurogate Tanger, a consortium formed of Contship Italia, Mediterranean Shipping Company, Moroccan shipping company

Comanav and France's CMA CGM Group, (which owns Comanav).

"Of the 2,100 container ships handled at Tanger Med last year, there were 800 calls at the AMPT terminal and 1,300 calls at the Eurogate terminal, and a TEU volume increase of 11 per cent and 34 per cent respectively," says TPMA.

In addition to its transshipment business, Tanger Med also handles a growing proportion of Moroccan trade and has direct rail and road links with Casablanca and other large Moroccan cities.

## Tanger Med 2 expansion delays

Morocco's plans to expand Tanger Med to a planned 5.5mn TEU capacity across two additional terminals have, however, suffered a series of delays and setbacks. An early major blow was the project's foreign investors pulling out in 2009 amid the global economic downturn and falling trade volumes. As a consequence, the Tanger Med development body, Agence Spéciale Méditerranée (TMSA), subsequently opted to "go it alone". Labour disputes have also slowed construction work.

The original plan for Tanger Med 2 envisaged a duplication of the existing facilities with plans for two additional container terminals to be operated by different companies, with an initial combined capacity of 2.5mn TEU per year. But APMT, in partnership with the Akwa Group, which had won the concession for the proposed TC3 terminal, pulled out. As did Singapore's PSA International, which with Marsa Maroc and Moroccan investment firm SNI, had secured the TC4 terminal concession. Marsa Maroc subsequently took over the TC4 development, but no investors are known to have stepped in for TC3. Indeed, some sources speculate that TC3 may not now go ahead at all.

The plan for TC4, however, remains on track, although the timeline has slipped from the original 2012 target. The new terminal is now expected to be operational by the end of 2016 and will be built with an initial capacity of 2.25mn TEU, according to Marsa Maroc.

The Tanger Med 2 project is ultimately targeting container



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*Plans are in place to expand Tanger Med to a capacity of 5.5mn TEU (Photo: Eurogate Group)*

handling capacity of eight million TEU per annum, according to Morocco's Economy and Finance Ministry. However, while the port has a great strategic position, prospective terminal investors may need to be further convinced of the potential future traffic volumes to support such a capacity investment.

Strong growth in new vehicles traffic was also a feature of Tanger Med's positive performance last year. A second ro-ro terminal opened in the port in 2013. Operated by Geodis STVA Tanger Med (GSTM), a subsidiary of French logistics providers STVA, the facility is open to all makes and rolling stock and has a storage capacity for 3,000 vehicles. STVA says the terminal handles transshipment trade as well as local vehicle business and handles about 400,000 vehicles a year.

GSTM operates an existing adjacent ro-ro terminal, opened in 2010, which handles vehicles exclusively for Renault from the French car manufacturer's nearby plant at Melhoussa.

The new Tanger Med ro-ro terminal competes with the port of Casablanca for business, where Renault also operates a car plant. Casablanca opened a dedicated terminal for new cars in 2011. It was developed as a joint venture between Marsa Maroc and Spanish firm Autoterminal and has capacity to store 5,000 to 6,000 vehicles. While the port of Casablanca remains Morocco's leading port of entry for imports, and has the advantage of its huge immediate hinterland, Tanger Med is able to compete for ro-ro traffic on its short distance from southern Europe.

### Casablanca expands container facilities

The port of Casablanca, meanwhile, is progressing a new flagship project – for a new container terminal, the port's third such facility. TC3 already is under construction and, when commissioned, will increase Casablanca's annual container handling capacity from one million TEU to 1.6mn TEU a year. This third container terminal is planned to start up in June 2016, according to Marsa Maroc.

The investment in the new terminal will not only raise container handling capacity at Casablanca but also will help renew and upgrade container operations across the whole port, according to Marsa Maroc, which secured the concession to operate TC3. The firm also manages one of the two existing container terminals in the port, with annual handling capacity of 650,000 TEU.

The second existing container terminal in the port is managed and operated by Somaport, an initiative of France's CMA CGM Group. In operation since 2009, the Somaport terminal handles an annual throughput of approximately 300,000 TEU. The company also manages a one million tonnes per year general and bulk cargo terminal in the port.

Casablanca needs to expand its container handling capacity if it is to compete with Tanger Med in the coming years as its handling of

the larger size containerships is currently limited. Certainly, one of Casablanca's big advantages is its huge immediate hinterland. Around 35 per cent of Morocco's maritime trade is currently handled via the port. But overshadowing the port's ambitions to capture a bigger share of container traffic has been the long mooted 'on/off' plans for the development of a container terminal at the nearby port of Mohammedia, which currently focuses on oil imports. However, it is thought unlikely that there would be enough business to support new container operations at Mohammedia as well as at Casablanca and Tanger Med.

### Plans for new energy port

Notable among Morocco's other port investment plans, is the planned development of new deepwater port and industrial complex specialising in the import, transshipment and storage of energy products near the Mediterranean city of Nador. Proposed to be located in the Bay of Betoya east of Tanger Med, the new Nador West Med port will also have capacity to handle dry bulk products and containers.

The first phase of development currently envisages annual capacity to handle 15mn tonnes of refined oil products, and seven million tonnes of coal as well as 1.5mn tonnes of other bulk products. Completion is proposed for the second half of 2018, with commissioning targeted in 2019. A second phase envisages the construction of an additional two berths for oil products, raising Nador West Med's oil handling capacity to 20mn tonnes a year. A three million TEU container terminal is also proposed.

"This is a major project for Morocco. The goal is to capture a share of the energy transit in the Mediterranean," said Nador West Med Company, which was established to manage the operation of the port under the authority of Morocco's National Port Authority (ANP). The firm closed a new deadline for prequalification for the construction and infrastructure package for the new port on 15 January.

There are some concerns about this ambitious project, not least regarding the plans for the inclusion of a container terminal, as it would compete directly with the nearby port of Tanger Med.

UK-based Drewry Shipping Consultants fears growth rates at even existing Western Mediterranean container hubs such as Morocco's Tanger Med and Spain's Algeciras, could be "dampened" as the development of deepwater container hub ports in the Gulf of Guinea – such as the new Lomé Container Terminal in Togo which commissioned its first berth in October last year and a second container terminal under development at Abidjan in Côte d'Ivoire which is due to be operational by 2018 – gathers momentum.

These developments, however, do not seem to be thus far dampening Morocco's enthusiasm for new port developments. ■



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# A connected kingdom on the rise

Saudi Arabia is trying to find the niche that would catapult its telecom sector into the big league, finds Nicholas Newman.

**T**HE MENA REGION'S telecoms market is expected to show a compound annual growth rate (CAGR) of 2.9 per cent, split between mobile (3.3 per cent) and fixed (2.8 per cent) between 2014 and 2018, by which time the market is expected to be worth at least US\$60bn. Saudi Arabia is the third largest market, after the UAE and Algeria, with 3G and 4G smartphones accounting for 74 per cent of all mobile phones. Forecasters suggest that mobile voice revenue will remain the single largest revenue stream, but that mobile handset data will be the main growth driver in coming years. Much of this new growth will be underpinned by business and government agencies eager to take advantage of corporate services such as cloud computing and smart technologies. Saudi Telecoms providers began introducing 4G LTE for wireless communication of high-speed data for mobile phones throughout the kingdom last year.

## Market structure

State security requirements, alongside technical considerations for interconnections and gaining co-operation from domestic incumbents, saw Saudi Arabia follow Oman, in opening up its telecoms sector to foreign companies in 2013. In late 2014, three foreign mobile virtual network operators (MVNO) entered the kingdom, relying on access to the three domestic market leaders' wireless network infrastructure. For example, Virgin Mobile Middle East & Africa, part-owned by Richard Branson's Virgin Group, joined with market leader and part-privatised STC, Jawraa Lebara linked with the second-biggest operator Mobility, while Dubai-based retailer Axiom Telecom, is working with Zain.

A striking statistic of the Saudi Arabian market is the large decline in the total number of mobile phone subscribers, from 56.1mn in 2011 to 50mn in 2014. The fall is attributed to three factors. Chief among these is the



kingdom's regulator, the Communications and Information Technology Commission's (CITC) decision to link the sale and activation of pre-paid SIM cards with the national ID system, which led telecom companies to deactivate a large number of unidentified SIM cards, reported *Reuters*. There is also the impact of the Saudi policy, which, in common with other GCC states, seeks to cut the number of expatriate workers in an effort to create job opportunities for its own citizens reported *alarabiya.net* in April 2013. Lastly, government measures have more than halved the number of foreign pilgrims to Mecca to 1.4mn in 2014, with the inevitable knock-on effects on mobile phone company's finances, reported *Zeenews*.

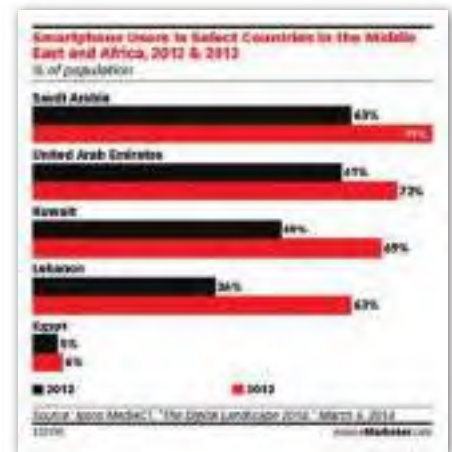
Also noteworthy is the fact that Saudi Arabia enjoys the highest telecom market penetration rates amongst its peers. Mobile and smartphone penetration rates of 176 per cent and 63 per cent indicate market saturation had been reached by the end of 2013, reported *eMarketer 2015*.

## Operators' revenues

In 2013, total Saudi Telco's profits peaked at SAR14.18bn (US\$3.78bn), only to fall precipitously to SAR9.96bn (US\$2.65bn) the following year due to the CITC's programme of tariff reductions. Increasing competition from new entrants, the reduction in subscriber numbers and the regulator's enforced tariff reductions have hit operator revenues and profits particularly hard since

2013. Future growth and profits will rely on population increase and new and better services. As Karim Yaici, lead analyst for Analysys Mason, The Middle East and Africa Regional Research Programme, predicts, "Growth will come from population





growth and the growing number of SIMs per person (for instance, one SIM for calls, and another one for mobile broadband).” Moreover, industry forecasters suggest that mobile voice revenue will remain the single largest revenue stream but that mobile handset data will be the main growth driver reaching a sizeable US\$8.3bn in revenues in 2018.

### New services

Due to market saturation, operators are looking to increase revenues from the provision of new services and upgrading to 3G and 4G mobile networks phones. To combat tariff reductions, operators have aggressively followed the twin strategies of better meeting existing needs and creating new wants. Taking advantage of new infrastructure capabilities, new services ranging from stock market reports to games and new mobile apps were launched. The *Mobile Apps Use in Saudi Arabia Survey 2014* conducted by the Arab Advisors Group between March and April, revealed that mobile app users constitute some 55 per cent of total cellular users. Hiba Al-Rabadi, senior research analyst with Arab Advisors Group highlights the diversity of services now available ranging from leading online food ordering business Hellofood, which receives almost 80 per cent of its orders via its mobile app store and OpenSooq, an online classifieds business, which gets approximately 50 per cent of its traffic via its mobile site.

**Industry forecasters point to the growing popularity of devices like the iPhone 6 in Saudi Arabia**



### Market growth

It is expected that non-handset mobile broadband and fixed broadband/IPTV (Internet Protocol television) will grow strongly, but more slowly than mobile broadband revenues expected to reach US\$9.5bn by 2018.

In the mobile sector two segments, high-end data services including broadband Internet and enterprise will drive growth. Industry forecasters point to Saudi Arabia’s young, the growing popularity of smart devices like the Apple iPhone 6 and the Samsung Galaxy S6 Edge and increasing broadband penetration, which will encourage the use of richer media content and data consumption. Wireless broadband, in particular, is likely to receive significant impetus with the introduction of 4G services. However, a constraining factor to the growth of mobile broadband today remains spectrum availability. As Yaici observes, “Operators have access to limited sub-1GHz spectrum and this will impact the growth for 4G LTE. The important “digital dividend” spectrum (i.e. 800MHz frequency band) is not yet available to operators, said Yaici. Another limiting factor is the human dimension.

The shortage of skilled local recruits means that operators are having to rely on temporary contractors and embedded consultants at a much higher cost.

The nascent enterprise segment, with a SIM penetration of less than one per cent currently, is expected to emerge as a growth area in response to new business procedures and the growing need for a cost-effective ‘one-stop-shop solution’.

Essentially, the biggest growth area in the Saudi Arabia’s telecoms market lies in providing high-value services to corporate and government customers. A strong uptake of the next generation of mobile and wireless data services is to be expected with the release of 800MHz frequency band, but perhaps, the biggest opportunity lies in the introduction of cashless mobile phone payment systems. ■

## Briefly

### Telstra and Etisalat to launch new PoP in UAE

**AUSTRALIAN TELECOM COMPANY** Telstra has announced that it will partner with the UAE's Etisalat to launch a new point of presence (PoP) in the country. The new base will be housed in Etisalat's UAE Smarthub facility. The new PoP will also allow Telstra to take advantage of the Bay of Bengal Gateway (BBG) cable, which is due to come into service later this year. The cable system, currently being constructed by a consortium of telecommunications companies which includes Etisalat, will provide a high-speed trunk connection between Europe, the Middle East, Central Asia and the Far East.

According to Etisalat officials, the deal will enable the company to reduce latency and increase network availability across the Middle East, which is a region of high value for Telstra.

Telstra head of connectivity and platforms, Bernadette Noujaim Baldwin, said, "The Middle East is an emerging economic and technological powerhouse, with IDC predicting almost double-digit year-on-year growth in IT expenditure, which is expected to hit more than US\$270bn in 2015 alone. In light of these economic conditions, it is drawing in businesses that require a stable local network with an international reach."

Baldwin added that organisations must have access to integrated, robust and seamless connectivity options. Etisalat's Smarthub could potentially aid this development, being the largest capacity content, Internet and data hub in the Middle East, and includes the Middle East's first IPX for mobile operators as well.

Ali Amiri, executive vice-president carrier and wholesale services at Etisalat, said, "We are delighted to welcome Telstra, Etisalat's long-term technology partner, to the SmartHub and we look forward to continued cooperation with them. Thanks to the robust capabilities of Etisalat's SmartHub, global operators such as Telstra have recognised the value of collaborating with Etisalat to deliver the network quality and seamless services."

## SaaS being welcomed by MENA businesses, reveals Oracle study

**COST SAVINGS AIDED** by process efficiencies and productivity is key to implementing cloud technology in businesses, stated an Oracle IDC study.

The study, which is on Software as a Service (SaaS), was conducted after surveying CIOs (chief information officers) and decision makers from 160 organisations, with a capacity exceeding 500 employees each in MENA and Europe. The study attempted to understand how Oracle SaaS customers overcame concerns and inhibitions regarding adopting cloud for their businesses.

Oracle senior marketing director Dana Murugan said, "Modern cloud applications from Oracle help customers reimagine business, practices, and experiences. The best-of-breed SaaS applications in Oracle Cloud are integrated with social, mobile and analytic capabilities to help deliver the experiences customers expect, the talent to succeed and the performance the market demands."

The study revealed that more than 60 per cent of all companies across major verticals have adopted or are in the process of implementing cloud solutions; 69 per cent of respondents felt that cloud offered significant tangible benefits, 55 per cent believed that it offered value, but cost and availability of bandwidth inhibited local adoption of the technology.

However, the bright aspect of the study was that many companies in the surveyed regions had a



*SaaS applications are integrated with social, mobile and analytic capabilities to keep up with market demands*

"SaaS also", indicating their willingness to consider SaaS as a viable option for functionality, reliability or replacement of outdated applications. Specifically, the banking sector demonstrated a positive response to SaaS as offering tangible benefits, and 64 per cent of banks expected the number of SaaS users within organisations to increase over the next year.

The research pointed towards the view that SaaS adoption is rising in the MENA region and will greatly aid businesses achieve their objectives.

### Huawei to present 'future-ready' GSM-R solutions for Qatar's railway infrastructure

**GLOBAL ICT AND** telecom provider Huawei is keen to deploy 'future-ready' GSM-R solutions to maximise safety in Qatar's railway infrastructure.

The company showcased its latest GSM-R technology, which can go a long way in developing an international railway network. The solution is a reliable and secure communications system, developed to enable operational digital communication between train drivers and railway control dispatchers. It allows for railway



*Huawei's GSM-R technology allows for railway signalling and operational communication even when trains are at high speeds*

signalling and operational communications to be interoperable between various railway companies, even at the highest of train speeds.

Tailored rail technology and communications solutions such as GSM-R-LTE compatible networks can help Middle East rail companies develop high safety standards, commented Huawei officials.

Huawei head of business development for MENA transportation solutions, Rabii Ouadi, said, "The strategic importance of railway developments is rising across the GCC and Qatar Rail's network plays an important role in the region's infrastructure plans. The challenge in the region is that most of the railway networks are Greenfield projects.

"A long-term vision needs GCC Railways to invest from day one in future-oriented technologies such as GSM-R '4G Ready' radio communication networks."

Qatar is developing the Doha Metro, Lusail City Light Rail Transit as well as a long-distance railway that is part of the US\$200bn GCC rail.



