

TECHNICAL REVIEW

النشرة التقنية - الشرق الأوسط

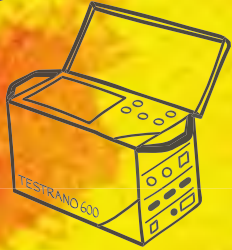
MIDDLE EAST

USA: \$16.50, United Kingdom: £10

Vol 32/Issue Five 2016

NEW

SPEED UP TESTING



POWER TRANSFORMER

THREE-PHASE TEST SET



Quicker and easier three-phase power transformer testing than ever before ...

www.omicronenergy.com/newTESTRAND600



Mining for prospects

The lacklustre growth has not deterred investment into the sector

Diversifying economies

GCC moves towards non-oil FDI and regulatory reforms

CONSTRUCTION

TO REFLECT
STRUCTURE
IN GCC



See us at the shows



www.technicalreview.me

32 Years

1984 - 2016

Serving Middle East
Business



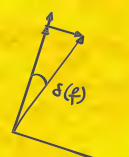
POWER FACTOR

THREE-PHASE TEST SET

REDUCED WIRING



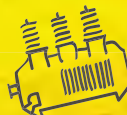
TTR



DEMAGNETIZATION

DRM

DISSIPATION FACTOR



LEAKAGE REACTANCE

POWER TRANSFORMER

WINDING RESISTANCE



Cornelius Plath
Product Manager

... was our vision for our new powerful and lightweight test set. **TESTRANO 600** is the world's first portable, three-phase test system which supports all of the common electrical tests done on power transformers.

With just one setup for multiple tests, **TESTRANO 600** significantly reduces the wiring effort and testing time. Its specially designed power amplifiers ensure a new level of accuracy. And the multi-touch color display enables smart and comfortable operation.