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# Middle East Electricity celebrates its 40th anniversary

ANOTHER EDITION OF Middle East Electricity (MEE) concluded in March 2015 as the worldwide power market descended on Dubai for three days of networking, product launches, seminars and business deals.

The event, which has been celebrating its 40th anniversary this year, saw a number of high-profile product launches, including the likes of Weichai, who held its global launch of its Weichai Baudouin Full Series G-Drive Engines, FAMCO, who launched an energy-efficient range of HIMOINSA hybrid generators, and Rolls-Royce, who held its first ever joint presentation of the product portfolio available from MTU Onsite Energy and Bergen Engines.

Megger also launched its new transformer and substation test system TRAX, while Bahra Cables received the Best Design Award from show organisers Informa for its 105 sqm stand at the show.

The 2015 edition of the show was officially opened by His Highness Sheikh Hamdan bin Rashid Al Maktoum, Deputy Ruler of Dubai and the Minister of Finance and Industry of the UAE, and notable growth at the show was evident with pavilions from Saudi Arabia, Italy, Germany, Turkey and China all posting year-on-year floor space growth. Three new national pavilions also featured on the show floor this year, with Egypt, Morocco and Czech Republic added to the 2015 roster and bringing the total count of



*The halls of Dubai World Trade Centre were once again full of visitors for Middle East Electricity 2015*

the national pavilions at MEE to 24.

Anita Mathews, director of Informa Energy Group, organisers of MEE, said, "MENA power demand is booming, with billions of dollars' worth of investments being pumped into the region's power sector.

"The substantial growth across the board in our country pavilions is an indication of the lucrative opportunities the region holds for the global energy industry."

Meanwhile, Solar Middle East showed no signs of slowing down during its third edition. The co-located exhibition witnessed a growth in exhibitor numbers from 59 last year to 86 in 2015, representing a 45 per cent year-on-year increase.

Middle East Electricity and Solar Middle East, which once again took place at Dubai World Trade Centre, will return to same location on 1-3 March 2016.

## DSE demonstrates its new high-powered battery chargers at MEE 2015

DSE, A UK-based company and a predominant designer and manufacturer of genset controls, battery chargers and ATS equipment, was in attendance at this year's MEE, where it was showcasing a number of new control modules including its latest range of high-powered battery chargers.

The DSE9474, DSE9484 and DSE9450 battery chargers were



*Using sophisticated microprocessor technology, the DSE9474 is capable of applying different charging currents depending on battery type and usage*

developed for use in high power applications, offering 12, 24 and 48 volt, and 30 and 50 amp options, to suit a wide range of uses. The intelligent chargers apply 2,3 and 4 stage charging curves to maximise the life of the battery and to ensure optimum energy-efficient charging.

The battery chargers offer sophisticated remote communications to allow remote viewing of system status information for external maintenance crews. A built-in temperature sensor allows the chargers to automatically de-rate on high-ambient temperature to protect the chargers from overheating. Battery protection is also available for high-battery temperature making the product a crucial part of system reliability.

According to Anthony Plater, marketing manager at DSE, the development of the new battery chargers marks a continuation in the development of DSE's already established range of chargers, providing additional power for more demanding applications.

"All of our new products on show at MEE were well received and there has been a lot of interest in the new battery chargers," Plater remarked. "We are already receiving orders as a result and expect the products to do well throughout the Middle East region. MEE is an important show for us every year and 2015 was exceptionally busy," he added.

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## Telecoms sector targeted by HIMOINSA's latest hybrid generator

HIMOINSA, THE SPANISH-BASED global provider of energy generation systems, used its platform at MEE 2015 to launch new hybrid generators for the UAE, Saudi Arabian and Qatari markets.

The hybrid generators have been designed to meet requirements for remote use and, according to the company, save up to 40 per cent in fuel consumption when compared to standard generators. The hybrid generators include variable speed YANMAR engines that have been redesigned to operate from 1,200 to 3,000 rpm, with HIMOINSA's power solution engineering team developing a control unit with an integrated management system to monitor and protect the generator, battery, charging system and renewable energy connections.

HIMOINSA sales and marketing director Guillermo Elum said, "The hybrid generator is not a new solution in the sector, but we have brought to the market a new concept and new solution, which is to use a variable speed engine, enabling us to reduce consumption by up to 40 per cent.

"This is one of the more important benefits we have with this product, but also it is important to remark that we are making

all of the electronics components of this product, meaning the customer does not have to chase different companies for different components from the product."

Elum predicted that the hybrid generator, which will primarily target customers from the telecommunications sector, would be among the company's best selling products over the next year.

"The equipment has been designed for specific applications in telecoms, but the technology is flexible and we can take advantage of the same technology by applying it in other industry sectors," Elum stated. "Actually, we already are doing that. The same technology would be perfect for distributed electrification – rural electrification for example – in areas where we need to integrate diesel technology with solar technology."

The HIMOINSA hybrid generator engine comes with maintenance intervals of 1,000 hours, meaning the generator is able to run effectively, without maintenance, for up to four months.

Paul Floyd, senior managing director at FAMCO (Al-Futtaim Auto & Machinery Co.), HIMOINSA's distributor in the UAE, KSA and



Guillermo Elum, sales and marketing director for Himoinsa

Qatar, remarked, "HIMOINSA is the world's fastest growing power generator brand, and with the new hybrid generator we are proud to offer a power solution which is much needed in an energy conscious region.

"The hybrid generators add to HIMOINSA's offering of power solutions, which include generators and lighting towers. We anticipate a strong response for the hybrid generators, particularly from the telecom sector, which relies very much on uninterrupted, efficient power supply in remote areas."

## Exclusivity is Al Yamuna's strength in the Middle East

AL YAMUNA DENSONS FZE showcased its strength at MEE 2015, held on March 2-4, in Dubai as well as introduced new products for its clientele in the region. However, unlike most companies who look to increase dealership network and broaden their bases, Al Yamuna Densons firmly believes in exclusive networks.

Al Yamuna Densons FZE's CEO Ravi Sardana said, "We like to work on exclusive basis. It's a win-win situation for the company, customers and dealers. If we crowd this segment too much, the quality of service which is expected from us or our channel partners goes down. It is easy to have one point of contact, one point of complaint and one point of service. This is the outcome of a conscious thought process."

The India-based company had introduced heat shrink accessories for power cables upto 36 kV in 1986, pre-moulded in 1990 and cold shrink in 2005. Yamuna Densons is the only company in India, which currently manufactures all type of cable accessories under one roof.

According to Sardana, although the company is focusing at the MENA region, the disturbance in certain Gulf countries has temporarily put its growth plans on hold. He added on to say that, however, they are optimistic with the spending and power distribution network expansion in Saudi Arabia, Oman, Qatar as well as the UAE market.

The company is one stop-shop for power cable jointing kits that include Straight Through for XLPE to XLPE or PILC to PILC Cable and also Transition Cable Joint type for connection of XLPE to PILC Cable. The voltage grade is from 1.1 kV onwards and the system works in underground cable with even water stagnation in the ground. Also wide range of cable jointing kits and systems are available that are classified by the way they are applied such as tape type, pre-moulded/push-on/slip-on type, cold application type and heat shrinkable type. Manufacturing cable jointing compounds

in important three-part systems — handener, resin and filler packed in buckets packs.

Al Yamuna, in 2014, had opened a new production facility in the emirate of Ras Al Khaimah in the UAE. Now, Sardana revealed, the manufacturing unit is set for expansion next year. "We are looking at Stage 2 of our expansion plans in April 2016 and there could be the expansion of Ras al Khaimah facility."

With a dedicated market in Saudi Arabia as well, Sardana optimistically spoke about the growing power sector and the market demand in the Kingdom, revealing that Al Yamuna Densons has biggest number of customers there who are very demanding, very pushy and at the same time very conscious about the product's quality.

The company has been in Saudi market for over 12 years and the company wants to continue its steady growth momentum. "We will continue giving them what they aspire," he added.

The CEO noted, "Saudi Arabia is getting futuristic. They want newer and robust technologies, which is a remarkable shift from standard heat shrink cable accessories that have been marketed for the last 35 years. Saudi Arabia is now preparing for new products and features and we will definitely be focusing on that. With pre moulded/cold shrink being some of the new products in the region, Al Yamuna will now be manufacturing them locally to be sold in the domestic market in the Kingdom."

Putting an emphasis again on the UAE manufacturing facility in Ras al Khaimah and aiming to make technology people savvy and easy-to-apply, CEO Sardana concluded on the note that Al Yamuna Densons is going to start training the local skill set in the country. "We wish to train people for joints that will be launched in the coming years for the market," he revealed to *Technical Review*.





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## Briefly

### Transformer and substation test system TRAX launched by Megger

ELECTRONIC TEST EQUIPMENT manufacturer Megger launched its new TRAX test set at 2015's Middle East Electricity.

The unit, a multi-functional test set solution for transformer and substation testing, will address what Megger said was "the demand for a single test system capable of performing multiple tests".

The test system will replace numerous individual testing devices, with TRAX's described by the company as a time-saving and cost-effective alternative to conventional measurements using separate instruments.

Applications for TRAX include power transformer, current transformer, voltage transformer, general AC insulation testing, resistance testing, circuit breakers, primary testing and protection relay.

"TRAX is a unique test system for testing power, distribution and instrument transformers, as well as a variety of other substation components," revealed Megger. "It is a high-efficiency, high-accuracy and high-performance transformer test set."

Among the many features and applications the TRAX test set offers are state-of-the-art winding resistance and tap-changer testing, high-voltage ratio measurement, CT and VT testing, a three-phase circuit-breaker analyser and LV circuit-breaker timing.

Megger, who is well respected throughout the industry for its measuring instruments for electrical power applications, launched the TRAX test set during a special gathering of press and regional distributors at the World Trade Club on the top floor of Sheikh Rashid Tower, adjacent to Dubai World Trade Centre, following the close of the first day of the exhibition.

The event also gave attendees the opportunity to meet and discuss developments with Megger Group Board members Andrew Boughtwood, Andrew Dodds and Richard Aylwin, along with the rest of the Megger Middle East team.

## Cat executives promote sustainable ideals

WITH ITS LARGE stand featuring a broad range of divisions from across the company, Caterpillar used Middle East Electricity to showcase a range of power solutions and energy-efficient innovations.

Cat dealer Mohamed Abdulrahman Al-Bahar was on hand to demonstrate its integrated single-source power solutions such as UPS, generator set controls and ATS solutions, with visitors given the opportunity to view the global debut of ready-to-run Cat diesel generator sets with power outputs ranging from 6.8 to 220 kVA.



*The Cat Compact International Series was launched at the same time as MEE 2015*

The international manufacturer highlighted its sustainability credentials at the event, with a two of its executives participating in the third-annual Green Energy Conference, Diego Guitierrez, sales manager for Cat Power Plants, participated as a panellist in a roundtable focusing on the intergration of traditional and alternative energy sources and Rob Schueffner, commercial manager, Electric Power Division – Microgrid Team at Caterpillar, presented a session on the potential of microgrids as well as acting as a panel moderator in a session focusing on better transmission and efficiencies.

During the show, it was also announced that Caterpillar Inc. had introduced the Cat Compact International product line, a new series of Cat diesel generator sets with power outputs ranging from 6.8 to 220 kVA for customers in Europe, the Middle East, Africa, Asia-Pacific, South America and the CIS.

Available in 32 model configurations in single-phase and three-phase, this new line of diesel generator sets greatly expands the Caterpillar range of products, providing reliable energy solutions for an assortment of business including the telecommunications, commercial and agriculture industries.

## Manumag presents low-voltage transformers at MEE

SPANISH MANUFACTURER MANUMAG S.L returned to exhibit at the 2015 edition of Middle East Electricity where it was promoting its range of low-voltage transformers.

With a stand located on the Spanish pavilion at the show, Manumag S.L. received a large number of visitors, including a number of partners and potential customers from across the Middle East.

According to Manumag export manager José M Pardo, the company's visit to this year's show proved to be a "great success" providing the company with the opportunity to share with visitors to its stand information on the firm's production-focused approach to manufacturing single-phase and three-phase low-voltage transformers for control, isolation, security and lighting, as well as automatic voltage regulators (AVRs) and other electronic products.

Manumag also introduced a number of new innovations and power solutions in order to help satisfy the requirements of distributors located in the region, including AVRs with a servo motor system regulator, which the company said would replace regulation stabilisers by means of relays, as well as a new range of transformers that implement the latest SASO requirements.



*Manumag's stand during MEE 2015*

"To achieve our enterprise strategic policy about consolidation in the present marketplace and opening our business in new areas, Manumag will continue to take part in future editions of Middle East Electricity, as well as other exhibitions within the electrical sector," Pardo remarked.

## Global launch for latest Weichai engine series

WEICHAI UNVEILED ITS Weichai Baudouin M33 Series Engines during an international launch event at Middle East Electricity 2015.

Key generator OEM partners and distributors were in attendance during the event, during which leading figures from Weichai's management team spoke about the high-performance engines.

The new M33 engine product line features two models – the 6M33 six-cylinder in-line engine with a power range of 508 to 633kW; and the 12M33 12-cylinder V12 engine with an output of 1,007kW to 1,265kW. The 39.2-liter M33 is the largest high-speed engine to be introduced in the diesel and gas platform from French engine manufacturer Moteurs Baudouin, who Weichai acquired in 2009.

Designed for high-product reliability and a prolonged component life, Weichai said it believed the M33 engines offered a more “compact and cost-effective solution” than many of its rival competitors.

Weichai adopted a high-intensity alloy steel crankshaft with “twice-higher intensity” than common steel crankshaft used by other



*The Weichai Baudouin M33 Series Engines were internationally launched during MEE 2015*

engine manufacturers, while the engine's air filter was manufactured with injection-moulding technology to make it lightweight, effectively reducing vibration and noise, as well as improving component life.

Jason Lee, general manager of Moteurs Baudouin, said, “We understand that end-users pay a lot of attention to operating costs and uptime. For this purpose, we have a highly-efficient engine with low-fuel consumption rate down to 195g/kWh through optimising combustion.

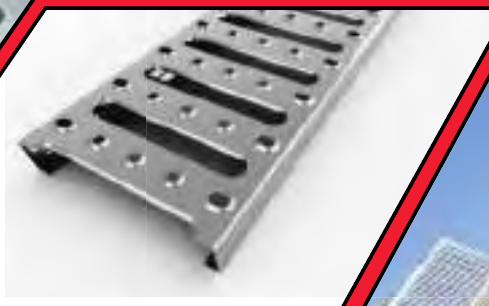
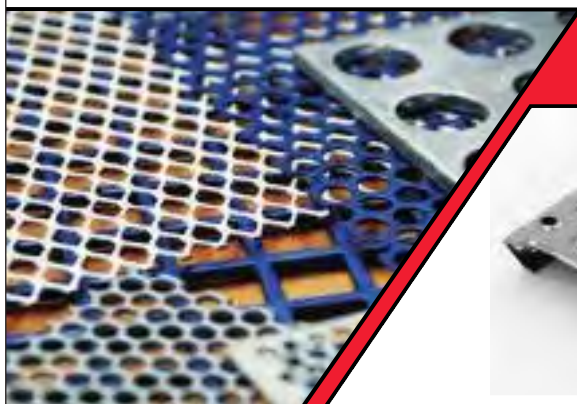
“Our perfectly sealed radial air filter has an intake cyclonic flow to pre-filter the air, effectively extending filter life and the replacement interval. The three-stage fuel filter has a special water-separating function, extending the filter element replacement interval by up to 400 hours. The centrifugal rotor filter adopts the bypass mode and has a speed up to 5,000 rpm, which can not only improve the quality of lubricating oil, but also reduces operation costs,” he added.

Harold Lang, vice-president of Weichai Group and CEO of Weichai International, remarked, “Weichai-Baudouin generator set drive engines have a good performance in terms of operation costs, low-temperature ignition, reliability and maintenance convenience, thereby improving business and saving costs for customers. In today's world, reliable, uninterrupted electrical power isn't a luxury, it's a necessity.”

With the new series of products, Weichai now supplies a higher and a wider power range of engines, providing high-speed gensets ranging between 12kW to 1,100kW.



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## Briefly

### Customised switchgear by ABN Electric

**SWITCHGEAR MANUFACTURER**  
ABN Electric considers itself to be a class apart from its contemporaries as the company produces customised switchgear for various markets.

At the recently held MEE 2015 in Dubai, ABN Electric managing director (Middle East) Navneet Sharma spoke about the range of customised switchgear for various Middle East markets. The switch disconnecter series, recently launched by the company, provides user protection in addition to serving the utility of switchgear. "Our main objective is to protect users. They should feel safe while using switchgear," Sharma noted.

ABN offers a wide range of switch disconnectors, capacitors, contactors and power contactors with unique features along with MCBs, MCCBs, fuses as well as changeover switches, which are standard, as well as customised depending on markets such as Dubai, Kuwait, Yemen and Iran.

Another feature that Navneet elaborated on was the interchangeability of the switchgear. While customisation remains the USP of the company, ABN Electric also considers the large uniformity across markets.

Navneet, who has 25 years of experience in the switchgear business, was keen to utilise his expertise to deliver a product that made a difference to the users.

ABN Electric has manufacturing facilities in Spain and India. It also has plans to start operations in France and Russia.

## Pramac: Brand visibility was our objective at MEE 2015

MUTINATIONAL (ITALIAN HEADQUARTERED) genset manufacturer Pramac was present at Middle East Electricity (MEE) 2015 displaying five product lines for the Middle East market. According to Cristian Cavazzuti, managing director, MEE is an important meeting point, not only for the Middle East region, but globally.

Cavazzuti said, "We have five product lines or 'solution lines' on display at MEE. Our flagship solution for the telecommunication operation is at the fore. We have portable gensets for customers in construction companies to protect against grid outages. Next, we have solutions for rental applications like telecommunication, offering ranges from 20kVA to 500kVA. The stationary series covers ranges from 7kVA to 770kVA and is easy to maintain, with applications for industrial and agricultural businesses. At the event, we had one product each for every category that range from 30kVA to 6MW."

Pramac also offers a light tower with 4,000W lamp powers and 9.2 metres in height for cost-effective lighting solutions.

The managing director said that all products are available in the Middle East market as per client requirements. Speaking with *Technical Review* about Pramac's most attention-seeking product, Cavazzuti noted that stationary generators are at the core of operations, as well as the market. The second most sought-after gensets are for the rental market. "The rest of the ranges are very niche. Light towers are still gaining ground."

Talking about future strategies of the company, the executive added that for Pramac, it is important to be in the GCC and MENA market as its a big opportunity. He spoke about the importance of dealers in every country and how Pramac has



*Pramac has produced more than 20mn MW of generators, according to managing director Cristian Cavazzuti*

been investing extensively in finding the right channel partner. Pramac also specialises in specific custom-made solutions due to the high demand for power generators dedicated to specific applications and the increasing number of special projects exceeding the standard scope of supply.

It has special generators up to 3MWe with low-, medium- and high-voltage output, suitable for several applications.

"We are aware that in the Middle East the temperature can reach 55°C, whereas in Sweden it's cold. Hence,

we are investing in tailor-made products." Africa is another region that Pramac is vehemently promoting itself as its a booming market, according to Cavazzuti. The Italian genset firm realises that the advantage of being in Africa is the huge energy demand as the grids and networks are not stable. However, the challenge is to find good partners and conduct safe business, he added.

"The nature of work in the continent is different. For instance, working in Africa is different from working in South Africa. Again, the strategy is not to be directly involved in that market, but to find a good dealer to work with in the continent."

For Pramac, MEE 2015 acted as a platform for strengthening relations with its network dealers, keeping in mind the queries that are being sought at the show as it budgets for the year ahead.

"This is a boost for our brand. We have been in the generator business for more than 50 years. Up to a year ago, we had produced 20mn MW of generators. Still, many do not associate us as one of the biggest genset manufacturers and we are here to change that. We are market leaders in Italy, Spain, France, the UK and many other countries in Europe and South America, but the Middle East is yet to see us that way," Cavazzuti concluded.

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## The importance of power quality

WITH THE DEMAND for reliable power quality continuing to grow throughout the Middle East, the availability of steady voltage supply is becoming ever more critical for a number of applications that use voltage sensitive equipment.

Along with increased operating costs, disrupted production, loss of data security failure, machinery faults, inaccurate information and domestic inconvenience are among the many examples of possible problems caused by an unsteady supply of power.

To answer the problems caused by unsteady supply, voltage regulators manufacturer Ortea has developed its Digital Voltage Stabilizers solution – a reliable and low-maintenance technology, which has been utilised in its voltage regulator product ranges Orion, Orion Plus and Sirius Digital.

Offering cost-effective solutions to compensate input voltage variations, the technology used in each of the product ranges has proven to be particular effective during brownouts, which tend to be more prevalent than power dropouts and surges.

According to Ortea, its Digital Voltage Stabilizers can compensate wide mains voltage variations, both symmetrical up to +30 per cent, and asymmetrical up to +15-45 per cent of nominal mains.

The company stated that the technology is a typical requirement of activities installed in locations far from distribution boards and in countries with developing economies.

“Using energy more efficiently enables end-users to understand the damage inconsistent voltage can cause, conserve natural



*Digital Voltage Stabilizers specially designed for use at the new King Abdulaziz International Airport in Jeddah*

resources and contain installation costs,” stated Ortea.

“Having access for stable voltage electricity underpins health, education and the livelihoods of millions of people, and Ortea is proud to contribute to this challenge with thousands of installations in the Middle East alone.”

Some examples of installations of Ortea’s Digital Voltage Stabilizers throughout the region include King Abdulaziz International Airport in Jeddah, Saudi Arabia, as well as a number of television installation throughout the kingdom. The Ministry of Youth and Sport (MYS) in Qatar, as well as the Gulf Data Hub data centre in Dubai, and a series of banks offices and ATM locations in Saudi Arabia have also witnessed installations of the company’s Digital Voltage Stabilizers.

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## Grupel at MEE to increase portfolio in the Middle East

### PORTUGUESE GENSET

MANUFACTURER Grupel returned to exhibit at MEE 2015 in Dubai. Having been in the market for the last 40 years, the company is now looking for distributors in the Middle East.

Worldwide sales manager at Grupel, Pedro Quelhas, said that the company understands that it has to be very competitive on prices.

“Even so, we will not go for a price hold. We are growing with our quality, with our expertise and with our knowledge about the product, and we also grow with our background. We are new here and that is true, but that does erase the fact that we have been in the market for years. We are well-known in the African and Latin American markets.”

Talking about the diverse products the company has to offer, Quelhas said that Grupel has gensets ranging from 8kVA to 3,500kVA as well as big projects like 35MVA PRP in Angola and 20.4MVA PRP in Paraguay. Quelhas is confident that there are not many companies like it in the market. “We are very strong due to the range of solutions that we can offer to our distributors around the globe.”

Catering to its full extent to the telecommunication sector last year, Grupel sold more than 1,000 gensets in the MENA region. Lighting is another big sector in the Middle East that Grupel gives importance to.

With its main manufacturing facility in Portugal covering an area of 24,000 sqm, the company’s portfolio includes canopy manufacturing.

“Our canopy is extremely soundproof and is ideal for the Middle East market. These are designed by keeping in mind the arid climate of this region.”

With regards to the growing genset market in the Middle East, Quelhas is of the opinion that the genset market will continue to grow for the next few years.

“It is a very competitive market. Generators are very important piece of work here.”

Grupel mainly manufactures with Perkins, Doosan and Yanmar, and MTU, Mitsubishi for the bigger power ranges, as well as Stanford, Leroy Somer, Mecc-Alte and Marelli.

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Style # 84677



Style # 71650



Style # 85645



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## At MEE 2015, Aksa Power Generation focus shifts towards Africa

**TURKEY'S LARGEST GENERATOR** manufacturer Aksa Power Generation recently exhibited at Middle East Electricity 2015 in Dubai.

Managing director Hasan Atilla Celik told *Technical Review* that Aksa Power Generation aims to reach US\$600bn export business by 2019.

The company sells more than 60 per cent of its products to 160 countries and said that is among the top 10 global firms in the sector with 16 international offices located in Asia, Europe, America and Africa.

"Our expectations are quite high from this year's MEE. I take care of the Gulf and African business. For my region, we have increased our expectations for 2015. No one can foresee the fluctuations in the exchange rates in the second half of the year, but for

Q1 we are fully booked until 30 April 2015. So, it is a good sign for us this year in the MENA region," Celik noted.

Concentrating mainly on government and private projects in the Gulf, Celik said that power generation is going to evolve to the rental power market in the upcoming years, especially in the African region. He went on to say that company has recently opened a department in Istanbul, which will take care of the IPP projects and power plant projects for the African region. "According to my experience, we do not expect too much business from Middle East region. There are still cash flow issues in the market and the competition is very tough. There are also many local manufacturers present who are spoiling the market and I do not want to compete with them. This is the reason we

are concentrating on projects in the African market where we can do some business," the MD revealed.

The company has one of the largest facilities in China and its production capacity is around 40,000 units in a year. It provides a variety of competitive products to the African market. The Aksa generators are competitively priced and can provide power up to 2,500kVA.

Highlighting recent projects by Aksa, Celik mentions the Bahrain Electricity has awarded the Turkish firm with delivering 10 units of 1,500kVa mobile DG gensets by the end of May 2015. The company has undertaken many projects in Qatar, Oman, Kuwait and Yemen through its dealers. However, in Dubai, Aksa Power Generation conducts its direct sales business.

## Euro SMC's Raptor HV compliments its award-winning product

**WINNER OF BEST** product launch at MEE 2014 for Raptor, Euro SMC returned to the show in Dubai this year with the launch of Raptor HV in the Middle East.

Euro SMC's Raptor is a smart test set designed as the definitive solution for primary injection test applications required in the commissioning and maintenance of substations. It is a multifunctional system, suitable to test all type of transformers, switchgears, breakers and reclosers. Meanwhile, Raptor HV – also called the high-voltage slave – is an optional product that extends the Raptor's applications to tests that require the use of high AC voltage up to 2kV. This product works in combination with a Raptor Master and is visually similar to it.

Scott Brower said, "Raptor was first started as a primary injection tester, which is easier to carry and use. The idea was to make something small and portable. We updated the old technology, with a new loop-through concept, and with digital amplifiers. So, the emphasis was on making a high-current unit, which has a unique design and features. We came out with this product two years ago and we also won the 'best product launched' at MEE 2014.

"Since then, we have come up with another module to compliment the Raptor, which is of high voltage – Raptor HV. By adding these two units together, the actual control Raptor controls both the units at the same time. So, one cable connecting the Master unit with the high-voltage unit also provides the power supply."

Brower added that the Raptor HV follows the same modular concept than the rest of the Raptor system, so that the control of all the units through the main handheld control unit reduces the need for extra cabling to interconnect the units. Similarly, the Raptor HV, with a similar size and even smaller weight than the rest of the Raptor units, provides the outstanding Raptor style portability, and it is easily moved around with little effort. The Raptor HV kit goes up to 2,000 volts and the current kits goes up to 15,000 amps, providing a world-wide unique system which combines both high-current and high-voltage injection with the required power. Brower said that the unit also complies with international safety requirements indicating high-voltage activity, and has an emergency button to stop its activity, when needed.

## We value human resource most: alfanar MD

**SAUDI ARABIAN MANUFACTURING** company and MEE's champion exhibitor year, alfanar, keeps people at the core of its values.

Managing director Abdul Salam Al-Muldaq said, "If there is anything that will push us forward or break us, it is our people. We value them the most. 'Retention of talent' is at the core of values at alfanar, as well as developing talent. Retention is a problem now because it means beating competition and we have to be at the forefront."

Talking about winning the award at the show, Al-Muldaq said that it was nice to be appreciated for the most impressive stand, but the important thing is to capitalise on that. With MEE growing every year, alfanar has been growing with the exhibition, as well in volume of business at the event.

Introducing new dry-type transformer at MEE, the company said that it represented a shift from the oil-immersed distribution transformers that it manufactures. Dry-type transformers can be utilised for smaller spaces such as in residential, city centre and congested spaces. Smaller transformers are more and more in demand now, Al-Muldaq added. The company has also produced miniature circuit breakers (MCBs). "There are two types in the world – IEC and the other NEMA, which is an American standard. In Saudi Arabia, we use NEMA, but it is not as highly specified as the IEC and with different formats and specs. So now we have created a new breaker which has IEC components inserted into the NEMA format to fit the American standards, which is like 'taking best of both worlds'. This circuit breaker is used for domestic purposes," stated the managing director.

He added that along with Saudi Arabia, the product is sold in Iraq, Kuwait and Iran. With the circuit breaker, alfanar now owns 85 per cent of the domestic market share in Saudi Arabia.



According to alfanar, it is the biggest electrical manufacturer in Dubai

## Mosdorfer: A 'power'ful confidante in Middle East

AUSTRIA-BASED COMPANY MOSDORFER was part of MEE 2015 in Dubai. Working in the overhead transmission line business with ranges of up to 1,200kV, the company has historically targeted the Middle East region and enjoys dominance in the market today. Its product portfolio includes string fittings, fittings for optical fibres, damping systems, insulator end fittings and fittings for high-temperature cables.

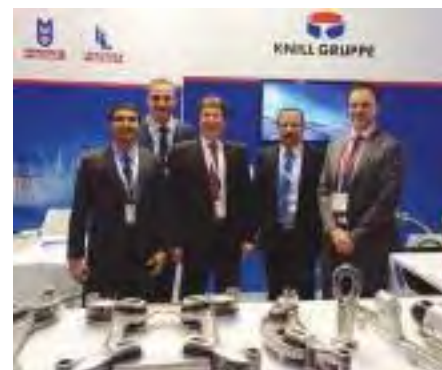
Peter Greiter, area sales manager for the international business unit at Mosdorfer, said, "At the moment we are the market leader in the field of fittings and damping systems for overhead transmission lines, and our aim is to grow globally as well." With the majority of its clientele in Saudi Arabia, Mosdorfer is one of the companies approved by the Saudi Electric Company (SEC) to supply equipment to government and private projects. "Almost half of the projects in the kingdom use our products. We also supply materials to Kuwait Energy Company, L&T and Hyundai for projects in Saudi Arabia." However, with regards to its percentage share, Greiter revealed that the UAE and Oman receives 80 per cent of the 400kV lines from the

company. "I would say that, due to the strict compliance to specification, companies in the Middle East look for high-quality products and this is why our position is strong here," he said.

Greiter believes that the best product by Mosdorfer today is the spacer damper, which is used in overhead transmission lines to reduce vibrations and damping. Spacers serve to establish a distance between the partial conductors of a bundle line in order to prevent the conductors from knocking together or tilting and thus avoid damaging them. Due to the use of damping elements between the frame and the conductor clamps, the vibration amplitudes of the conductor can be reduced to an uncritical dimension.

"It is because of this technology that we are one of only two approved suppliers in Saudi Arabia, as well as in the UAE."

Discussing Mosdorfer's market strategy for existing and upcoming markets, Greiter reiterated the fact that it wants to be the market leader everywhere. With manufacturing units in four countries – Austria, Slovakia, India and Thailand – the company is now looking to



The Mosdorfer team at MEE 2015

expand to Central African countries. "We are doubling the production capacity in India for the domestic market. From there, we intend to spread our market to central African countries. Price-wise the market is cheaper but the quality will still be high. This is something we do not compromise upon. 'Better to lose a project than to lose quality' is our motto."

Exhibitors at MEE for more than 15 years, Greiter said that MEE is one of the best fairs in transmission and, as a company conducting a lot of business in the Middle East, it's a must for it to attend the show.

## Perkins engine makes debut during MEE

AMONG THE MANY products on display on Perkins' stand at MEE 2015 was a new engine that the company said has been designed to meet the needs of electric power generator set manufacturers and which was being shown for the first time to visitors at the exhibition. The Perkins 1500 Series range has replaced the existing 1300 and 1600 Series families, and has been designed to deliver improved load acceptance and fuel consumption benefits of up to seven per cent cycle weighted. The new engine also offers up to an eight per cent improvement in altitude and ambient capability. Featuring an 8.8 litre, six-cylinder air-to-air turbocharged diesel engine, the 1500 Series ElectropaK meets the key power nodes from 200-330 kVA in prime and standby ratings, and is switchable from 50 Hz to 60 Hz, the company stated.

Produced in Seguin, USA, the new engine has been fitted with a tropical radiator to deliver high ambient capability and benefits from Perkins electric power warranty of one year unlimited hours or two years up to 500 hours per year.

Simon Gray, electric power marketing manager at Perkins, said, "This is a powerful package which gives generator set manufacturers the benefit of more power from a smaller engine. A number of prototype engines have been in use by some of our customers and the feedback has been positive with comments on the excellent load acceptance and available ratings.

"This new engine builds on a proven, reliable core, so end users can be confident that the 1500 Series is another dependable Perkins engine," Gray added.

"This is an important consideration as the engine is ideally suited to supply back-up power for health facilities and prime power for factory units, among many other applications."

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## Briefly

### Powertech Switchgear returns to MEE after 10 year break

POWERTECH SWITCHGEAR RETURNED to MEE 2015 after a decade, to showcase its presence in the region. The company has completed 25 years and marketing manager Arthi Srinivasan said, "We have a new range of products at the show and a larger portfolio of projects that we wanted to exhibit at MEE."

The company, which is a channel partner to ABB for ArTu K series of distribution panels, has worked on projects such as Burj Khalifa in Dubai and Yas Marina in Abu Dhabi. Recently, Powertech Switchgear also supplied the New York University (NYU) in Abu Dhabi. In addition, the company also displayed an assembled low voltage panel with the latest range of ACB (air circuit breakers) from ABB, belonging to the Emax 2 series. This is part of a new range of ACBs from ABB, designed to benefit both panel builders and end-users with energy efficiency, direct communication modules and cost-savings in the form of a reduced footprint. Srinivasan said that there is a lot of emphasis on technology to make devices intelligent and more receptive to end-user needs, and integrate it with the rest of the technology so it is easier to monitor and control remotely.

Srinivasan discussed Powertech Switchgear's range of LV products at MEE 2015, including fully type-tested power distribution boards, motor control centres, capacitor banks, and generator synchronising and control panels. "We represent some good brands from Europe in Enerlux, Trafox, Entes, Beluk, and Stego. These brands represent a range of products for LV and MV application that we use in our projects and also sell directly to the end user. We also wanted to showcase our capabilities from the low-voltage panel building business." The company sees increased momentum in the second half of 2015 in the Middle East, that will continue throughout 2016, Srinivasan opined. "We have supplied to projects in Saudi Arabia, Qatar, Bahrain, Sudan, Nigeria and some parts of Africa. The 2022 World Cup in Qatar and the Dubai Expo 2020 are anticipated to fuel further growth in demand in the GCC region," she added.