www.omicronenergy.com/newTESTRANO600



TECHNICAL REVIEW

النشرة التقنية - الشرق الأوسط

MIDDLE EAST

USA: \$16.50, United Kingdom: £10

Vol 32/Issue Five 2016

Mining for prospects

The lacklustre growth has not deterred investment into the sector

Diversifying economies

GCC moves towards non-oil FDI and regulatory reforms

FOCUS ON CONSTRUCTION

THE BIG 5 DUBAI TO REFLECT
BUOYANT INFRASTRUCTURE
OUTLOOK IN GCC

INSIDE

Test & Measurement
Compressors
Cranes & Lifting Equipment
HVAC
Paints & Coatings

See us at the shows



www.technicalreview.me

32 Years

1984 - 2016

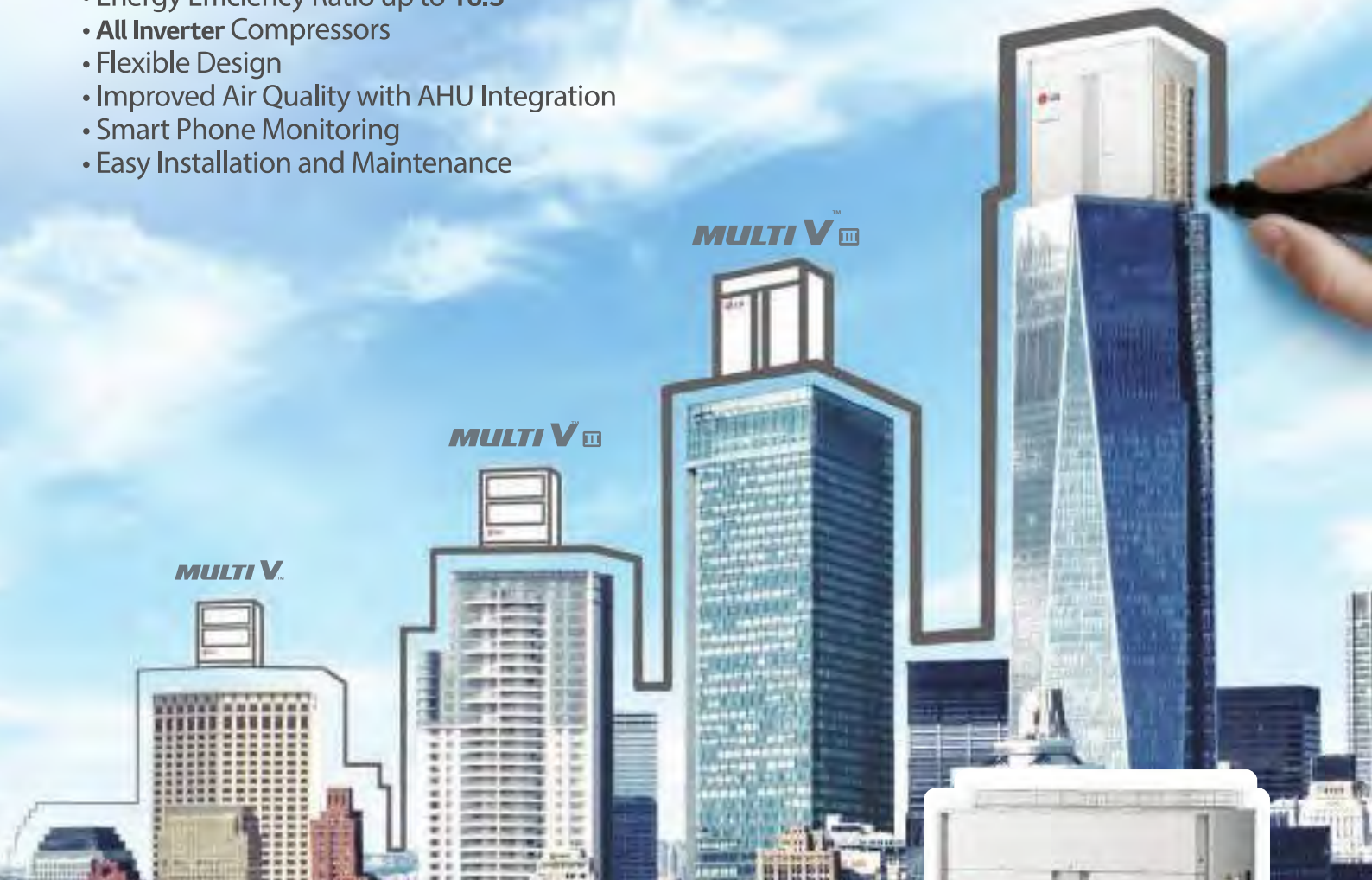
Serving Middle East
Business

MULTI V™ IV

Evolving Expertise into Reliability Excellence

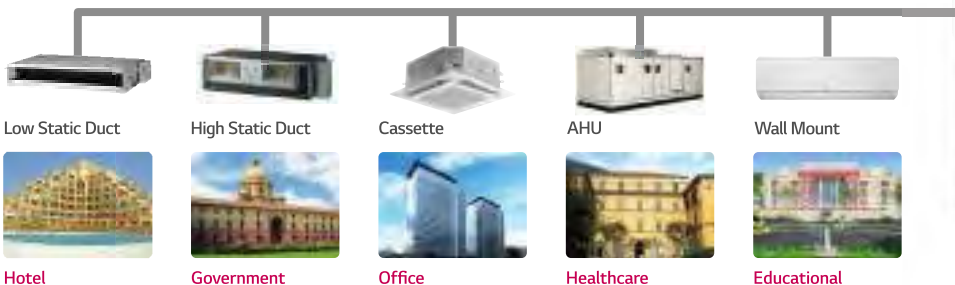
- Energy Efficiency Ratio up to 16.5
- All Inverter Compressors
- Flexible Design
- Improved Air Quality with AHU Integration
- Smart Phone Monitoring
- Easy Installation and Maintenance

MULTI V™ IV



The **MULTI V™** Milestone

The all new Multi V IV is the culmination of every innovation made over the years of Multi V series.



Multi V IV, the latest product of LG VRF



POWER YOUR FUTURE

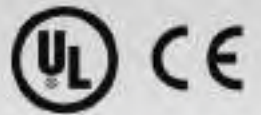
"AKSA began its journey as a manufacturer in Turkey in 1984, with the development of its first generating set. To satisfy the needs of today's customers worldwide, AKSA continues to manufacture a comprehensive range of generating sets from 1 kVA to 3,000 kVA at facilities in Turkey, China and the USA."



**WORLDWIDE
14 BRANCH
OFFICES**

**EXPORTS TO
160 COUNTRIES**

**PRODUCTION
IN 3 CONTINENTS
SINCE 1984**



aksa@aksa.com.tr
www.aksa.com.tr

Follow us on:   

 KAZANCI HOLDING

EDITOR'S NOTE

WITH DUBAI SPENDING US\$36.5bn on construction activities in 2016 alone, the city is ready to once again host the region's annual largest construction event – The Big 5. As always, we bring to you an excellent overview of the construction industry and related sectors (p42). An insight into the co-located events, Middle East Concrete and PMV Live (p52), should give you an idea as to what to expect there this year. Meanwhile, with Egypt's electricity demand set to grow at six per cent per annum, Cairo is gearing up for ELECTRIX (p68) to showcase some of the biggest opportunities the North African country can offer potential investors. Also, it is interesting to note that even with low commodity pricing, there is an increasing focus on mining with renewed interest in Iran. The annual mining review (p14) will explain why.

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

CONTENTS

BUSINESS & MANAGEMENT

- Market News** **6**
Louvre Abu Dhabi opening delayed to 2017; Kuwait's first solar power plant starts up; UL opens testing lab for electrical equipment in UAE
- Executive Strategy** **12**
FG Wilson gives an insight into its landmark project, Yavuz Sultan Selim Bridge, in Turkey

MINING

- Picking Prospects** **14**
Depressed metal prices have not deterred investors from looking for more projects in the MENA region

ANALYSIS

- GCC Economic Report** **18**
The nations are making changes in their fiscal reforms to maintain growth and diversify from oil income

MATERIALS HANDLING

- Heavy Haul** **32**
Saudi Arabia's developing industrial sector is creating a bigger logistics market in the kingdom

FORMWORK & SCAFFOLDING

- Futuristic Formwork** **39**
A peek into the innovative technologies that are leading digitisation in construction

THE BIG 5

- Destination Dubai** **42**
All the news ahead of the return of the region's largest construction exhibition at Dubai World Trade Centre

EVENTS

- IranConMin** **64**
- ELECTRIX/SOLAR-TEC** **68**
- 2nd Health, Safety & Security Forum** **72**

INNOVATIONS

- Technological Developments** **76**
Featuring RANCO, Cummins, SpecialInsert, Genavco, MESC, International Trade Solutions, INMESOL and HIMOINSA

ARABIC

- News** **4**
- Analysis** **6**



22



28



80

TECHNICAL REVIEW

المنشور التقني - الشرق الأوسط

MIDDLE EAST

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

Editorial and Design team: Prashanth AP, Hiriyti Bairu, Luke Barras-Hill, Sejal Bhat, Miriam Brtkova, Kestell Duxbury, Ranganath GS, Rahul Puthenveedu, Zsa Tebbit, Nicky Valsamakis, Vani Venugopal and Louise Waters

Group Editor: Georgia Lewis

Publisher: Nick Fordham

Publishing Director: Pallavi Pandey

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

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

Production: Kavya J, Nelly Mendes and Sophia Pinto
Email: production@alaincharles.com

Subscriptions: circulation@alaincharles.com

Chairman: Derek Fordham

Country	Representative	Telephone	Fax	Email
India	Tanmay Mishra	+91 80 65684483		tanmay.mishra@alaincharles.com
Nigeria	Bola Olowo	+234 8034349299		bola.olowo@alaincharles.com
UK	Steve Thomas	+44 20 7834 7676	+44 20 79730076	stephen.thomas@alaincharles.com
USA	Michael Tomashefsky	+1 203 226 2882	+1 203 226 7447	michael.tomashefsky@alaincharles.com

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

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

Printed by: Buxton Press

Printed in: November 2016

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

Arabic Typesetting: Lunad Publicity, Dubai

© Technical Review Middle East ISSN: 0267-5307

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

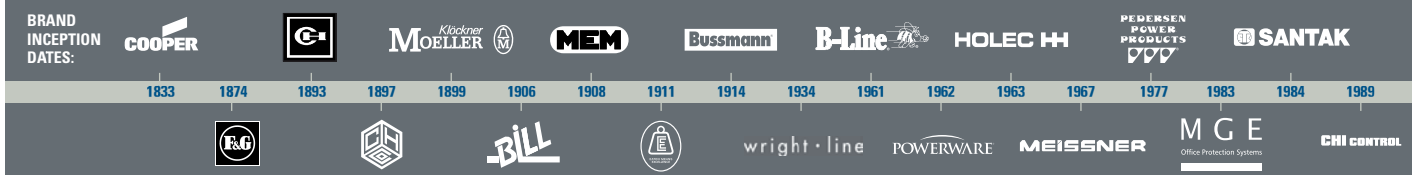
Middle East Regional Office: Alain Charles Middle East FZ-LLC
Office L2-112, Loft Office 2, Entrance B, Dubai Media City, Dubai, UAE
Tel: +971 4 448 9260, Fax: +971 4 448 9261

Alain Charles Publishing
Serving the world of business

abc Audit Bureau of Circulations - Business Magazines

MGE OFFICE PROTECTION SYSTEMS
 MCGRAW-EDISON MOELLER
 METALUX MEM CUTLER-HAMMER
 COOPER HALO ARROW HART
 B-LINE BUSSMANN MTL
 HOLEC MCGRAW-EDISON
 ARROW HART MEM BUSSMANN
 METALUX POWERWARE
 MEM HALO BUSSMANN
 MCGRAW-EDISON CEAG
 MOELLER MTL POWERWARE
 CEAG COOPER BUSSMANN
 MTL B-LINE
 HERNIS
 MCGRAW-EDISON
 B-LINE
 ARROW HART
 MOELLER
 HALO MEM
 MTL
 COOPER
 HERNIS POWERWARE HOLEC
 BUSSMANN MTL ARROW HART
 B-LINE COOPER MCGRAW-EDISON
 MOELLER CEAG HOLEC MOELLER
 MTL POWERWARE CEAG
 MEM MGE OFFICE PROTECTION SYSTEMS
 HERNIS POWERWARE
 COOPER HALO CROUSE-HINDS

MORE POSSIBILITIES.
 POWERFUL SOLUTIONS.



Powering Business Worldwide

Eaton has been serving the power management needs of our customers for more than a century. Over the years, we have expanded our expertise and portfolio of products and services by uniting some of the world's most respected names with Eaton's strong heritage of innovation.

Our goal is simple; to provide unique solutions across a wide range of markets that keep businesses on the leading edge of change. That's the power of One Eaton.

Briefly

Louvre Abu Dhabi opening delayed, now scheduled for 2017

THE OFFICIAL OPENING of the Abu Dhabi branch of France's Louvre Museum has been postponed to 2017 due to pending construction work, three sources have stated.

Louvre Abu Dhabi was originally scheduled to open in 2012 but that target was pushed back to the second half of 2016, chairman of state-owned Tourism Development and Investment Company (TDIC) told *Reuters* last year. TDIC, the developer, was scheduled to hand over the US\$650mn museum to Abu Dhabi's Tourism & Culture Authority (TCA) in mid-2016.

"First, the museum buildings have to be completed and delivered and then the opening must take place, which is now some time in 2017," a source close to the project added.

TDIC is developing a cultural district in Abu Dhabi that will house branches of the Louvre and Guggenheim Museums and the Zayed National Museum.

Bahrain witnesses 43 per cent rise in construction projects

BAHRAIN'S REAL ESTATE sector has seen steady growth in 2016 with the number of construction permits issued increasing by 43 per cent in the past one year, as revealed by a senior minister.

"The growth proves the procedures taken by the government to protect this vital sector and ensure the rights of all stakeholders, deputy premier and chairman of the ministerial committee for urbanisation and infrastructure," Shaikh Khalid bin Abdulla Al Khalifa was quoted as saying by *BNA* news agency.

He said that the implementation of the real estate-related decisions, and the recent positive indicators resulting from it, prove the importance of the legal regulation of the sector to ensure the non-recurrence of the issue of stalling real estate development projects.

The law, once approved, will also ensure the continuous growth and stability of the real estate sector, which is among the main non-oil economic sectors that supports more than 90 industries and related activities, he stated.

Kuwait's first solar power plant starts up

KUWAIT HAS BEGUN operating its first solar power plant at the Umm Gudair oilfield, a significant step for the country as it seeks to diversify its sources of energy to meet burgeoning local demand.

The US\$99mn project, Sidrah 500, will produce 10MW of electricity, half of which will be supplied to the public electricity network, according to a *Reuters* report.

The other half will be used to supply the oilfield itself, which is owned by Kuwait Oil Company (KOC), a subsidiary of state-run Kuwait Petroleum Corporation (KPC).

Kuwait announced plans last year to generate 15 per cent of its energy needs via renewable sources by 2030. Consumption of electricity is rising rapidly in Kuwait, as throughout the rest of the GCC region. The country's electricity and water minister estimated last year that demand would reach 30,000MW per day by 2030.

In a speech at the project launch, KOC chief executive Jamal Ja'afar said that Sidrah 500 represented the country's first step toward that goal, *Reuters* reported.

"We hope that by 2020 we can make 20 per cent of the electricity, which will be needed to run KOC from alternative energy," he said.

The opening of the plant follows an increased focus on renewables in Kuwait and across the GCC region in recent years.

The Kuwait Institute for Scientific Research signed a contract last year with Spain's TSK to establish the country's first solar thermal energy



The US\$99mn project, Sidrah 500, will produce 10MW of electricity. (Photo: Patrick Moore/sxc.hu)

plant, with a planned production capacity of 50MW. The institute's Shaqaya initiative is also planning solar and wind projects in the northwest of the country.

Saudi Arabia has plans for 9.5GW of renewable energy by 2023, with 3.45GW of capacity commissioned by 2020.

The UAE is looking to increase its target for power generation from clean energy to 30 per cent by 2030. Abu Dhabi-based company Masdar has invested US\$2.7bn into clean energy projects over the past decade, while the Mohammed Bin Rashid Al Maktoum Solar Park, set to be the world's biggest solar park, is being built in Dubai at a cost of US\$14bn.

UL opens testing lab for electrical equipment in UAE

GLOBAL SAFETY SCIENCE organisation UL has launched its testing laboratory in Abu Dhabi.