## Atlas Copco brings brand new ranges to Dubai

ATLAS COPCO PORTABLE Power showcased no less than eight new generator ranges and light towers at this year's Middle East Electricity, including the full QIS range.

Targeting a wide variety of industries including data centres, healthcare, utilities, manufacturing, retail and recreation, telecommunications, public works and governments, and transportation, the application-oriented QIS generators are the first models Atlas Copco has introduced under the Gesan Line.

"The QIS range fits perfectly within our Predictable Power core value," said Angel Nieto, product manager for Atlas Copco Portable Energy. "Each model delivers exceptional reliability and performance in the most demanding conditions."

The 50Hz QIS is available in 18 models, ranging from the smallest model – the QIS 10 – to the QIS 65 (60kVA/48kW prime power; 66kVA/53kW standby), up to the largest model in the range, the QIS 830 (752kVA/601kW prime; 830kVA/664kW standby). The 60Hz unit is also offered in 18 different sizes.

The QES range of powerful generators for construction work and general industry, available from models from the QES 9 (9kVA) to the QES 40 (42kVA), was also on display at the show.

"With its application-oriented design, quality



The QIS range from Atlas Copco was among eight new generator ranges on show on the company's stand this year

components and high performance, the QES gives them tailored value through predictable power," Nieto remarked.

Elsewhere on its stand, Atlas Copco was promoting its QIP range of air-cooled, portable generators for industrial applications. The Atlas Copco Gesan Line generators are available with both petrol and diesel engines in 4-14kVA power ratings. According to Atlas Copco, the QIP delivers predictable standby power for a wide range of industrial applications.

Meanwhile, the QIS range – the newly completed range of Gesan Line industrial generators suitable for a wide variety of industries – now has 18 50Hz models, from the QIS 10 (9kVA) to the QIS 830 (752kVA), and 18 60Hz versions, from the QIS 60 (70kVA) to the QIS 740 (849kVA).

### SDMO showcases compact and powerful genset

FRENCH GENSET MANUFACTURER SDMO returned to Middle East Electricity this year with a selection of new products, including its X1400C genset.

Noted for its impressive load impact recovery, the X1400C was on display on the company's stand during the show, which has been highly recommended by the firm for use in extreme conditions. The model has been designed to withstand conditions of up 40°C and an altitude of up to 400 metres. Presented to the Middle East market for the first time, the genset features an MTU engine – the 2000 G06 series, has a capacity of 1,375kVA in standby applications and 1,100kVA in continuous operation. "It features a new integrated engine with a new cooling system and coupled heater," explained SDMO communication department manager Philippe Forest. "The model is for the worldwide market and is very compact – something we have really been focusing on recently. We are trying to get something more powerful with the lowest volume possible out into the market."

According to Forest, the company will continue to expand its range of high-level genset products featuring MTU engines, with the Middle East market continuing to be one of importance for the genset manufacturer.

"It is adaptable, compact and easy to maintain, and the range will be increasing in number, with the model on show at MEE being the largest in the range," he noted.



SDMO's X1400C genset

SDMO's recently opened office in Dubai's Media City has continued to experience growth, with Forest stating that the company would continue to hire new staff in Dubai to strengthen its services support business throughout the Middle East. A new office in Egypt has also been proving a success for the company.

Forest added that the firm's African business was also performing well, with success being enjoyed in the rental market throughout the continent.

"We have opened a new location in Kenya to strengthen our presence in East Africa, while our operations in Togo and South Africa remain strong," he said. "We want to make our presence felt in the French speaking countries of Africa, as well as in newer markets for us, such as Kenya."

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ENCLOSURES

POWER DISTRIBUTION

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IT INFRASTRUCTURE

SOFTWARE & SERVICES

# Kohler Power Systems set for more Saudi success

Kohler Power Systems brought a touch of quality to this year's Middle East Electricity, with a broad range of high-quality generators, transfer switches, switchgear and control products on display on the company's stand.

## US-BASED MANUFACTURER

Kohler Power Systems, who has had a strong presence in the region for many decades, has seen an upsurge in interest in its power products in Saudi Arabia following the appointment of a new distributor in the Kingdom last year.

Jos Raats, managing director for global marine and EMEA at Kohler Power Systems, told *Technical Review* that, among the company's track record of success in the region, its new distributor relationship and the overall demand for US-centric products in the Saudi Arabian market, he anticipates strong continued performance in the kingdom for Kohler Power Systems.

"We are very fortunate that we have gone through a change in our Saudi Arabian distributor network with Abunayyan Trading Corporation, one of the larger companies in the Middle East, and we were lucky that they picked us as their partner," Raats said.

**"By not getting into distribution we are able to focus purely on the quality of our products"**

The companies have been working together for more than a year and the partnership has seen a renewed confidence in Kohler's business plans for Saudi Arabia.

In respect to the change in distributor, Raats explains, "We always look to partner with companies that share our goals, objectives, and business philosophies and Abunayyan Trading Corporation is the ideal option for us in the Saudi Arabian market. We're very pleased with the relationship.



*Kohler's stand received visitors from across the region throughout MEE 2015*

"Abunayyan has been able to accelerate itself into a position where the transition has been nearly seamless."

### Manufacturer's assurance

On display on the company's stand at MEE was a 500kW diesel generator (500REOZVC) featuring a Volvo engine and Kohler's Decision-Maker® 550 (DEC550) controls.

The 60Hz generator set offers a UL 2200 listing and can be paralleled. The unit meets NFPA 110, Level 1, when equipped with the necessary accessories and installed per NFPA standards, and is, as Raats explained, a machine that has been "used, tried and tested" and has already been purchased by many customers.

"Our design process is lengthy, most of the engineering time goes in durability, and that's our key strength and the reason for our reputation in the region," stated Raats.

"Kohler's history has been to maintain loyalty between our distributors and ourselves. We don't want to get into the distribution business as we prefer to stick to what we're good at – manufacturing."

The company has multiple manufacturing locations across the globe, in locations such

as North and South America, Singapore, China, India and Europe.

"From a global perspective we are better off than anyone else and by not getting into distribution we are able to focus purely on the quality of our products," he notes.

Raats said that markets in Kuwait, Qatar and Saudi Arabia have always been strong for the company from the day it first entered each market, and pointed towards the telecoms sector as a potential area of growth for Kohler in the region, with a 20kW diesel generator on the stand to promote the company's ambitions in this market.

"If you look at telecoms, the sector is opting for more performance built and manufactured units," Raats noted.

"The 20kW diesel generator features a Kohler diesel engine that has been designed from scratch and built in Italy. This fully-integrated product is very reliable, and was designed to provide an unmatched overall value to end users.

"This is a prime unit and its protective paint is resistant from sand, so it can be used throughout the Middle East. You may question why a genset manufacturer would worry about paint, but the quality of our paint means the protective qualities of the casing will be of the same quality for many years to come."

Kohler also manufactures its own transfer switches, which have been very successful in Saudi Arabia and are available in various configurations.

"We are strongly into system integration. We are the only worldwide manufacturer where you can order switchgear and gensets up to 3,200kW and have it tested in the factory as a whole system," Raats noted.

As Homer Virgo, Regional Sales Manager – Industrial for Europe, the Middle East and Africa, pointed out, "Kohler's goal is to provide reliability of a product – we like to have consistency in the market and not waste time, energy or manpower on fault finding at site start up." ■



## Layer Electronics upgrades industrial UPS series

ITALY-BASED MANUFACTURER OF power systems, Layer Electronics, showcased its Futura Series UPS and electronic stabilisers at MEE. The firm produces and markets different electro-technical and electronic support systems for its large clientele. Managing director Antonino Culcasi said, "This year, we have developed an upgraded version of our Futura Series UPS. It will be managed by DSP control. It is UPS 2.0 and will be ready by April 2015. The highly advanced industrial UPS of the Futura Series ensures total security from problems related to mains. The series is available in monophase version from 5kVA to 50kVA and in three-phase version from 5kVA to 1,600kVA.

"Industrial UPS is our main product and we developed this product more than 40 years ago. These products are very reliable and can be customised. We take care of the design, manufacturing to the final testing of each of our products. We also design and manufacture all the parts inside our products. The manufacturing facility is in Sicily and we export all the products from Italy to all of our markets."

The company also manufactures 10kVA single-phase UPS and 30kVA three-phase stabiliser. For industrial uses insulation transformer is a must in an industrial UPS. However, the construction of the parts of the components inside the UPS is done for the industrial grade and not for the commercial grade by the firm. Layer Electronics main customers include ABB, ILVA (Italian steelworks), Trenitalia (Italian railroads), ExxonMobile, the Italian Navy (with aircraft carriers), the Italian Army, Italian Aviation, Samsung, Siemens, Terna, Enel (Italian energy supplier), ASHGHAL (Public Works Authority Qatar), Honeywell, Site Technology (Qatar), Ministry of Public Works (Iraq) and Parsons (Qatar), among many others.

Since 1967, the company has been producing several power electronics products like industrial UPS, electronic stabilisers, transformers and inverters. It also supplies renewable energy systems for on-grid and off-grid solutions for both solar and wind energies. Talking about its involvement in the Middle East and Africa, Culcasi said that in the Middle East, the company has supplied solar solutions for lighting and cathodic protection to Kuwait Oil Company (KOC) for installations in southwestern and northern Kuwait. In Africa, Culcasi noted that electrical condition is the main issue for many. Therefore, Layer Electronics products are manufactured with strong components inside that can resist voltage fluctuations. "The products are easy-to-maintain as the technicians are not very skilled in poorer countries. If there is any problem with the product, one can report to the company and it will be replaced by our partners."

Discussing Layer Electronics participation at MEE 2015, Culcasi revealed that Italian company represented itself to consolidate with partners and to find new ones in countries where they have less presence. The Italian company currently caters to markets in Qatar, Iraq, Egypt, Ethiopia, Russia, Germany, Switzerland, Bangladesh, South Korea and Thailand.

"We expect this event to help us increase our market share in the region. This is our sixth participation. We are happy to exhibit here every year because it is one of the main events we do worldwide."

Culcasi went on to add that in 2014, Layer Electronics' 50 per cent turnover was from the Middle East market.



*The highly advanced industrial UPS of the Futura Series ensures total security from problems related to mains*

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*Saudi Arabia has the potential to become the largest producer of solar energy in the world*

# Saudi Power to highlight KSA's solar potential

With ambitious projects lined up, the event will shed light on business and investment opportunities within the market.

**Saudi Arabia is now engaged in a multi-faceted reform strategy to become one of the top 10 most competitive global economies**

**S**AUDI ARABIA HAS the potential to become the largest producer of solar energy in the world. In fact, the Saudi Arabian government is planning to invest US\$109bn to produce 41 GW of solar energy by 2032 or 30 per cent of its energy need at that time. Over the next two decades, the government plans to establish energy generation projects using photovoltaic cells (PV cells) at a capacity of 16 GW in addition to energy generation projects using energy concentrate at a capacity of 26 GW.

Also, the increasingly growing population in the kingdom has resulted in a record demand on water desalination facilities. Thus, the water desalination industry is experiencing a significant upsurge with an annual growth rate of six per cent, which is thought to be the highest in the world today. The Ministry of Water and Electricity are now implementing projects and signing contracts worth billions of dollars yearly to drill wells, build dams, establish water

ducting systems, build water tanks and pumping stations, treat effluent water and establish new desalination facilities, in addition to renovating existing ones to prolong their virtual life expectancy from 25 to 40 years.

The desalination plants in the Kingdom produce in total 3.5mn cu/m of water per day. Saudi Arabia is the third largest water consumption country in the world with an average consumption reaching 280 litres per day per capita.

With regards to the lighting industry in Saudi Arabia, the Ministry of Water and Electricity is currently seeking to reduce the overwhelming consumption of electricity and its waste by adopting innovative lighting solutions. Consequently, the ministry has awarded projects worth US\$3.7bn to save 40 per cent of consumed energy. The lighting market is witnessing further growth and an increase in demand for all forms of lighting, including lighting systems for factories, energy plants and airports,

emergency lighting systems for offices and residences and other innovative lighting solutions.

Foreign investments in Saudi Arabia have grown by a factor of five over the last 10 years, resulting in over US\$279.7bn worth of investments across various industry verticals in the Kingdom, according to recent report.

The report released by Saudi Arabian General Investment Authority (Sagia) has identified the energy sector as the one with the largest share of investments, with a total of US\$79bn worth of projects for the private sector alone.

The backlog across all energy-related segments will continue to grow in line with the country's ongoing increase in energy consumption levels throughout the past years, on one hand, and the improved work environment and better investment incentives and benefits provided to foreign investors in the local market, on the other hand, it predicted.

To help address the challenges presented by this fast growing segment, the 18th edition of the Saudi Power exhibition will take place from 11-13 May at the Riyadh International Convention and Exhibition Center.

The event will offer an educational platform to exhibitors and visitors to help increase awareness of the latest changes and technologies being used in the energy industry, according to organiser Riyadh Exhibition Company (REC).

Meanwhile, the demand for indoor cooling is growing rapidly in Saudi Arabia due to high population growth, rising affluence and numerous mega projects currently under construction.

A surge of mega projects in Saudi Arabia including educational institutions, hotels, office spaces, residential areas and expansions of development cities, etc., has resulted in a massive increase in demand for air conditioning solutions.

Therefore, running alongside Saudi Power exhibition is Saudi Aircon — a dedicated platform for air conditioning, heating, ventilation and refrigeration products and services.

Today, the kingdom is the world's largest market for air conditioning and is expected to surpass US\$2.5bn by 2019.

Whilst sales of conventional air conditioning units remain strong, new technologies are being more widely adopted, particularly large purpose-built projects such as variable refrigerant flow (VRF) systems, centrifugal chillers and district cooling.

With the world's largest oil reserves and largest oil exports, Saudi Arabia has succeeded in creating a robust, dynamic economy and

## Foreign investments in Saudi Arabia have grown by a factor of five over the last 10 years, resulting in over US\$279.7bn worth of investments across various industry verticals

establishing itself as one of the most enterprising nations in the region. To capitalise on its advantages, Saudi Arabia has set strategic targets for itself like becoming the global capital of energy; to act as a transport and logistical hub targeting a potential consumer base of more than 250mn; and to develop its knowledge-based industries for sustainable, long-term change.

The country is now undergoing an exciting transformation with an ambitious programme of accelerated growth and development that will position it firmly as one of the most lucrative markets for strategic investment. Future deliverables include new communication infrastructures, new transport routes, state-of-the-art industrial complexes, dynamic training opportunities, a commitment to greater business efficiencies and more. ■



Last year's edition of Saudi Power witnessed a remarkable turnout of more than 8,000 visitors and 314 exhibitors



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# Qatar rises to the challenge

To help fuel Qatar's ambitious construction plans, Project Qatar will provide a strong networking platform for building industry professionals from 4-7 May 2015.

**T**HE FOCUS WILL shift to Qatar in May as the country will host Project Qatar – the 12th International Construction Technology and Building Materials Exhibition, at the Qatar National Convention Centre (QNCC).

With the rise in construction activities in the Middle East, Qatar is one of the countries touted to take a large share of the pie with an estimated US\$200bn lined up for infrastructure investment, and another US\$73mn on heavy equipment and machinery. The GCC nation is preparing to undertake a few major projects such as a US\$7bn deepwater port and a US\$1bn transportation corridor in Doha. The preparation for the upcoming FIFA World Cup in 2022 has also put Qatar in the spotlight. The total value of construction projects in the country is expected to touch 280mn, according to VenturesOnsite data.

Held under the patronage of HE Sheikh Abdullah Bin Nasser Bin Khalifa Al Thani, the Prime Minister and Minister of Interior of

Qatar, the show will allow thousands of professional visitors, industry buyers and decision makers from around the world to network with leading manufacturers and suppliers in sectors such as construction and building materials, lighting, HVAC, power, heavy machinery, stone, woodwork, waste management and recycling, industrial and commercial cleaning, metal manufacturing and steel fabrication, aluminium manufacturing and processing, glass, concrete, facilities management and mechanical, electrical and plumbing (MEP).

Project Qatar 2014 was considered a success by its organisers, and has helped pave the way for an even bigger exhibition this year. There were 2,100 exhibitors from 27 countries, aided and organised by 24 national pavilions. A total of 48,953 visitors flocked the venue that spanned an area of 41,500 sqm. This year as well, a host of engineers, consultants, specifiers, architects, project managers, purchasing and procurement managers, directors and

CEOs, site managers, contractors and sub-contractors, construction managers, distributors and agents, property developers, manufacturers, investors and government officials will engage with one another and capitalise on Qatar's vast construction market.

Owing to expansive sectors in the market, there will be two events held concurrently – Qatar Stone Tech 2015 and Heavy Max 2015. The heavy construction machinery segment is a huge sector that provides key assistance to Qatar's construction industry, earning a separate section at the show to engage related business interests. Visitors will find companies selling and trading cranes, formwork, scaffolding, heavy machinery, loaders, mining machines, tractors, tools and installation equipment.