The state-of-the-art laboratory spans over 850 sq m and will specialise in testing electrical



The testing capability was conceived and invested in Abu Dhabi in the UAE following the close working relationship with Abu Dhabi Distribution Company (ADDC), part of Abu Dhabi Water & Electricity Authority (ADWEA). (Photo: UL)

equipment to withstand the various climatic and industrial conditions encountered in the Middle East.

The purpose-built laboratory has been split into four testing zones - environmental, dust, aqua and heat. One of its key purposes will be to minimise the risk of fires in the region by expertly testing electric panel boards used in commercial and residential buildings.

Hamid Syed, UL vice-president, said, "The opening of UL Middle East Electrical laboratory is not just a major milestone for UL, but also for the UAE and the wider region."

"The power sector in the Middle East has seen rapid growth in recent years driven by huge industrialisation and increased energy consumption. This has led to a huge increase in the supply chain with both locally manufactured products and imports comprising of various electrical items found in most building such as switchgears, circuit breakers, cable management systems, transformers and distribution accessories."



JOTUN

Jotun Protects Property

Jotafloor

Superior Floor Protection



For the protection of new constructions and the repair of concrete and its maintenance, the Jotafloor range provides solutions that offer lasting protection and beauty.

Visit jotun.com for more details.

ON THE WEB

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

Saudi Aramco shortlists firms for non-oil projects

OIL GIANT SAUDI Aramco has shortlisted four companies to help it manage non-oil construction projects, according to a *Bloomberg* report, that include Canada's SNC-Lavalin, US-based Jacobs Engineering, Faithful & Gould, part of UK-headquartered Atkins, and Dar Al-Handasah

Consultants Ltd. Saudi Arabia plans to transform Saudi Aramco from an oil and gas company into an industrial conglomerate to prepare the kingdom's economy for the post-oil era, Deputy Crown Prince Mohammed bin Salman had told *Bloomberg* beginning of this year. www.technicalreview.me/construction



Saudi Arabia is embarking on its economic transformation under lowered oil prices. (Photo: Rongy Benjamin/Flickr)

Oman to strengthen PPP framework

ALI BIN MASOUD Al Sunaidy, Oman's minister of commerce and industry, said that the government is focused on establishing the public-private partnership (PPP) framework to solve funding challenges and attract much-needed investment to deliver prioritised projects.

Al Sunaidy reinforced that private sector role is the backbone of Oman's ninth five-year development plan, the last of the series of five-year plans for the Vision 2020, which aims to achieve the goal of economic diversification.

The minister made the statement during the keynote address at the opening of MEED's Outlook Oman Forum held in Muscat. www.technicalreview.me/business-a-management

Middle East airlines see 11.5 per cent demand growth in September 2016

MIDDLE EAST CARRIERS saw an 11.5 per cent rise in demand in September 2016, compared to a year ago, which was the largest increase globally, International Air Transport Association (IATA) has announced.

Passenger capacity rose faster, up 13.8 percent. However, load factor dropped 1.5 percentage points to 73.9 per cent.

The IATA announced global passenger traffic results for September showing that demand, measured in revenue passenger kilometres (RPKs) grew seven per cent compared to the same month in 2015.

This was the strongest year-over-year increase in seven months. www.technicalreview.me/logistics

Yokogawa to sell CiDRA technology in Middle East

YOKOGAWA ELECTRIC CORPORATION and CiDRA Corporate Services have entered into a distributor agreement to sell latter's SONARtrac® range of flowmeters in the Middle East.

CIDRA's line of SONARtrac flowmeters provides accurate and reliable flow and entrained air measurements for mining applications, as well as most other industrial applications.

www.technicalreview.me/construction



SONARtrac flow meters provide accurate and reliable flow measurements for a wide range of applications and industries. (Photo: CiDRA)

DigiRobotics launches UAE's first 3D-printed car at GITEX

THE UAE'S FIRST 3D-printed autonomous vehicle led launches of 3D printed technology at GITEX Technology Week in Dubai from 16-20 October 2016.

UAE-based robotics company DigiRobotics revealed WiGo, the first 3D-printed unmanned vehicle manufactured, assembled and programmed in the UAE. WiGo is ideal for mega-events. www.technicalreview.me/events



Digi Robotics' TrashBot is the first robotic autonomous trash collecting vehicle. (Photo: Digi Robotics)

Saudi Arabia power plant aids 66,000MW electricity generation

THE ELECTRICITY GENERATION from Qurayyah Independents Power Plant in the eastern province of Saudi Arabia makes up eight per cent of the kingdom's total electricity power generation that reached 66,000MW, according to a report.

A total of US\$3.7bn has so far been spent on the plant since its inception seven years ago, reported the Saudi Gazette, citing a senior government official.

"The gas and fuel oil-fired combined cycle power station was able to increase its efficiency to 54 per cent during 2016 compared to 33 per cent in the previous year. Power generation from the plant reached 4,457MW during summer season and rose to 4,850MW in the winter season," said Ziyad Al Shammari, director of the plant.

www.technicalreview.me/power-a-water



All-in-one Gensets for all round performance!

Kirloskar Green Gensets: from 5 to 625 kVA

Powerful and reliable, Kirloskar Green Generating Sets have always been the first choice of customers in the Arabian peninsula. Today, our gensets are quietly and efficiently fulfilling the need for backup power whenever and wherever required. Kirloskar Oil Engines, part of the US\$ 1.6 billion Kirloskar Group, is one of world's largest producer of generating sets.

Powered by state-of-the-art manufacturing setups, and backed by extensive in-house R&D facilities, we offer both air-cooled and water-cooled engines and diesel generating sets. Available for power outputs ranging from 5 to 625 kVA, Kirloskar Green customized power solutions are ideal for any application - standby or prime, open or sound proofed. What's more, our operations are supported by a global network of offices and affiliates that ensure prompt sales, service and spares support wherever you are.



Our power solutions touch your lives everywhere

Service Sector: Telecom, IT, Retail, Hotels, Hospitals, Educational Institutions, Banks

Urban Infrastructure: Shopping Malls, Townships, Residential and Commercial Complexes

Entertainment Segment: Multiplexes, Amusement Parks

Industries: Engineering, FMCG, Manufacturing, Automobiles, Textiles, Pharmaceuticals, Dairy & Food Processing

DISTRIBUTORS

Bahrain : M. H. Al Mahross BSC, ajit@almahross.com
Egypt : Egyptian Engineering & Trading Co., eetco@link.net
Kuwait : Boodai Trading Company Ltd., psharma@boodai.com
Oman : Kala International LLC., kalainternational@kalabiz.com
Qatar : Boodai Trading Company Ltd., boodai@btcqtr.com

Saudi Arabia : Abdullah Hashim Company Ltd., azizr@ahdl.co.sa
Sudan : Central Advanced Digitech Company ahmed.mohmed@digitech.sd
UAE : AL Shirwi Enterprises, charan@ase.ae

Head Office: Laxmanrao Kirloskar Road, Khadki, Pune - 411 003, India, Tel: +91 (20) 25810341/5341 Fax: +91 (20) 25813208, E-mail: Milind.Panadare@kirloskar.com
Middle East Office: Kirloskar DMCC, P. O. Box 37745, Unit No. 504, Jumeirah Business Centre 5, Jumeirah Lake Towers, Dubai, UAE, Tel: +971 4 441 4532, E-mail: enquiry@kirloskar.ae
For enquiries please visit www.koel.co.in or email: milind.panadare@kirloskar.com
'Kirloskar', 'Kirloskar Enriching Lives', 'Kirloskar Green Chilli Power Ideas' are trademarks owned by Kirloskar Proprietary Limited.



KIRLOSKAR
GREEN
POWER IDEAS

EXECUTIVES' CALENDAR 2016-2017

NOVEMBER

21-24	The Big 5 Dubai	DUBAI	www.thebig5.ae
21-24	PMV Live	DUBAI	www.pmvlive.com
21-24	Middle East Concrete	DUBAI	www.middleeastconcrete.com
22-24	ARABAL	DUBAI	www.arabal.com
28-29	Materials Handling Saudi Arabia	JEDDAH	www.messefrankfurtme.com

DECEMBER

4-6	Electricx	CAIRO	www.electricxegypt.com
4-6	Solar-Tec	CAIRO	www.solartecegypt.com
5-7	INTEX Oman	MUSCAT	www.intexoman.com
5-8	Iran Renewable Energy Commercial Conference	TEHRAN	www.iranrecongress.com
11-13	MEFSEC	CAIRO	www.mefsec.com

JANUARY 2017

15-17	HVACR Expo Saudi	JEDDAH	www.hvacrexposaudi.com
15-17	FMExpro Saudi Arabia	JEDDAH	www.fmexpo-saudi.com
16-18	Oman Minerals & Mining	MUSCAT	www.omanminingexpo.com
16-19	World Future Energy Summit	ABU DHABI	www.worldfutureenergysummit.com
16-19	International Water Summit	ABU DHABI	www.internationalwatersummit.com

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

Saudi Build highlights the kingdom's construction opportunities

THE 2016 EDITION of Saudi Build, the international construction technology and build materials exhibition, was held from 17-20 October in Riyadh.

Addressing the needs of the local construction market, the event brought together around 870 local, regional and international exhibiting companies to present their latest product innovations and new technologies in the field of construction to an audience of industry professionals from around the region. All aspects of the construction industry were represented, from construction materials and equipment to vehicles and finishing.

This year, the event, held under the patronage of Saudi Arabia's Ministry of Municipality & Rural Affairs, brought together three exhibitions under one roof, combining Saudi Build with Saudi Stone-Tech 2016 and Saudi Build – The PMV Series 2016.



Construction projects to the value of round US\$600bn are underway in the kingdom. (Photo: Salem Alfaraih/Shutterstock)

As vast construction projects continue to develop, especially in the social and transport infrastructure, the Saudi construction sector will witness significant growth in the coming years. The Saudi Arabian construction sector is currently valued at US\$600bn, according to the organisers, with infrastructure projects alone amounting to US\$350bn. Major projects underway include King Abdullah Economic City, Riyadh Metro, Haramain high-speed rail network, Riyadh-Dammam high-speed rail. Around US\$180bn is being invested in the transportation infrastructure between 2015 and 2019. Vision 2030 objectives such as the transformation of the kingdom into a global investment hub and the development of new cities, including smart cities and an energy city, are likely to ensure that construction activity remains at a high level for years to come.

ControlReg®

TAKE CONTROL



The first integrated Genset Controller &
Automatic Voltage Regulator.
By Leroy-Somer.

ControlReg features everything you'd expect from a genset controller, supercharged with advanced regulation settings.



CONTACT US TODAY

 www.controlreg.com
 controlreg@leroy-somer.com
 +33 (0) 545 644 367 / 632

Leroy-Somer™

FG Wilson goes intercontinental

FG Wilson generators power the world's tallest suspension bridge, the Yavuz Sultan Selim Bridge, which connects Europe and Asia over the Bosphorus Strait.

THE BOSPHORUS STRAIT is one of the world's most important and busiest waterways, known most of all as the line at which Europe and Asia meet. It also cuts through the major city of Istanbul, home to 17mn people.

Huge bridges keep the city connected and one more was opened in August this year, the Yavuz Sultan Selim Bridge, carrying road and rail traffic and marking a big improvement in the city's transport infrastructure. The bridge itself is the world's tallest suspension bridge, towering 322 metres above the water and it is also one of the world's widest suspension bridges at 58.5 metres. There are eight lanes for cars, carrying the North Marmara Highway and a two way rail system, with a main span of 1,408 metres across the Strait and total length of 2,164 metres.

FG Wilson Turkey was selected to provide the power for this huge bridge, supplying and installing four 605kVA generator sets for the bridge's towers, road lighting, tower escalators, service pumps, dehumidification units and architectural lighting. To put in perspective, this is the same as the power needs of a large shopping mall, two five star hotels or a 300 bed hospital.

The FG Wilson generators are located in both European and Anatolian towers of the bridge. The generator sets are equipped with silencers and are connected into the bridge's BMS controls. To enable this, FG Wilson Power wizard 2.1 control panels were customised for remote performance monitoring and control via TCP/IP.

Throughout, FG Wilson Turkey has been working closely with FG Wilson's UK-based engineering teams, taking the project from design and manufacture, through to installation and commissioning.