A report by the IMF stated that investment in public enterprises will help keep the Qatari economy performing well in the years to come, making the country a favourable business destination. ■



In 2014, the exhibition attracted 48,953 visitors, which included engineers, consultants, architects, building contractors and CEOs of several construction companies

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# MAN to open new showroom during Project Qatar

MAN Qatar will exhibit its latest technology for the construction sector at Project Qatar 2015 while also celebrating 100 years of commercial vehicle manufacturing and inaugurating a showroom on Salwa road.

**A**T THIS YEAR'S Project Qatar, MAN will showcase its latest construction truck for concrete transport and officially inaugurate its latest showroom, which will be located next to the Midmac roundabout in Doha.

Qatar International Automobiles, the exclusive distributor of MAN Truck & Bus in Qatar, will be present at Project Qatar with a MAN TGS 8x4 BB on exhibition stand HM30, which will be co-hosted by IMER Group. The truck has a load variant of 42 tons and comes with a 360HP engine.

For heavy duty transport, it has reinforced front and rear springs, while its wheelbase of 2,505mm allows for small turning radius and excellent manoeuvrability, and drivers will benefit from its spacious M-cab. The body mounted on the truck is a 10cbm IMER transit mixer.

Qatar International Automobiles general manager Iyad Jaradat said, "The construction sector in Qatar is the biggest market for MAN with almost 90 per cent of our sold vehicles operating in this segment. It is one of the major strengths of MAN to supply perfectly fitted solutions for the construction industry and a wide portfolio of MAN trucks is supporting the construction industry with a multitude of tailor-made options such as reinforced axles and springs, heavy duty cooling and filters."

During Project Qatar, Qatar International Automobiles will also officially inaugurate its new showroom, which is located on Salwa road next to the Midmac roundabout. The new showroom measures 540 sqm and features a permanent vehicle display in the outdoor area. Customers and visitors will have the opportunity to see the



*The new MAN TGS 8x4 BB in action*



*MAN is celebrating 100 years of commercial vehicle manufacturing this year*

extended range of vehicles within the portfolio at the showroom, such as 3- and 4-axle tippers and 2-axle tractor heads, while also finding out more on MAN's range of service and parts offerings.

"2015 is a very special year for us because MAN Truck & Bus celebrates 100 years of commercial vehicle manufacturing and we are proud to be part of the celebrations," Jaradat continued.

"The excellent results last year and the successful start into 2015 showed us the confidence of our customers in the brand, which has proven its expertise in the production of reliable and durable vehicles for 100 years, and with a history of engine manufacturing that dates back even further to 1758."

In Qatar, MAN Truck & Bus saw a strong performance, increasing its sales figures by 50 per cent in 2014 compared to the previous year. The positive sales performance comes on the back of a stronger brand perception and steady growth for the transport and construction sector. ■



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## Construction innovations showcased at Intermat Paris

MORE THAN 1,400 companies from 37 countries showcased their products and innovations at Intermat 2015, the largest construction-focused exhibition to take place in the world this year. The event took place from 20-25 April at the Paris-Nord Villepinte Exhibition Centre, and is estimated to have attracted around 200,000 visitors despite a subdued French and European economy, with around 35 per cent coming from outside France. Fifty international delegations from 25 countries visited the event, with days dedicated to the buoyant construction markets of the Middle East and Turkey.

The exhibition included a number of conferences and associated events. World of Concrete Europe, a joint venture between Intermat and Hanley Wood, was held for the first time, while separate conferences were held for the demolition and rental sectors.

Equipment, materials and technology on display covered a comprehensive range of construction sectors ranging from lifting and handling, drilling and boring to earth moving, demolition and recycling. The event saw a host of new product launches, with a strong focus on environmentally-friendly



*A wide range of equipment was on display at the event*

and energy-efficient technology.

Doosan launched its latest series of Stage IV compliant DL-5 generation of wheeled loaders, which claim fuel savings of up to 10 per cent over previous models, while Terex Construction introduced its Stage IIIB/Tier 4 Final-compliant range of 9-tonne and 10-tonne site dumpers, which will feature 55kW JCB EcoMAX turbo-charged diesel engines. The company says the new TA9 and TA10 models offer users increased fuel efficiency without any exhaust after-treatment requirements.

Other new product launches included the first European grader from Case, a Tier IV

loader from Liugong and new mini excavators from Kobelco. Magni launched the world's highest telescopic handler, the RTH 5.35, which stretches up to 35m.

Hitachi Construction Machinery (HCM) unveiled its first mass production hybrid-wheeled loader, the new ZW220HYB-5 hybrid, while Liebherr introduced its R960 Demolition high reach, featuring its new Demolition Control System that automatically ensures safe operation.

Hyundai premiered its HX220L and H380L tracked excavators, both Tier 4 Final, Stage IV engine machines. These include a host of new features designed to enhance comfort and performance, including redesigned body work to accommodate the larger air intakes needed for Stage IV Tier 4 Final engine performance.

Cummins Emissions Solutions, the engine manufacturer's specialist after-treatment division, introduced its single-unit DPF-SCR module concept that is 60 per cent smaller and 40 per cent lighter than its current two-box solution. The EcoFit single module has been designed to work with Cummins' Stage V engines when they arrive in 2019.

### Hatz showcases variants of its 4H50TIC 2-litre turbo engine

THE GERMAN ENGINE manufacturer Motorenfabrik Hatz premiered two variants of its 4-cylinder 2-litre turbo engine 4H50TIC at Intermat.

In total, the 4-cylinder 2-litre industrial diesel engine 4H50TIC, equipped with the Bosch common-rail system, comprises three variants, which are now available worldwide, depending on the exhaust after treatment requirement.

The newly developed version 4H50TI (Tier 2/Stage II), variant without exhaust after treatment was developed specifically for export to countries where only diesel fuel with high sulphur content is available.

Through the adaption of existing components such as common rail, injectors and high-pressure pump, and the elimination of sulphur sensitive components such as exhaust gas recirculation (EGR) and oxidation catalyst (DOC), the engine can be operated with diesel fuel with a sulphur content of up to 5,000 ppm. This is in particular important for many markets in Africa, South America and Asia. The 4H50TI is compliant with the emissions legislation of the US EPA Tier 2 and EU 97/68 Stage II in the range up to 62kW output, as well as the EU 97/68



*The Hatz 4H50TIC DPF engine was showcased at Intermat 2015*

Stage IIIA in the range below 37kW. The latter applies in particular to the operation as a generator with engine speeds of 1,500 and 1,800 rpm.

Because of the elimination of the exhaust after treatment and due to the requirements of the emissions legislation, the 4H50TI can be operated with higher performance. The maximum output is 62kW and the maximum torque 265 Nm. Because of the elimination of the EGR, the specific fuel consumption of 218 g/kWh at the best point is slightly higher than the values of the basic engine.

The 4H50TI will be available from autumn 2015.

The 4H50TIC DPF, also demonstrated for the first time at Intermat, is equipped with a separable diesel particulate filter (DPF) and oxidation catalyst (DOC) and is compliant with the Clean Air Act (LRV) of the Federal Office for the Environment (FOEN) in Switzerland and registered in the corresponding particulate filter list. The latest Hatz engine complies with the requirements of the Air Pollution Control Ordinance and can be used in applications which are operated in Switzerland.

Through the use of the particulate filter in conjunction with the certificate of the FOEN, the 4H50TIC DPF may also be used in areas where special demands for the exhaust after treatment apply. For example, for underground use and tunnel construction as well as in emission-sensitive metropolitan areas where a DPF is often mandatory.

The DPF has been large-sized to ensure the deposition of particles over a long period of time, resulting in longer intervals between regeneration cycles, and various different requirements and load profiles are covered.



## Volvo Penta showcases two new diesel engines

VOLVO PENTA EXHIBITED the latest additions to its engine lineup at InterMat: its new five- and eight-litre off-road diesel engines.

Developed in coordination with the Volvo Group, the D5 and D8 engines feature a newly-designed platform. Displacement has been increased compared to previous versions, and the new engines offer improved engine block stiffness, as well as higher torque at low speed. Despite a larger displacement, fuel consumption is reduced by as much as 2.5 per cent.

The new engines are available to meet Stage II/Tier 2, Stage IIIA/Tier 3 equivalent and Tier 4 Final/Stage IV emissions standards — meaning that, no matter where a manufacturer exports its products, Volvo Penta has an engine to match the market's



*The new Volvo Penta off-road diesel engine*

emission regulations. All of Volvo Penta's engines, regardless of emission stage, share a common footprint, with components like the turbocharger located in the same place

on all models — making design and installation easier.

Ideal for a host of off-road applications including construction, Volvo Penta diesel off-road engines are optimised to be the most efficient, most cost-effective units possible for OEMs and end users. Volvo Penta's chosen Tier 4 Final/Stage IV solution uses only selective catalytic reduction (SCR) technology, rather than a diesel particulate filter (DPF) or diesel oxidation catalyst (DOC), to reduce emissions. SCR-only technology simplifies installation for OEMs and makes maintenance easier for end users.

Volvo Penta exhibited along with sister companies Volvo Construction Equipment (Volvo CE) and Volvo Trucks on a joint stand at InterMat, where the entire range of Volvo engines was on display.

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## Briefly

### Insurance solutions for mining companies

GLOBAL INSURANCE COMPANY XL Group has launched an insurance solution designed to cover specific risks in the mining industry, such as mobile assets, machinery and equipment above the ground, underground or subsea, natural minerals and manpower. Neil Robertson, chief executive of Specialty Insurance at XL Group, said, "The advantage is clients can buy the global programme policy to cover any number of mines, any type of mining at any phase of operation – exploration, development and full production. Essentially, this is a one-stop shop for clients within the mining industry. We think it's a real game changer because it's supported by an 'Insurance Wrap Cover' – a policy element designed to eliminate gaps in cover, sometimes difficult to achieve with conventional insurance placements, which involve multiple policies and underwriters."

With the global mining industry expected to reach an estimated US\$1.7 trillion by 2017, industry leaders are investing heavily in technology and seek insurance for the same. In the Middle East, several equipment companies such as Atlas Copco, Outotec and Caterpillar are working on providing state-of-the-art machinery for mining operations, most of which could be covered by XL Group's insurance cover.

## Jotun to provide anti-fouling coatings for UASC vessels

JOTUN AND UNITED Arab Shipping Company (UASC) have signed an agreement on the provision of advanced anti-fouling coatings for 11 newbuild container vessels.

This is the first time Jotun and UASC have joined forces to provide anti-fouling hull coatings for vessels. According to UASC, the contract is part of its US\$2.3bn new-building programme. Shipping and maritime industries rely on anti-fouling hull coatings to limit the growth of organisms on hulls that can affect vessel performance and durability. Jotun's coatings will deliver hydrodynamic performance gains, fuel cost reductions and greenhouse gas savings. Of the 11 vessels to be coated with Jotun's premium antifouling range, eight are 14,500 TEU and three are 18,800 TEU capacity vessels. Eight of them will be treated with Jotun's proprietary Hull Performance Solutions (HPS) system, which combines top-of-the-line SeaQuantum X200 paint with advanced measurement technology. This solution will help UASC's vessels achieve up to a 15 per cent hydrodynamic performance gain as well as fuel cost savings.

Mohamed Zaitoun, assistant vice-president of new building technical projects at UASC, said, "Our aim is to set new industry benchmarks for fuel economy and environmental performance. Anti-fouling products have a proven ability to keep hull surfaces smooth and clean under the water, which is critical in minimising fuel consumption and reducing emissions. We are focused on building a fleet of the most efficient container vessels in the market."

UASC has been reviewing and developing environment-friendly practices in saving energy, reducing carbon emissions and protecting the marine environment, officials stated.



Morten Sten Johansen, sales director HPS at Jotun, added, "UASC has evaluated the compelling nature of our advanced anti-fouling coatings in general, specifically the HPS system and is keen to trial it on eight of the flagship vessels. The combination of silyl methacrylate coating technology and a comprehensive measurement system, capturing high-frequency performance data, delivers not just clean hulls and added efficiency, but also documented evidence of effectiveness. This helps owners clearly track fuel savings and hull performance."

"The market is showing a growing appreciation of the added value and benefits delivered by our anti-fouling coatings, and in particular HPS," added Johansen. "Major industry players like UASC are leading a new wave of environmentally responsible ship-owners. They are focused on contributing to a more efficient and sustainable industry. Improving hull coatings is a fundamental part of that push."

The vessels were under construction at Hyundai Heavy Industries in South Korea and are expected to improve UASC's competitiveness in the marketplace, in particular on the Asia-Europe trading route.

## Miele sells US\$23mn worth appliances in the UAE, expands presence in the country

KITCHEN APPLIANCE MANUFACTURER Miele is gaining traction in the Middle East through sales, as the European brand has already supplied more than 21,500 appliances, valued at US\$23mn in the UAE.

Ralf Weisenstein, project sales manager for Miele Dubai, said, "These and numerous other prominent contract wins have helped to establish Miele as the high-end home appliance brand of choice for luxury developers, and discerning landlords and home-owners across the emirates. It underscores our *mantra* that real value is built on innovation, quality, style and sustainability rather than price alone."

GfK Retail and Technology's report said that there was a 11 per cent growth in the UAE small and medium durable appliances,



Miele is a preferred brand for high-end projects in the UAE

valued at US\$408mn. Miele is being widely recognised as an industry leader, with a growing portfolio of high-profile contracts such as the Burj Khalifa and Palm Jumeirah.

The company has supplied around 7,000 appliances to the Burj Khalifa residences,

including ovens, hobs, cooker hoods, dishwashers, plate warmers, washing machines and dryers; adding its own unique stamp of luxury hallmark to the 900 apartments. Dubai's Jumeirah Golf Estates development chose the European brand to provide 5,000 appliances such as coffee machines, steamers and refrigerators.

The company's next-generation range of ovens and hobs, dishwashers and microwaves among other essential household items were chosen for the Palm Jumeirah villas and also sourced by the developer behind the Saadiyat Island apartments and residences.

In Abu Dhabi, the 72-storey Landmark received 1,500 kitchen and household appliances for its apartments.

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## Energy-efficient LED lights launched for hazardous areas

R. STAHL'S NEW COMPACT LED-based tubular light fitting series for use in hazardous locations — Ex zones 1/21 and 2/22 — provide users with an alternative to typical linear luminaires. With a diameter of 55 mm, the new lights take up less than half the space required by conventional linear luminaires, and are 50 per cent lighter.

According to the Germany-based company, the design of the new 6036 series makes it light-efficient. The 10.3 metres long LED-based tubular light fittings, for instance, ensure an illuminance of approximately 500 lx, which would usually require 35 linear luminaires with two 36W fluorescent tubes each, or alternatively 48 conventional box-type units retrofitted with LEDs. However, R. STAHL's new lights consume only about half as much power and the specific power consumption per 100 lx is merely 1.5W per sqm. The company said that this ensured savings regarding operating costs, which can be 20 per cent to more than 50 per cent savings in practice.

The tubular light fittings can be operated in a wide temperature range from -40°C to +60°C. The maintenance-free units are suitable for general lighting purposes or for use as machine lamps. Due to their slim design, they can be installed in hard-to-access locations. Even at an ambient temperature of +60°C, they reach a lifetime of 80,000 hours. The vibration-proof units are IP66/IP67-protected by default, resulting in suitability for maritime applications.

## Philips and Dubai Municipality take home MEE lighting award

PHILIPS, ALONG WITH Dubai Municipality, has been awarded 'Lighting Project of the Year' at the Middle East Lighting Awards held on 2 March 2015 at the Dubai World Trade Centre, for their LED lighting solution as required by Dubai Municipality in light of its Sustainability Initiative.



Philips competed with two other projects for the award

Philips Lighting in the Middle East general manager, Rami Hajjar, said, "We are very proud to be working with Dubai Municipality to transform Dubai into the most sustainable city in the world. The municipality realised that reducing energy consumption through lighting is a quick win with substantial returns for Dubai from both an environmental and financial perspective. We are on the right track and going at the right pace. As the leaders in global lighting, we are very pleased to work with such an ambitious city that always strives for the best."

The award follows the signing of a memorandum of understanding (MoU) between Dubai Municipality and Philips Lighting to support the transformation of the Municipality's 262 buildings from conventional lighting infrastructure to energy efficient LED-based solutions.

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## ABB awarded substation modernisation contract in Kuwait

POWER AND AUTOMATION technology group ABB has been awarded a US\$12mn order from the Ministry of Electricity and Water (MEW) of Kuwait to refurbish and upgrade three existing substations.

Booked in Q4 2014, the order will entail the modernisation of three 30-year-old transmission substations in Hawalli Governorate, which provide power to residential and commercial areas around Kuwait Bay.



As part of the project, ABB will integrate new equipment with existing automation systems (Photo: Taina Sohlman)

The scope of the project will include the refurbishment of 132 kV gas-insulated switchgear (GIS) circuit breakers, the overhaul of disconnectors and earthing switches, and the replacement of control cables. It will also entail the upgrading of control panels and the integration of the new equipment for 33 bays with the existing automation systems.

Oleg Aleinikov, head of ABB's substations business, which is part of the company's Power Systems division, said, "ABB's retrofit solutions will extend the life of the installations, while helping to strengthen the grid and improve power reliability for consumers.

"The substations will deploy our latest GIS technology with an extremely compact footprint and ideally suited for such urban applications."

The project has been scheduled for completion in 2018.

## Rockwell Automation launches new industrial motors

ROCKWELL AUTOMATION HAS launched its latest series of Allen-Bradley Vector-Duty Enclosed AC Motors, which have applications for extruders, mining, petrochemicals, metal processing, pulp and paper, crane and hoist, and forest products.

The AC motors have been built to be tough, ensuring they are able to endure conditions in most rugged motor applications, and were designed for optimum variable speed performance and service life.

According to Rockwell Automation, the Allen-Bradley industrial motors were one of the results of the practical application of advanced electrical and electronic technology. The company said, "They are of high quality and stand up to exceptional conditions such as the extreme thermal demands of low-speed high-torque applications."

The vector control variable speed motors were built for inverter and vector duty applications with constant torque capability to zero speed.



Rockwell Automation has launched its Allen-Bradley Vector-Duty Enclosed AC Motors

### Features of the AC motors:

- 230/460V AC
- 1200, 1800 rpm
- Variable speed ranges of CT4:1, CT 20:1, CT 1000:1
- TENV, TEFC, TEBC enclosures
- Insulation system made of Class F and H materials
- Frame constructed of cast iron
- Encoder-capable
- IP44 industrial environment rating

## Huge growth predicted for global automation and controls market

THE TOTAL GLOBAL building automation and controls market is expected to reach US\$55.48bn by 2020 at a CAGR of 9.04 per cent from 2014 to 2020, according to a new report by industry intelligence provider Reportbuyer.

The report predicted huge growth for the automation and controls market, which was valued at US\$29.78bn in 2013.

The report, *Building Automation & Controls Market by Product Segment, Application Vertical, and Geography (North America, Europe, APAC, and ROW) - Trends & Global Forecasts to 2014 - 2020*, found that initiatives and regulations being implemented by governments across the globe have been positively impacting the market due to an increasing cost-saving attitude among building owners.

"The demand for building automation has been witnessing a sharp growth," the report's authors stated. "Although the concept of building automation has been in existence for a long time, it has witnessed a profound growth in the last five years. The

huge demand for security and access systems, convergence of IOT and building automation, growing awareness of wireless technologies, and the developments in terms of the integration of wired and wireless technologies will propel the market in the future."

The report considered the entire market of building automation controls, with a particular focus on the areas of lighting control, security and access control, and HVAC control, mapping the market geographically. Each controls sector was further segmented by type and product, with areas such as security and access controls divided into further markets including video surveillance and biometric systems, and the report was classified into three categories – residential, commercial and institutional.

The report said that North America held "the lion's share in the building automation and controls market, due to the tech savvy population and government initiatives to conserve energy".

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# New Bobcat loader launched at Kuwait open day

**T**HE NEW BOBCAT S450 skid-steer loader has been officially launched in the Kuwait market at an open day event held by Bahrah Trading Company (BTC), the authorised dealer for the Bobcat equipment range in Kuwait and part of the Al-Sayer Group of Companies.

Attended by more than 150 guests from various institutions in Kuwait, the open day was held at the Kuwait International Fair Ground at Mishref, where Bobcat loaders, telehandlers, excavators and attachments were demonstrated alongside Doosan Heavy and Doosan Portable Power products for which BTC is also the authorised dealer in Kuwait.

The event was attended by Naser Al Sayer, chairman of the Al Sayer Group; Mubarak Naser Al Sayer, CEO of the Al Sayer Group; Paul Reynolds, COO for the Al Sayer Group; Melakandy Hamza, general manager of BTC; Saadallah Salem El Mahmoud, senior supervisor for heavy equipment and Bobcat sales at BTC and Gaby Rhayem, regional director for Bobcat in Middle East and North Africa.

Gaby Rhayem remarked, "As well as providing an excellent launchpad for our new S450 skid-steer loader, the BTC event celebrates major milestones for Bobcat with the sale of our one millionth skid-steer loader and our 20,000th telehandler in the last 12 months, reflecting the long and successful journey of the Bobcat brand."



More than 150 guests attended the open day at Kuwait International Fair Ground

Commenting on the Al Sayer Group, Mubarak Naser Al Sayer said, "The Al Sayer Group values of trust, honesty and personal integrity, offering the highest quality products and services backed by the best aftersales service are always at the heart of our business."

#### Aftersales support

Based in the Al Rai Industrial Area in Kuwait,

BTC has been a Bobcat dealer since 1995. Like all Al Sayer Group companies, BTC believes that aftersales support is key to securing repeat sales in a very competitive market. According to the company, every sale is accompanied by a trainer to help the customer when the equipment has been delivered and the company maintains its investment in parts inventory, in order to ensure it is the only source of genuine Bobcat parts in Kuwait with a 98 per cent availability for any Bobcat part. Established in 1965 as a supplier of equipment to the oil industry, BTC was later acquired by the Al Sayer Group in 1976. Today the company supplies the whole spectrum of industries in Kuwait, with a reputation built on superior products, a wide range of high-quality industrial and transportation solutions and unparalleled market support.

Backed by ISO 9001/2000 accreditation, BTC offers one of the widest ranges of fleet and industrial products, including:

- Cars, vans, pick-ups, trucks and buses
- Construction equipment
- Industrial equipment
- Vehicle and building security systems ■



Bobcat's S450 skid-steer loader has now been officially launched in the Kuwait market



# Specialinsert's custom fastening solutions

**S**INCE 1974, SPECIALINSERT has been producing fastening systems for a variety of applications.

Originally specialising in mechanical fasteners, the company has branched out into the design and manufacture of innovative, custom solutions.

Specialinsert now provides a range of inserts for metal sheets, wood, plastics and composite materials to customers in more than 40 countries around the world.

### KEEP-NUT (self-anchoring insert for natural stone and solid surfaces)

The keep-nut is a revolutionary, international patent pending, press-in insert with mechanical anchoring to create threaded seats on panels made of marble, granite or other stones, as well as composites, carbon, HPL, glass and other compact materials.

Manufactured in stainless steel, with a threaded bush and a set of toothed spring washers, held together by a plastic ring, the keep-nut comes in a range of lengths, to fit a variety of panel widths, and can even be customized to fit the customer needs.

The keep-nut insert is easy to install, and was specifically developed for kitchen and bathroom countertops, ventilated facades, wall-coverings, décor and interiors, furniture, funerary art, and many others.

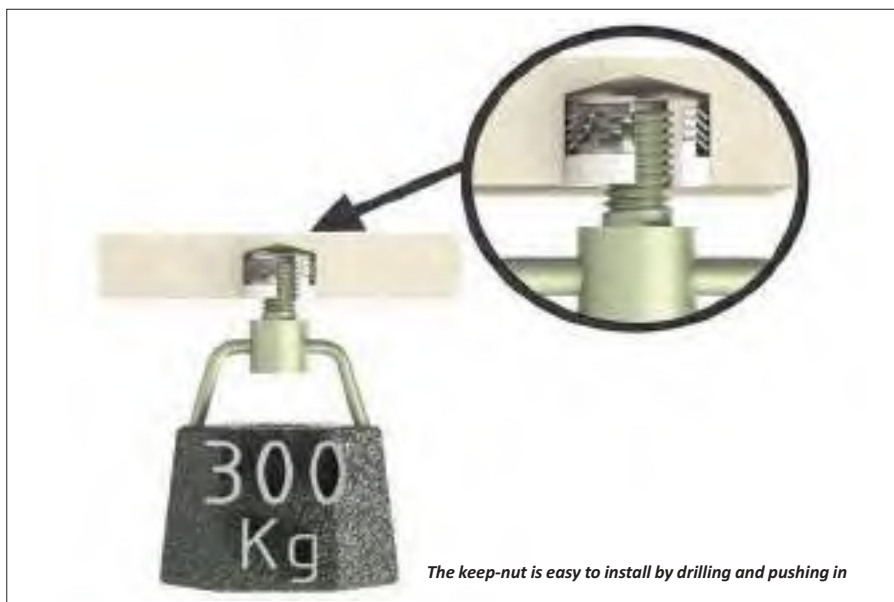
A comparison of different ways of installing undermount sinks has proven the competitive advantage of the keep-nut.

### MASTER-PLATE (fasteners for bonding)

Master-plate is a very simple system that takes advantage of the proper adhesives for fixing onto any kind of material. It doesn't require any particular mechanical preparation, the assembly is done by simply applying adhesive to the base.

The several combinations between the base plates and fastening elements offer to technicians and designers a wide range of possibilities.

Master-plate is made of a base plate that is available in a variety of different shapes and sizes (round, square, rectangular) and a



The keep-nut is easy to install by drilling and pushing in

threaded bush or stud, manufactured in zinc plated steel or stainless steel AISI 316.

Master-plate is manufactured in Italy, can be custom-made, and is delivered in the fastest time due to Specialinsert's "just in time" production process. ■



**Master-plate is a very simple system that takes advantage of the proper adhesives for fixing onto any kind of material**



Install Method	Install Speed	Compatible w/ CNC	Reliability	Material Cost (Per Sink)
Keep Nut	30 Sec	Yes	High	\$12.00
Epoxy	1-Day	No	Low	\$30.00
Sinkit	30 Sec	No	Medium	\$11.92
Lead Anchor (Hybrid)	1-Day	No	Low	\$2.40

## Briefly

### Dormer Pramet introduces carbide rotary burrs

USA'S DORMER PRAMET has added a range of carbide rotary burrs to enhance its support tools programme for general machining processes. This is the first time that burrs will be available under the Dormer product brand, with a comprehensive assortment of designs and shapes to choose from, including ball-nosed cylinder, pointed tree, oval, flame, 60° and 90° countersinks, cones and inverted cones varieties.

The company's decision to launch burrs is part of a wider product launch that took place on 1 April 2015. The wide selection of burrs provides numerous options to machine a range of materials, including hardened steel, non-ferrous materials and plastics. The combination of carbide head and steel shank in the burr (above 6mm) provides an ideal mix of rigidity and strength. This feature reduces vibrations, resulting in a consistent and secure performance, as well as an improved tool life. A double cut design on Dormer's burrs improves ease of control, increases metal removal rate and breaks swarf into manageable pieces.



*The new carbide burrs are part of the enhanced tools programme by Dormer Pramet*

In addition, the ball end geometry incorporates skip flute grinding which improves cutting action closer to the centre, reducing the chance of swarf congestion and increases strength. Alternatively, the aluminium cut option makes it the first choice for non-ferrous materials and plastics. The high helix and rake angle offers large flute volume for rapid material removal rates.

Dormer's burrs are available with TiAlN coating to increase tool life in difficult conditions and help to resist 'built-up edge,' which is common for cutting tools with small flute volumes.

## Kyocera introduces new cermet grades for cutting tools industry

JAPANESE ELECTRONICS AND ceramics manufacturer Kyocera has developed new cermet grades for the cutting tools industry. The new products – TN620 and PV720 – are meant for steel processing and offer 50 per cent better abrasion resistance and fracture resistance than conventional grades.

Some of the key features include a special surface-hardening structure, which improves abrasion resistance. The two products utilise a special graded composition to create a surface-hardening structure, which improves both hardness and toughness. By using tough cermet with superior chipping resistance and thermal shock resistance for the internal structure, and high hardness cermet for the surface structure, the new materials achieve superior fracture and abrasion resistance, as well as stable processing.

The two products have a high-melting-point bonded phase, which ensure higher-quality machining with improved surface finish. By creating a composite of conventional cermet and high-melting-point metal-bonded phase, the resulting bonded phase are highly heat-resistant. This improves adhesion resistance, chipping



*The TN620 and PV720 are ideal for steel processing*

resistance and fracture resistance to provide a stable machined surface of superior quality.

The ultrafine-particle hard phase improves strength and fracture resistance.

The new materials offer improved flexural strength by incorporating a uniform ultrafine-particle "hard-phase". In addition, the high-melting-point metal binding phases increase compressive-stress effects for better fracture resistance. Finally, the products have a Megacoat Nano multilayer coating technology – utilised for the first time on a cermet. The layer provides outstanding abrasion and oxidation resistance for higher-efficiency machining with superior surface finish.

## DuPont Titanium Technologies introduces Ti-Pure One Coat

DUPONT TITANIUM TECHNOLOGIES has unveiled the Ti-Pure® One Coat™, which is a collaborative approach that combines technology, market insight and formulation expertise that expand the limits of paint hiding power.

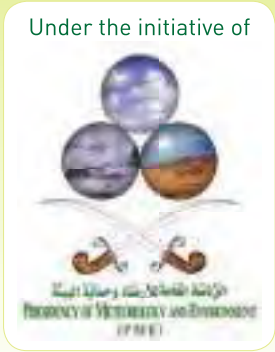


*The key aspect of DuPont's latest offering is the proprietary chloride-based process that produces high-quality pigments*

DuPont Titanium Technologies, which produces titanium dioxide (TiO<sub>2</sub>) products, is part of Chemours, a wholly-owned subsidiary of DuPont. "Using our Ti-Pure® One Coat™ approach with the new Ti-Pure® Select TS-6300, our DuPont technical specialists – in collaboration with our partners – developed paints that expand the limits of coating hiding power," said Plamen Gospodinov, eastern and central Europe and Arabic Gulf States business manager for DuPont Titanium Technologies.

The newly-launched Ti-Pure® Select TS-6300 titanium dioxide, made from the DuPont proprietary chloride-base process that consistently produces high-quality and high-performance pigments, is the key behind the technology. According to Du Pont Technologies, Ti-Pure® Select TS-6300 is an impressive breakthrough in titanium dioxide technology that enables paint manufacturers to create formulations with superior hiding in flat and low-sheen coatings, in addition to providing optimal TiO<sub>2</sub> efficiency.

Based on customer preferences and trial studies, the Ti-Pure® One Coat™ has been conceptualised. Ti-Pure® Select TS-6300 is now available in 90 countries.



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## BAUER Spezialtiefbau installs diaphragm wall on the Bosphorus

BAUER, A PROVIDER of services, machinery and products for ground and groundwater, has played a major role in a project that will link Asia and Europe via an underwater motorway in Turkey.

The project to build the 5.4 km-long twin-deck Eurasia tunnel, of which a large part will cross the Bosphorus under the seabed, will connect the Asian part of Istanbul to the city's European part.

Construction on the new motorway tunnel began in early 2013 and a tunnel boring machine is already in operation on the project, which is being carried out by lead contractors Yapı Merkezi İnş. Ve San. A.Ş. and its South Korean partner SK Engineering.

In 2014, BAUER Spezialtiefbau GmbH installed a total of 18,900 sqm of diaphragm wall with a depth of up to 39 metres and a thickness of up to 1.5 metres on the European side of the construction site, where the tunnel boring machine will finally emerge. A BAUER BC 40 trench cutter was used for the installation.

According to BAUER, the local soil conditions ranges from highly porous soil to highly weathered, unstable rock, which it



*The 5.4 km-long twin-deck Eurasia tunnel will connect the European and Asian parts of Istanbul*

said had initially made the cutting work difficult. A 35-metre-thick solid concrete secant pile wall had to be cut through, which had been constructed beforehand for the operation of the tunnel boring machine. Despite the complicated circumstances, Bauer Spezialtiefbau was able to complete its work by December 2014, as planned, and without any delay.

The tunnel has been scheduled for completion by the end of 2016 and will be expected to ease severe traffic congestion in Turkey's most populous city.

Bauer was founded in 1790 and today employs more than 10,000 people worldwide. In 2013, the group's total revenues stood at approximately EUR1.5bn (US\$1.58bn).

## Cat introduces new pin grabber coupler

CAT HAS INTRODUCED a new Pin Grabber Coupler for hydraulic excavators, which it said had been designed to improve safety and performance.

The Pin Grabber Coupler features a two-

stage locking system to ensure positive work-tool engagement and provides audio/visual verification of proper attachment for the operator. The new coupler's internal mechanism also

combines with the continual hydraulic force from the machine and actual digging forces to keep the work tool secure. According to Cat, the coupler's design reduces weight, allows big bucket payloads, is available in a narrow configuration and complies with global safety standards.

The new coupler has been made available for excavator models 311 through 349 (D, E, and F Series), and is compatible with Cat work tools and most competitive buckets. Within the new Cat Pin Grabber Coupler design is a wedge-lock system for primary pin retention, as well as a positive secondary latch. The system maintains constant hydraulic pressure on the wedge; the coupler frame, rather than the activating cylinder, absorbs most of the forces involved to help ensure long-term durability, Cat said. In compliance with new safety regulations, the coupler maintains tool position in the event of hydraulic pressure loss.

Routine maintenance of the new coupler has been simplified with a central greasing block located on the side of the unit, allowing lubrication of all but two grease points.

*Cat's new Pin Grabber Coupler has been made available for excavator models 311 through to 349 (D, E, and F Series)*



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## Briefly

### Stirling Group earns recognition for selling highest number of Dräger products

DRÄGER, AN INTERNATIONAL leader in safety and medical technology, has awarded Stirling Group for holding the record number of product sales in the Middle East. The group's Fire and Rescue Services (FRS) team were awarded for the highest increase in net sales in 2013-2014 at a ceremony in Marrakech. The Dubai-based FRS team was solely responsible for the largest distribution in Iraq of Dräger X-Zone 5500's, a mobile perimeter gas detection unit, which can monitor and measure up to six hazardous gases in connection with 24 other devices, on worksites in the oil and gas sector.