Speaking about the installation, Koksal ER, CEO of FG Wilson Turkey, said, "At almost US\$3bn, the Yavuz Sultan Selim Bridge is one of the largest infrastructure



FG Wilson Turkey has installed four 605kVA generator sets to power the bridge's towers, road lighting, tower escalators, service pumps, dehumidification units and architectural lighting. (Photo: FG Wilson)

investments in Turkey and it is making a big difference to people living in Istanbul. Because of the sheer volume of traffic using the bridge, uninterrupted and continuous

“Because of the sheer volume of traffic using the bridge, uninterrupted and continuous supply of energy is of vital importance.”

Koksal ER, CEO, FG Wilson Turkey

supply of energy is of vital importance. FG Wilson Turkey is very proud to be supplying generator systems and we are delighted to see our brand as the guarantor of power for an infrastructure project on this scale.”

The units were manufactured at FG Wilson's UK facility in Larne, which houses Europe's largest testing and development facility for generator sets, built with a total investment of US\$26mn.

Speaking after the completion of the project, Ann Brown, managing director of FG Wilson, said, “We are delighted to play a part in this landmark project, one which is making a very positive difference for people in Istanbul. It underscores the reliability of FG Wilson generator sets, the expertise of FG Wilson Turkey and our engineering team in handling the project all the way through to installation, and also the high levels of support, which FG Wilson Turkey will give to the customer to ensure our generator sets have a long, efficient and productive working life.” ■

Spend less time on the road with FG Wilson

When we were developing the new FG Wilson 6.8 – 25 kVA range, we worked with the experts: the people who own and use generator sets every day.

From top to bottom, the range is designed to make life easier for you.

It comes with 600, 1,000 & 2,000 litre fuel tanks so you need to refuel less often.

1,000 hour service intervals mean you need to make fewer visits to site.

New LCD control panels with optional remote communications make day to day operations simpler.

Three enclosure design options mean you only fit the enclosure you really need.

And our extensive dealer network will ensure it's always in great shape to do the job it was designed to do.



To find out more, visit www.fgwilson.com



The MENA mining sector will see strong growth in over the coming years, especially after the ease of sanctions on Iran. (Photo: NooScapes/Shutterstock)

Battered by price storm, MENA still taps prospects

The World Bank believes metals prices will rise more sharply in 2017 than it had forecast in July as a result of faster-than-expected mine closures. Nnamdi Anyadike reports.

GLOBAL MINING ACTIVITY is struggling to recover from its downturn at the start of 2015. Last year's depressed metals prices, combined with falling demand in China and the rest of the key world economies, has led to fears in some quarters that the bottom of the cycle may not be reached in 2016. A recent Ernst & Young report says that this year the mining sector experienced its fifth consecutive year of decline. Overall, capital raised across the global mining sector has been down by about 10 per cent year-on-year since 2015. The decrease was primarily due to a sharp drop-off in loan finance to the sector. This fell to US\$44bn in 2015 from US\$122bn in 2014. In response to the downturn, Anglo American, Nyrstar, Freeport-McMoRan and Glencore have all announced their intention to divest assets.

This bear sentiment has had a negative effect on the Middle East and North Africa's (MENA's) mining sector and indeed, its wider economy. The region hosts more than 30 per cent of global mineral reserves. Yet, it lacks exploration and resource development investment.

Political unrest, lack of proper governance, limited infrastructure and

technological advancements have all played their part in stunting growth in MENA's non-metallic minerals market. A case in point are the Khunayfis and Al-Sharqiya phosphate mines in Syria that were operated by Syrian mining company Compagnie Generale des Phosphates et des Mines, where production is now at a standstill. Further west in North Africa, Morocco, the Western Sahara and Egypt remain globally important regions for phosphate production. The US Geological Survey (USGS) estimates a combined output of 30mn tonnes of phosphate rock per year from Morocco and the Western Sahara.

But as of November 2016 there was still no sign of a political settlement between the two desert nations, 25 years after a border ceasefire was put in place. And tensions are once again building. Neighbouring Tunisia produces 2.8mn tonnes, less than half the eight million tonnes produced five years ago, although there are plans to increase this significantly. In October this year, secretary of state for mines, Hachemi Hmidi, said he was optimistic about the improvement of Tunisia's phosphate production. This follows a recovery in activity at four production sites that had been blocked by protest

movements. The goal is to increase phosphate production three to four million tonnes per year. Egypt produces three million tonnes of phosphate rock per year and there are plans for a US\$1bn expansion. In August, a delegation of major Chinese mining firms visited the country's Abu-Tartour phosphate plateau to lay the foundation for a project to manufacture phosphoric acid as a primary phase towards producing phosphate cement.

Meanwhile, Saudi Arabia and Jordan each produce three million tonnes of phosphate per year. This summer, Saudi Arabia's Ministry of Energy, Industry and Mineral Resources announced that it was willing to launch more investment licences in the mining sector. Licences are being granted to zinc and other minerals, as well as phosphate. The goal is for the mining sector to contribute up to US\$25bn to the kingdom's economy by 2020. Mining's current contribution to the country's GDP is a mere 2.5 per cent.

Saudi Arabia's largest mining company, Ma'aden, is boosting its output in gold and base metals mining, phosphates, aluminium and industrial minerals including magnesite, kaolin and low-grade bauxite. Saudi Arabia's

THE SAME POWER &
RELIABILITY
AT A MORE AFFORDABLE
PRICE



Export portable air compressors are still available from 185 CFM to 1150 CFM. Models such as the DE185P3IZ and DE375Q7PJD pictured, are expertly engineered for superior performance at an unbeatable price. Act now while supplies last. For more information, reach out to our Regional Sales Director, Rajesh George, at rgeorge@palatek.com.

 **RELIABILITY ON THE ROAD.
TOUGH ON THE JOB.**

Incredible Prices

950 CFM & 1150 CFM AT 350 PSI (24 BAR)

ALSO AVAILABLE
CALL FOR SPECIAL PRICING!