*Thomas Alexander Kenworthy, product sales and technical support officer at Stirling Group with the award*

Stirling Group product sales and technical support officer, Thomas Alexander Kenworthy, said, "This coveted award is great recognition for the outstanding work carried out by our fire and rescue team. "The top of the range products we offer are selected due to their service life and after sales support to ensure the devices are operating correctly with comprehensive testing and calibration, inspection and testing certificates issued." Stirling Group provides safety products including gas detection equipment, breathing apparatus, escape breathing devices, fire-fighting PPE, fire extinguishers, fire rescue equipment, fire training equipment, as well as training and servicing to complement each purchase. The team mainly supplies to oil and gas companies in the Middle East.

## Hörmann secures seven new projects in UAE for high speed doors and shutters

INDUSTRIAL, COMMERCIAL AND residential door manufacturer Hörmann Middle East has begun work on several new projects in the region using their stylish and resilient rolling shutters.

The manufacturer is installing these shutter at various different locations in the UAE including the Etihad Cargo Village, Al Seer in Kizad, Sharjah Cooperative Society, Dubai Petroleum and the Mushrif Ambulatory Health Centre.

Hörmann Middle East will also supply high speed doors along with the rolling shutter for Carrefour at Al Ghurair Centre.

The rolling shutters are designed to combine safety and resistance with style and sophistication, according to the company. These shutters come with Hörmann's fail-safe locks including the lockable bottom profile with profile cylinder, shoot bolts, and electromagnetic locking that secures the bottom profile to the side guides, making it impossible to open by force. Moreover, the shutters also feature an acoustic insulation technology to reduce noise and thermal insulation technology to maintain indoor temperature.

About the project, Hörmann Middle East managing director Darius Khanloo said, "Our rolling shutters were selected for safety, security, usability and aesthetic appearance. Our in-house team works



*The shutters feature an acoustic insulation technology to reduce noise and thermal insulation technology to maintain indoor temperature*

hard to provide the market with the best features incorporated into different options. The rolling shutters provide easy operation for commercial buildings and warehouses, and its compact construction makes it ideal for fitting situations with limited spaces, making them a unique product that can cater to numerous different demands."

Hörmann's rolling shutters also feature automatic setting for opening and closing that can be changed to manual as preferred by the operator. Khanloo added that all Hörmann products have been tested for anti-fall safeguard, trap protection and trap guard, combining efficiency, elegance, and consumer safety.

## GEZE doors and windows safety solution for GCC region

MANUFACTURER OF SOLUTION systems for doors, windows and other safety technology, GEZE, said that it was committed to the development of safety technology systems to improve the overall safety of building structures in the GCC.

GEZE Middle East managing director Charles Constantin said, "As the GCC builds towards its future, local demand is growing for safe and sustainable new buildings. This demand is being led by the government, which recognises the need for world-leading building quality. New technologies allow to control the building via centralised control panel to open the door and windows in the event of fire in order to extract smoke and heat naturally, thereby, providing a smoke-free exit."

With GEZE window technology, only one system can provide smoke and heat extraction and green daily ventilation with the same system components to match the envelop design of modern green building. Whether they are light or large and heavy, parallel-opening vent windows can be automated with the GEZE different drives like Slimchain and Powerchain,



*The integrated, intelligent control unit allows drives to be easily networked*

or Spindle drive E250NT. All drives are positioned on the inside of the frame or are integrated in the frame.

Subsequently the Slimchain, Powerchain drives and the spindle drive E 250 NT can be used on various window types. They differentiate between alarm event (RWA) and ventilation mode, in other words either fast and maximum or a slow and limited, and virtually noiseless opening. The drive stroke with variable adjustment and the individually adaptable opening speed enable usage on smoke and heat extraction.



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**\$14bn:** value of investments injected into the Saudi oil industry security market (2008-2014 period)



**\$70bn:** forecasted market value of Saudi Arabia's security and public safety markets (2014-2018 period)



**10.57%:** forecasted annual growth rate of the Saudi safety and security market (2014-2016 period)

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المصابيح الإلكترونية تعتبر ابتكاراً تقنياً هاماً في توفير الطاقة

إضاءة LED بشركة جنرال إلكتريك للإضاءة تحقق توفيراً كبيراً في الطاقة، بالإضافة إلى الحد من انبعاثات ثاني أكسيد الكربون.

وعلاوة على الإضاءة، وبالنظر إلى حلول أكثر تكاملاً، تقدم شركة إيتون للعملاء، نظام xComfort، وهو نظام أتمتة منزلي لاسلكي يعمل على مستوى محلي لمساعدة أصحاب المنازل على التحكم في العديد من الوظائف وتحسينها.

ويضمن هذا النظام أدوات التحكم في الإضاءة والتحكم في التدفئة، والتهوية، وتكييف الهواء الداخلي ووظائف السلامة وإدارة الطاقة. وتتمثل إحدى المزايا الرئيسية للاستفادة من هذا النظام في أن باستطاعة المشغل، عبر التحكم الذكي في درجة الحرارة والإضاءة والعدادات الكهربائية، أن يخفض استهلاك الطاقة. كما يتيح نظام xComfort أيضاً لمن يستخدمه تنفيذ الوظائف التي تقلل الحرارة واستهلاك الطاقة عندما لا تكون مطلوبة، ويمكنه مراقبة الطاقة التي يتم إنتاجها من خلال الأنواع الضوئية الشمسية.

إن الخليج ليس فقط منطقة مليئة باستثمارات التشييد والبنية التحتية، ولكنه أيضاً، في ظل زيادة تجلي الاستثمارات والمبادرات الحكومية، منطقتاً لديها حصة متزايدة لحلول المباني الخضراء والمباني الذكية. وهذا، في المقابل، يوفر مزيداً من فرص الأعمال، إلى جانب إمكانيات محتملة للشركات العاملة في قطاعي البنية التحتية وخدمات المباني.

مستداماً وميسور التكلفة والذي ثبت أنه أكثر كفاءة بمقدار 70 في المائة من المصادر التقليدية، كما أنه من أنشطة الأعمال سريعة النمو في منطقة الخليج.

وفي الإمارات العربية المتحدة، نصت معايير الإضاءة الجديدة على حظر بيع المصابيح التي لا تصل إلى معايير معينة من الكفاءة في استهلاك الطاقة والمخصصة للتأكد من أن تلك المصابيح المتاحة تحظى بالكفاءة من حيث استهلاك الطاقة، وتدوم طويلاً، علاوة على أنها آمنة ومحدودة المخاطر الكيميائية. ويعتبر فندق جروفنر هاوس في دبي أحد الأمثلة على المباني التي نجحت في الاستفادة من تشييد الإضاءة باستخدام مصابيح LED، فياستخدام نظام إضاءة جنرال إلكتريك، تبني الفندق نظام الإضاءة باستخدام مصابيح LED في البرجين اللذين يرتفعان إلى 15 طابقاً ويضمّان 749 غرفة وجناحاً وشقة، وذلك اتساقاً مع السياسة الصديقة للبيئة لتعزيز الكفاءة في استخدام الطاقة.

وقبل البدء في استخدام مصابيح LED، تم تحديد ما يزيد على 25,000 مصباح هالوجين في عملية تدقيق الإضاءة، وعقب التنفيذ، قالت شركة جنرال إلكتريك لحلول الإضاءة إن إجمالي توفير الطاقة سنوياً، باستخدام إضاءة LED، يبلغ حوالي 80 في المائة، وقالت بام وبلي، المدير العام لفندق جروفنر هاوس: «نحن نتبنى معايير عالية ونحافظ عليها ونضع الآليات المطلوبة لتنفيذها - ومن لم فقد كان لثبتي حلول إضاءة LED عنصرًا ملائمًا لأهدافنا المتعلقة بالاستدامة. وحلول

الضوئية (PV) المولدة للطاقة والتي تغطي السقف مع إيماءة إلى فن العمارة العربية التقليدية، والملاقف الضخمة التي تعمل بالطاقة الشمسية والتي تستفيد بالطاقة القادمة من الشمس والرياح لخلق تدفق هواء في ممرات المشاة.

ورقاً للتقرير، حيث إن منطقة الخليج دخلت مؤخراً إلى عالم الأبنية الخضراء، هناك العديد من فرص الأعمال للشركات المُصنِّعة والموردين، ومن بين الصناعات والتقنيات الأساسية، التي تعتبر حقلاً خصباً للإبداعات بحيث تتسق مع سياسات الأبنية الخضراء، صناعات التدفئة، والتهوية، وتكييف الهواء (يذكر أن مكيفات الهواء تستهلك ثلثي الكهرباء في المباني)، وآليات الحماية من الحريق، والصنابير (يمكن أن توفر الصنابير الإلكترونية والمقاسة الماء بمقدار 10-15 في المائة). هذا فضلاً عن الإضاءة.

علماً بأن الإضاءة تمثل سوقاً كبيراً في منطقة الخليج على وجه التحديد، ومن المتوقع أن تنمو مستقبلاً. وفي الواقع، من المقرر أن تزداد سوق تجهيزات الإضاءة التجارية بمقدار من ثمانية إلى عشرة في المائة سنوياً في المنطقة، ومن المتوقع أن توازي قيمتها 2.7 مليار دولار أمريكي بحلول عام 2018. ومن ثم، فإن الإضاءة واحدة من الصناعات التي شهدت الكثير من الابتكار في ظل التقنيات المستدامة وحلول البناء الذكية. وتعد شركة إيتون إحدى الشركات التي أدركت هذا واستثمرت في حلول الإضاءة الذكية والمتكاملة، وهي المتخصصة التقني العالمي في حلول إدارة الطاقة.

وحول موضوع أدوات التحكم بالإضاءة، صرح أشيك باناكات، مدير المبيعات بالقطاع الكهربائي لشركة إيتون الشرق الأوسط فائلاً، إن أدوات التحكم في الإضاءة المتصلة بالشبكة، تمثل أحد المكونات الأساسية التي ستؤدي إلى إنشاء مبنى ذكي، وأضاف أن: «نظمة التحكم في الإضاءة في هذه الأنواع من الأبنية الشاملة متعددة الاستخدامات، يتم إنشاؤها حول طوبوغرافيا شبكة ذكية موزعة بالكامل مع مستويات متعددة من واجهات المستخدم وأوضاع التشغيل».

وأحد الأمثلة التي قدمتها الشركة في مجال إدارة الطاقة الدلجية، كدليل على مزايا نظام الشبكة، هو استراتيجية الحصول على الإضاءة النهارية، والتي يمكن استخدامها لتوفير الإضاءة الصناعية غير الضرورية في المناطق القريبة من النوافذ، بينما يمكن استخدام أجهزة الكشف في المساحات التي لا تستخدم بصورة متكررة، مثل الممرات، بحيث يتم تمهيم أو تشغيل الإضاءة حسب الاستخدام. وتعد الإضاءة بمصابيح LED مصدر إضاءة



٢٠١٥- ومن المتوقع أيضا أن تتركز معظم هذه التطويرات العقارية في الرياض باستثمارات تبلغ ٥٣ مليار دولار أمريكي.

وقد صرح روب مارينكو، مدير عمارة البيئة في دار الرياض لخدمات العمارة والتصميم، خلال حديثه أمام الحضور بـ «معرض التصميم والبناء الخارجي» قائلا: «تزداد الاستدامة أهمية أكثر فأكثر بالنسبة لسوق المملكة العربية السعودية، فنحن نسعى إلى إحداث تغييرات جذرية في طريقة دخول المطورين إلى السوق وكيفية استخدام المساحة الخارجية».

ومن ضمن أمثلة مشروعات الأبنية الخضراء الرئيسية قيد الإنشاء في المملكة العربية السعودية تأتي جامعة الملك عبد الله للعلوم والتقنية (KAUST)، والتي يُقال إنها أكبر مشروع من المستوى NC-Platinum يتم بناؤه وفقا لتصنيف «الريادة في الطاقة والتصميم البيئي». فتصميم الحرم، الذي يحتضن التقنية الحديثة، تم إنشاؤه بانتهاج أقصى حد من الاستدامة والتحد الأدنى من استخدام الطاقة. وتتضمن هذه الميزات التقنية استخدام الألواح

فيتيه بموجب خطة دبي الاستراتيجية لعام ٢٠١٥، قد وضعت لوائح جديدة مناسبة لتطبيق مواصفات المباني الخضراء والمعايير التي، وفقا لتقرير شركة «فينشورز للاستشارات»، من المرجح أن تؤدي إلى توفير كبير في الطاقة والمياه ونظام التبريد والتسخين.

أما في أبوظبي، فيقال إن مبادرة «استدامة»، وهي عبارة عن برنامج متكامل للمباني الخضراء، تعالج التطوير المُستدام في جميع أنحاء عاصمة الإمارات العربية المتحدة، فهي تقوم بذلك من خلال دمج المبادئ التوجيهية واللوائح الخاصة بالتصميم المستدام والتشديد وتشغيل المباني والاجتماعات المحلية. كما يجب عدم التقليل من دور المملكة العربية السعودية في سوق المباني الخضراء، فقد نُقل عن فيصل الفضل، رئيس مبادرة خادم الحرمين الشريفين للأبنية الخضراء، قوله إن المملكة تلغز ١٥ في المائة من مشروعات الأبنية الخضراء في الشرق الأوسط هذا العام. علاوة على ذلك، هناك زعم بأن أكثر من ٢٠ مليون متر مربع من أراضي المملكة العربية السعودية مأهولة بالأبنية الخضراء، ومن المتوقع أن تتضاعف هذه المساحة في عام

بالولايات المتحدة، الريادة في الطاقة والتصميم البيئي» (LEED)، تعد الإمارات العربية المتحدة الدولة الرائدة في المنطقة، حيث حققت نسبة ٦٧ في المائة من عدد ١٣٦ مشروعاً مصنفاً من حيث الريادة في الطاقة والتصميم البيئي في المنطقة في عام ٢٠١٣. وتأتي بعدها من حيث الترتيب كل من قطر والمملكة العربية السعودية اللتين نفذتا من المشروعات ما نسبته ١٦ في المائة و١٣ في المائة على التوالي.

وتشير التقارير إلى أن الإمارات العربية المتحدة وقطر هما الدولتان الوحيدتان في المنطقة اللتان أدخلتا، وبشكل رسمي، قوانين البناء الصديق للبيئة، بينما في المملكة العربية السعودية يعمل حاليا المجلس السعودي للمباني الخضراء على وضع نظام التنظيم والتصنيف الخاص به يماثل تصنيف «الريادة في الطاقة والتصميم البيئي».

واتساقا مع خطة المجلس الأعلى للطاقة، الزامية إلى تشييد مبان اقتصادية في الطاقة في إمارة دبي بحلول عام ٢٠٢٠، فإنه من المتوقع أن يلتزم حوالي ٢٠ ألف مبنى من بين ١٢٠ ألفاً بإجراءات تحسين الكفاءة، علاوة على ذلك،

## هيلو كابل هو شريكك في حلول الكوابل الصناعية

### منتجات عالية الجودة:

- كابلات مرنة للتحكم والبيانات.
- كابلات مرنة جدا لسلاسل السحب.
- كابلات السيرفو والمحركات.
- كابلات البنية التحتية والطاقة.
- كابلات مصممة حسب طلب الزبون.
- ملحقات للكابلات الكهربائية،
- حراطيم، براغي، مثبتات للكابلات.

### خبرة في الكابلات والاسلاك:

- مستودع يحوي أكثر من ثلاثين ألف منتج.
- أكثر من ثلاثين عاما في الصناعة.
- خمسون مستودع حول العالم.
- كوابل مصنعة حسب الطلب.
- دعم العملاء.



اتصل بنا لمزيد من المعلومات .



يقال إن جامعة MIT معبأته للعلوم والتقنية أكبر مشروع من المستوى NC-Platinum

## التوسع في حلول البناء الصديقة للبيئة

وفقاً لدراسة حديثة قامت بها شركة «فينشرز ميدل إيست» للاستشارات، فإن دول الخليج تحرز تقدماً ملحوظاً في عالم الأبنية الصديقة للبيئة. وتبنى التقنيات المستدامة التي تعززها السياسات والمبادرات الحكومية المطردة في المنطقة. وقد نص التقرير، الذي صدر في فبراير/شباط 2015 إبان التحضير لبدء فعاليات معرض Big 5 السعودي، والذي يحمل عنوان «التركيز على تحقيق الاستدامة في البناء والتشييد»، على أنه بالرغم من حقيقة أن الخليج لم يتبن مبادرات البناء الصديقة للبيئة بنفس السرعة التي تبنتها دول أخرى في العالم. فإن بدء الانطلاق في هذا المجال يرجع إلى الأسباب الثلاثة الرئيسية التالية: الانتقال إلى التشريعات، وغياب الحفز المالي الواضح، والمعرفة المحدودة بالتقنيات البيئية..

تتطلب معرض التصميم والبناء الخارجي، والذي أقيم في دبي خلال الفترة من 12-15 أبريل/نيسان 2015، قائلاً: «إن دول مجلس التعاون الخليجي تبني، على نحو متزايد، تطوير البناء المستدام الصديق للبيئة، حيث إنها تسعى إلى تحقيق نمو اقتصادي على المدى البعيد، وكذلك تحسين البنية الاجتماعية».