» **+97150 6268709** «

Discover More



www.sullivan-palatek.com



ambitions include the construction of the largest and most efficient integrated aluminium complex in the world. The US\$10.8bn integrated aluminium facility plant will be built as a joint venture between Ma'aden and Alcoa that will be known as Ma'aden Aluminium. Copper production is also being boosted. Saudi Arabia's copper mining operations at Jabal Sayid are being undertaken by Ma'aden Barrick Copper Co (a joint venture between Ma'aden and Barrick Gold) and are expected to produce about 45,000 tonnes of copper annually. The site has an estimated 635,000 tonnes of reserves that are expected to take up to 16 years to mine. Other mining and metals projects in the kingdom include Khnaiguiyah Mining Company, a joint venture company between Alara Resources Limited and United Arabian Mining Company LLC. The joint venture company operates a zinc-copper mine in Khnaiguiyah that is

now believes that metals prices will rise more sharply in 2017 than it had forecast in July, as a result of faster-than-expected mine closures.

"In 2017 metals prices are projected to increase by four per cent as most markets continue to rebalance. The largest gain is for zinc, which is projected to rise more than 20 per cent, on continued supply tightening from large mine closures," it says.

A beneficiary of this forecast upturn in metals prices is Iran's mining sector, which is already witnessing a surge in activity. At the start of this year, the decades old economic sanctions against the country that had been imposed by the west were partially lifted. And in a new report, BMI Research says that it is now positive about the medium-term growth outlook for Iran's mining industry. The country contains vast underdeveloped reserves of metallic ores, although the sector as a whole is in need both of

Sarcheshmeh, Sungun and Miduk. These have estimated combined reserves of 3.4bn tonnes of ore.

The Sarcheshmeh copper mine located in Kerman Province is the second largest mine in the world. It holds over 826mn tonnes of proven copper and 1.2bn tonnes of estimated copper reserves with 0.7 per cent average grade. It also includes substantial amounts of other minerals including molybdenum, gold, silver and rare metals. The Sungun mine is Iran's second largest copper operation with over 470mn tonnes of proven and one billion tonnes of potential reserves grading 0.6 per cent. Miduk holds 170mn tonnes of proven copper reserves with an average grade of 0.25 per cent. In 2015, Nicoco added about 300,000 tonnes per year to Miduk's total copper concentrate production capacity.

Investment is also forecast to rise in Oman where a new mining law, which is soon to be announced, is expected to speed up the processing of mining licences. Oman holds sizeable mineral reserves of gold, silver, chromite, lead, nickel, manganese and zinc. It also has reserves of gypsum, limestone and marble. However, these assets have remained untouched as the growth of the country's oil sector has taken precedence. Dean Cunningham, CEO of Kunooz Oman Holding, told the *Times of Oman* that so far small areas have been given to potential investors or smaller players for exploring and possible mining for minerals. In anticipation of the new mineral law, the company has now applied for mining and exploration licences in three locations from the Public Authority for Mining (PAM). BMI Research expects a boom in Oman's mining and metals sectors in the coming years as investment is set to gather momentum, particularly in the copper and aluminium sectors.

But despite this relative mood of optimism as to the future of MENA's metal mining sector, BMI Research says countries right across MENA will continue to experience 'lacklustre growth'. It notes that while the growing attractiveness of frontier mining might encourage an increasing number of companies to cast their sights on the MENA, "For the most part, the lack of a reliable regulatory framework, elevated political instability and infrastructure deficits will remain overriding concerns for investors."

The one exception is Saudi Arabia whose 'mining risk and reward' rating is favourable, owing to its generally more stable business environment. ■

Saudi Arabia's largest mining company, Ma'aden, is boosting its output in gold and base metals mining, phosphates, aluminium, and industrial minerals including magnesite, kaolin and low-grade bauxite. (Photo: Sarin Kunthong/Shutterstock)



estimated to be able to produce 1.4mn tonnes of zinc concentrate and 210,000 tonnes of copper concentrate. In Jordan, the phosphate sector has been hit hard by a downturn in prices. This price decline caused the Jordan Phosphate Mines Company (JPMC) to slash fertiliser output last year by half from 646,000 tonnes to 318,000 tonnes.

But while the prospects for phosphate and the other non-metallic minerals are depressed the outlook for MENA's metallic mining sector is much more positive. And it is buoyed by an upbeat forecast from the World Bank, which has now raised its 2017 price estimate for mined metals. The bank

modernisation and new technology. However, investment is now starting to flow. Last year, the state copper producer Nicoco signed an investment agreement with a consortium of Middle East companies for the construction of the 100,000 Chah Firouzeh copper concentrate plant in Kerman Province. It is expected to start operations in 2019.

Copper output is expected to outperform the rest of Iran's mining sector in the coming years, with annual growth averaging 13 per cent through 2020. By the end of the decade, Iranian copper production is expected to top 500,000 tonnes per year from its three major copper mines –

Get rid of that
disrupting noise

S1-1568

Utility grade 15kV insulation resistance

Megger's S1-1568 Utility Grade 15kV Insulation Resistance Tester is designed to make accurate and stable measurements in noisy environments, including 765kV substations, with up to 8 mA of noise reduction. We help you cut out the noise so you can power on. Contact meinenquiries@megger.com

Megger.
Power on

Introducing CASAC's New Abdullah Fokoh Team Study & Research Center in Kuala Lumpur



WHEN VISIONARY DESIGN
MEETS THE RIGHT SOLUTION

VISIT US AT THE BIG 5 SHOW, 21-24 NOV 2017
MAIN CONCOURSE

TO WITNESS OUR LATEST PRODUCT REVEAL

SMART CLADDING SOLUTIONS

TO SUPPORT YOUR ARCHITECTURAL VISION



The Roof & Cladding Company

T: +971 6 533 8449 E: info@TigerPROFILES.com

In terms of investing climate, the World Bank Doing Business indicators ranks UAE (31) out of 189 economies – above Spain (33); Japan (34); and Italy (45). (Photo: Funny Solution Studio)

GCC 'reboots' its economic agenda

Economist Moin Siddiqi lays down the changes that nations have adopted in the fiscal framework to maintain growth as well as diversify from their oil income.

THE SIX-MEMBER Gulf Cooperation Council (GCC) – Saudi Arabia, the United Arab Emirates (UAE), Kuwait, Qatar, Bahrain and Oman – represents one of the wealthiest country groupings in the world, equal roughly to total the GDP of Canada, but with a higher population.