وقد يتعلّق بنظام وضع قوانين البناء والتشييد

إن النمو المتطرد لتبني سياسات البناء الصديقة للبيئة يندأ مهماً مع الأخذ في الاعتبار أن منطقة الخليج العربي تحظى بقطاع تشييد وبنية تحتية قوية. وفي الواقع، شهدت منطقة مجلس التعاون الخليجي وحدها، خلال عام 2014، تنفيذ مشروعات بقيمة 128.4 مليار دولار أمريكي. وقد صرح نيكولاس ويب، الشريك الإداري بمجموعة ستريم لاين ماركتينج جروب، القائمة على



## مركز رجال الأعمال



مايو/أيار

7. E	معرض مشروع قطر	الدوحة
12. A	المعرض السعودي للاستدامة	الرياض
12. A	معرض المطارات 2015	دبي
13. A	معرض الطاقة السعودي	الرياض
17. E	معرض إربيل للبناء	إربيل
20. A	معرض إدارة المرافق، FM Expo	دبي
21. A	المعرض العماني للطاقة	المسقط
26. E	منتدى مجلس التعاون الخليجي	الرياض

يونيو/حزيران

2. E	معرض الفهد والآلات الميكانيكية	دبي
3. E	الشرق الأوسط	دبي
3. E	المنتدى الدولي للتقنية المستدامة	دبي
8. A	معرض مشروع إيران	مهران

سبتمبر/أيلول

3. E	معرض السنطبول للمياه	استنبول
16. E	معرض بيرج كافي الكويت	الكويت
17. E	معرض عمان للمكاتب	المسقط



للمرحلة الأولى لسكك حديد تمتد من الدوحة إلى الحدود مع المملكة العربية السعودية. وسيتم الانتهاء من الدراسة في يونيو/حزيران ٢٠١٥ للتعرف على جدوى إنشاء معبر سكة حديد مرتفع يربط الدمام مع البحرين حيث من المخطط إنشاء محطتين.

الثانية، والتي يبلغ نطاقها ٦٢٨ كم قريبا، وقد أكد العصار أن المملكة العربية السعودية قد بدأت في إنشاء خط سكة حديد يبلغ طوله ٢٠٠ كم أيضا، وفي الوقت نفسه، من المتوقع أن تنتهي شركة سكك الحديد القطرية من سياغة عقد مع المتقدمين للمزايدة

العربية السعودية، تقولان إنهما تحرزان تقدما في تشييد السكة الحديد. وقد انضمت شركة الاتحاد للقطارات، المسؤولة عن تنفيذ القطاع الساحلي البالغ مساحته ١٢٠ كم في الإمارات العربية المتحدة، من المرحلة الأولى من الإنشاء. وقال المسؤولون إنه سيتم البدء فوراً في المرحلة

## مصر تبني عاصمة جديدة بتكلفة ٤ مليارات دولار أمريكي



سوف يتضاعف تعداد سكان القاهرة، البالغ ١٨ مليوناً، خلال الأربعين عاماً المقبلة.

العالم، وهو برج خليفة، وتقوم حالياً بإنشاء مدينة الملك عبد الله الاقتصادية في المملكة العربية السعودية. وقد صرح مالك المؤسسة، الملياردير الإماراتي محمد العيار، لهيئة الإذاعة البريطانية (بي بي سي) بأن المدينة الجديدة ستكون «استناداً طبيعياً لمدينة القاهرة، وأضاف قائلاً: «إنها فرصة رائعة أن تتمكن من تصميم شيء ما من الصفر، وأن تصممه مع الوضع في الاعتبار احتياجات الشعب المصري والحكومة المصرية».

كشفت مصر النشاب عن خطط لإنشاء عاصمة جديدة تبلغ مساحتها ٧٠٠ كيلومتر مربع تقع شرق القاهرة. وقد أكد مصطفى كمال مديوني، وزير الإسكان، أنه سيتم الانتهاء من المشروع في غضون خمس إلى سبع سنوات، وسوف يشمل إنشاء مطار دولي أكبر من مطار هيثرو، ويضم مساحة ٩١ كيلومتراً مربعاً من مزارع الطاقة الشمسية، ومنتزها ترفيهياً أكبر بمقدار أربع مرات من مدينة ديزني لاند.

وأوضح مديوني، خلال تقديم المشروع في مؤتمر التنمية الاقتصادية بعصر، والذي عُقد مؤخراً بشرم الشيخ، أنه «جاءت فكرة إنشاء المدينة الجديدة من إدراكنا أن عدد سكان القاهرة الحالي سوف يتضاعف خلال الأربعين عاماً المقبلة».

هذا وتعد مصر، وهي إحدى دول شمال أفريقيا، أكثر الدول كثافة بالسكان في الشرق الأوسط، بما يقرب من ٨٨ مليون نسمة، وقد تسببت زيادة المناطق الحضرية في السنوات الأخيرة في مشاكل الازدحام السكاني في العديد من المدن، والقاهرة خير مثال على ذلك. عدد سكانها البالغ ١٨ مليون نسمة، وستكون «المدينة الجديدة»، والتي لم يتم تسميتها حتى الآن، كبيرة بما يكفي لاستيعاب خمسة ملايين نسمة، وتضم كذلك ٦٦٢ مرافقاً صحياً، وما يقرب من ٣٠٠٠ مدرسة وكنية، و١٠٠ كيلومتر مربع من المساحات الخضراء. وحسب تصريحات مديوني، فسوف يصبح المشروع «عاصمة عالمية»، وستتولى تنفيذ شركة «كابيتال سيتي بارترز المحدودة»، وهي الشركة التي قامت بإنشاء أطول مبنى في

وقعت شركة «مايكروسوفت الأردن» اتفاقية مع برنامج التنافسية الأردني التابع للوكالة الأمريكية للتنمية الدولية (USAID) لتعزيز نمو الشركات الناشئة في الدولة.

وسيركز البرنامج الذي يطلق عليه Microsoft Academic Accelerator Programme، (برنامج المسرع الأكاديمي من مايكروسوفت) على تطوير وتوسيع مركز مايكروسوفت للابتكار لتمكين المشاركين من العثور على وظائف جديدة وسماحتهم في تحويل أفكارهم إلى شركات ناشئة.

إضافة إلى ذلك، صرحت الشركة بأن البرنامج سوف يعالج التحديات الاقتصادية في الأردن، ويساعد على تحقيق أهداف التطوير الوطنية. كما أنه سيعزز قطاع تكنولوجيا المعلومات والاتصالات، والذي سيكون أسحب الريادة ويوفر قوة الدفع لسوق العمل. وقد قام بالتوقيع على الاتفاقية في مقر شركة مايكروسوفت كل من حسين ملحس، المدير الإقليمي لشركة «مايكروسوفت الأردن» والدكتور وسام الرضوي، مدير برنامج التنافسية الأردني التابع للوكالة الأمريكية للتنمية الدولية.

## مايكروسوفت الأردن و USAID توقعان اتفاقية لتعزيز نمو المتعهدين في الأردن



قالت مايكروسوفت إن تعزيز خدمات برنامج التنافسية الأردني سيؤدي إلى تعزيز نمو الشركات الناشئة في الدولة.



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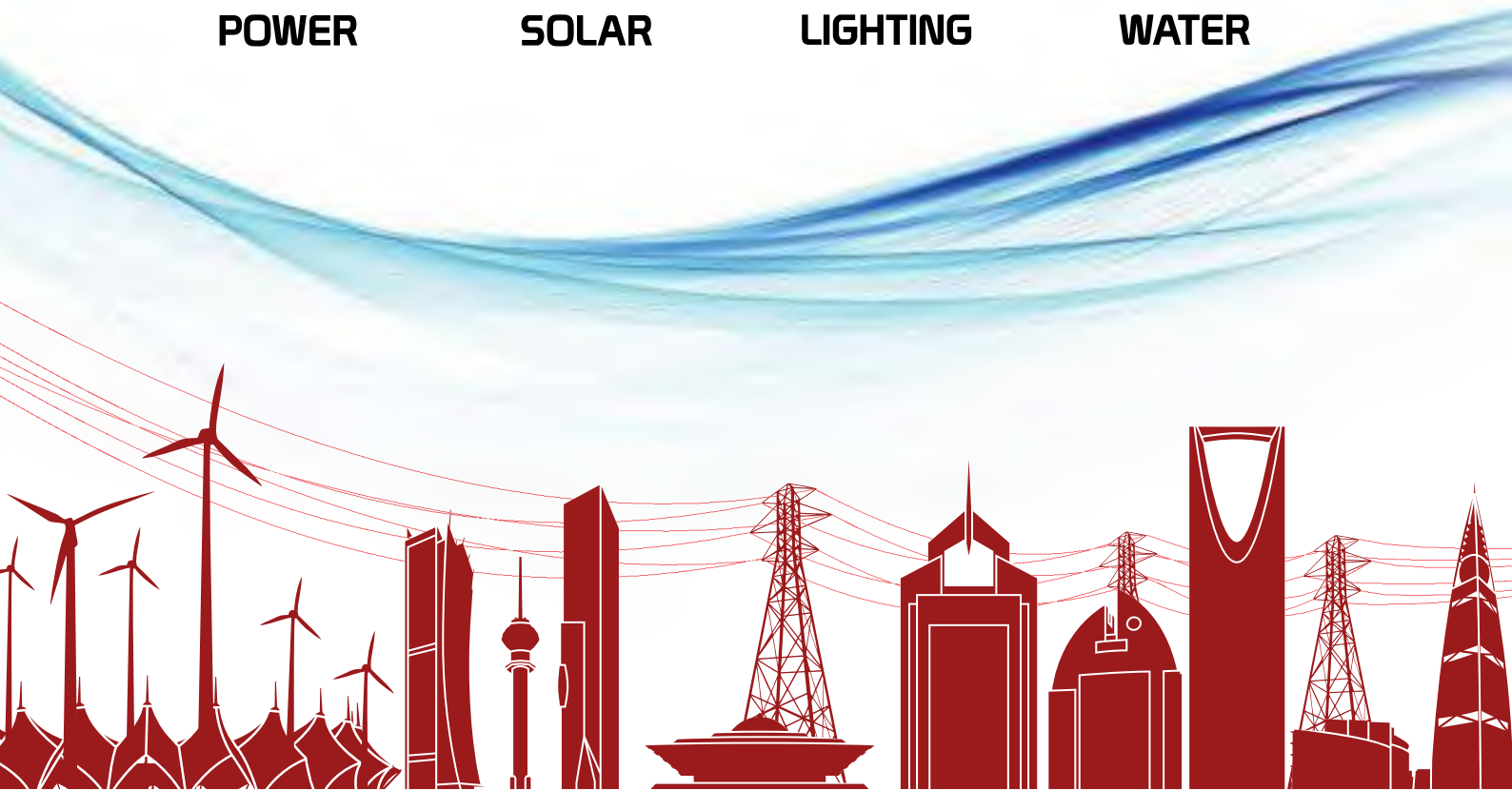
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## حيتور لايتون تفوز بعقد قطري لإنشاء أكبر خزان خرساني في العالم

محلّي في الدوحة منذ عام 2005. وخلال ذلك الوقت شاركنا في عدد من المشروعات التي تتسق تماما مع خبرتنا وتجربتنا. ولاشك أن الحصول على أعمال متكررة من العملاء الحكوميين الرئيسيين، يبين بجلاء أن مجموعة حيتور لايتون تظل متهداً متضلاً للملاء الذين أثبتنا لهم قدرتنا على تسليم مشروعات معقدة بأمان، وفي الوقت المحدد. وأيضاً في نطاق الميزانية المحددة. علماً بأن هذا المشروع سيبدأ العمل فيه في الوقت الحالي (أبريل/نيسان 2015)، ومن المقرر الانتهاء منه في الربع الثاني من عام 2018. يجدر بالذكر أن هذا العقد يعتبر العقد السابع الذي تمنحه مؤسسة «كهرماء» لمجموعة حيتور لايتون. وقد كان أول مشروع للمجموعة هو إنشاء خزانات في منطقة الدحيل وأم القرن في عام 2009. وقد منحت مؤسسة «كهرماء» العام الماضي العقد لمجموعة حيتور لايتون للعمل في خزان ميحا في الدوحة، وأيضاً في الورشة المركزية بمؤسسة «كهرماء».

منحت المؤسسة العامة القطرية للكهرباء والماء (كهرماء) عقداً بقيمة 608 ملايين دولار أمريكي لمجموعة حيتور لايتون (HLG). المتعهد بمنطقة الشرق الأوسط وشمال أفريقيا، لإنشاء أكبر خزان خرساني في العالم في قطر. وبموجب هذا العقد سيتم إنشاء الخزان الأساسي لخزان ميحا ومحطات الضخ (3 PRPS) والتي تتكون من خمسة خزانات، وستبلغ السعة الاستيعابية لكل منها 100 مليون جالون. وستكون مجموعة حيتور لايتون، التي ستعمل بصفتها شركة لايتون للمقاولات (قطر) ذات المسؤولية المحدودة، مسؤولة عن الإنشاء والاختبار والتكليف بإنشاء خمسة خزانات، وكذلك محطات ضخ، وشبكة أنابيب، والأعمال الميكانيكية والكهربائية والمدنية والإنشائية والمعمارية والخارجية. وقد صرح خوسيه أنطونيو لوبيز مونيوز، الرئيس التنفيذي لمجموعة حيتور، قائلاً: «تمثل قطر سوقاً مهماً للغاية لمجموعة حيتور لايتون، فقد كان لنا مكتب

صرح رامز العصار، كبير متخصصي النقل في البنك الدولي، أنه من المتوقع الانتهاء من أعمال التصميم والهندسة لشبكة سكة حديد دول مجلس التعاون الخليجي في 2015. وقد صرح العصار، الذي يعمل بقسم التطوير المُستدام لمنطقة الشرق الأوسط وشمال أفريقيا في البنك الدولي، قائلاً إنه قد يلتقي بمجموعة العمل الخبيرة بسكة حديد دول مجلس التعاون الخليجي في أيلول/سبتمبر خلال شهر مايو/أيار 2015. وأضاف العصار أنه من المأمول التوصل إلى اتفاق بشأن جدول المواعيد الرئيسي بحلول شهر يونيو/حزيران 2015. وفي وقت مبكر من هذا العام، صرح مسؤولون في الهيئة الاتحادية للمواصلات (FTA) بالإمارات العربية المتحدة، أنه قد لا يتم الانتهاء من شبكة السكة الحديد بحلول عام 2018 وهو الموعد النهائي الحالي. وقد صرح رئيس الهيئة الاتحادية للمواصلات، عبدالله بلحيف، التعميمي، قائلاً إن بعض الدول الأعضاء قد لا تسلم المشروع في الموعد المحدد. غير أن دولتين من بين الدول الأعضاء بمجلس التعاون الخليجي، وهما دولة الإمارات العربية المتحدة والمملكة

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التطورات، أخبار السوق، مؤتمرات ومعارض، الاستراتيجية التنفيذية.

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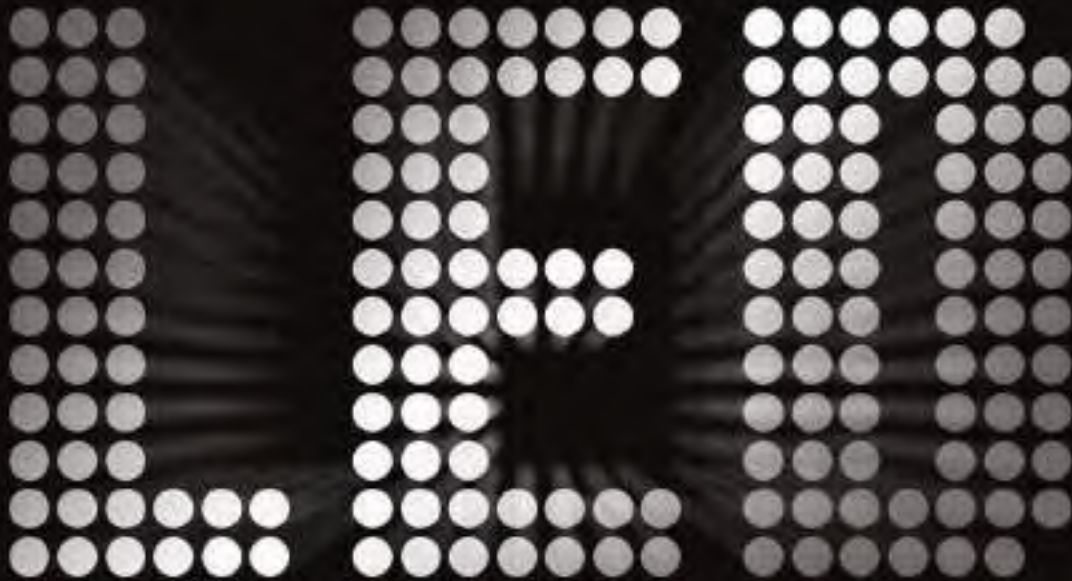


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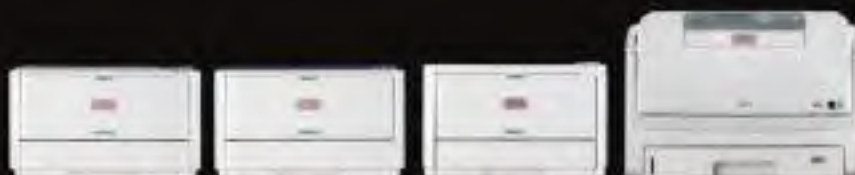


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