Diversifying income sources remain a pivotal challenge facing the region. The GCC has encouraged trade and foreign direct investment (FDI) to facilitate non-oil economic growth through regulatory reforms and fiscal incentives. FDI has helped member-countries gain access to sophisticated technology needed to expand production, marketing, transport, and communication networks.

GCC countries are positioning themselves as vibrant hubs for transport/trade logistics, financial services, tourism and agro-processing.

In terms of investing, the World Bank Doing Business 2017 indicators rank GCC at the top of Middle Eastern economies, with the UAE in the higher tier (ranked 26) out of 190 economies – above Netherlands (28), France (29), and Switzerland (31), respectively.

The low-tax environment and improved procedures such as access to construction permits and the registration of real estate and property make the GCC market attractive for foreign investors. These feature alongside favourable demographics and solid private consumption influenced considerably by Western lifestyles and tastes, as well as political stability and wealth. Countries are positioning themselves as vibrant hubs for transport and trade logistics, financial services, tourism and agro-processing. Saudi Arabia is investing in Red Sea ports and automotive manufacturing. Oman is developing its transshipment capacity.

Tilting towards the East

The GCC is an important junction in the global economy, evident in growing external market integration and greater FDI flows (both inward and outward) over the years. According to the International Monetary Fund (IMF), the region's merchandise trade accounted for an estimated four-fifths of GDP in 2016.

The Asian economies led by China, India and South Korea attracted nearly half of GCC's total exports in 2015 – dominated by



SHOWING PROFITS

Dynafleet* is Volvo Trucks online Transport Information System for improved profitability for your entire fleet. You can follow, in real time, via satellite, the current location of your vehicles, service intervals, fuel consumption, driver performance and much more.

*Available in selected markets only

DYNAFLEET

Volvo Trucks. Driving Progress



Fast Facts on GCC Market

	Population 2015 mn	GDP (US\$bn) 2016 est.	PPP GNI** per capita US\$ 2015	Exports US\$bn 2016 est.	Imports	Merchandise Trade % GDP 2016 est.	FDI Stock 2015 US\$m	Ease of Doing Business ranking (1-189)
Bahrain	1.34	29.9	39,140	13.0	13.8	89.6	27,660	63
Kuwait *	3.48	125.2	79,970	58.3	26.1	67.4	14,604	102
Oman	3.92	62.9	37,340	41.8	31.1	106.0	20,027	66
Qatar	2.26	197.0	140,720	77.3	34.1	56.5	33,169	83
Saudi Arabia	29.37	646.0	54,730	183.9	149.4	51.6	224,050	94
UAE ***	9.44	376.0	70,570	304.0	224.0	140.4	111,139	26
GCC Total	49.81	1,437	70,412 //	678.3	478.5	80.5//	430,649	

* Figures on gross domestic product and exports/imports for Kuwait relate to 2015. ** Measured at Purchasing Power Parity, Gross National Income basis.

*** Trade figures for UAE include 're-exports' of goods to Iran. // Refers to regional average.

shipments of liquefied natural gas (LNG), petroleum and oil derivatives – reflecting Southeast Asia's heavy energy demand fuelled by strong GDP growth and industrialisation.

GCC exports to India and China grew at a rate of 40 and 30 per cent, respectively, in the last decade, by far the highest rate with any major trading partners. Commercial ties have also spread to the Association of Southeast Asian Nations (ASEAN) group, with Thailand, Malaysia and Singapore standing out. Dubai and Bahrain look at Singapore as a model of thriving 'non-resource' based economy. The share of GCC imports from Asia-Pacific – comprising machinery, manufactured goods and foodstuffs – totalled over one-third of aggregate in 2015.

The *Economist Intelligence Unit* (EIU) notes, "These developing trade ties allow the Gulf countries easier access to wider Asian markets in the energy, telecommunications and finance sectors, which is beneficial to their economic diversification strategies."

North America, Europe and Japan, along with Australia and New Zealand, form a large trade/investment partner to GCC, accounting for 27 and 45 per cent, respectively, of exports and imports in 2015. The European Union (EU), led by Germany, Britain and France, remains the biggest western trading bloc in absolute terms, although its relative share of GCC trade has dropped in the past decade – with other emerging-markets (notably Asia-Pacific) growing their share at the expense of the West. In 2015, total trade flows from Asia were US\$454.8bn, compared to US\$395.5bn from western economies.

Emerging market investors

From a low base, GCC investment collaboration with Asia has grown rapidly in the last decade – with Chinese, Indians and Koreans emerging as major investors in infrastructure, energy, telecoms, ICT and manufacturing.

According to US think-tank, The Heritage Foundation, Chinese construction firms were awarded contracts worth US\$30bn between 2005 and 2014, representing one-tenth of China's global contract wins, the largest of which was the US\$3.7bn Waad Al-Shamal phosphate project in Saudi Arabia. Chinamex, real estate developer, helped to develop large malls in UAE (Dragon Mart Dubai) and Bahrain (Dragon City). The GCC is a prime market for China's telecoms giant Huawei. Indian FDI in the GCC-bloc was reported at US\$2.1bn in 2014. Indian entities have invested in some heavy industry; for instance Oman India Fertiliser Co. in Sur (opened in 2006) is a US\$1bn joint venture between Oman Oil Co. and two Indian farmers' co-operatives. Jindal Steel of India owns Shadeed Iron & Steel in Oman, which it acquired in 2010 for US\$464mn. Data from Alpen Capital, an Indian Dubai-based investment boutique, indicates that India is UAE's third largest foreign investor. Largest investments included have US\$300mn for Ultratech Cement in 2010

and the building of a cement factory in Fujairah free zone (worth US\$150mn).

Korean engineering, procurement and construction (EPC) firms in Qatar are involved in infrastructure projects reportedly worth US\$29bn, focusing on the construction of stadiums, railroads, highways and bridges – in preparation for the 2022 FIFA World Cup. In March 2015, South Korea and Qatar signed MoU to enhance their bilateral co-operation. The tankers transporting Qatar LNG around the globe are manufactured in South Korean shipyards. In 2014, Koreans were part of three consortia awarded sections of a mega US\$12bn Clean Fuels refinery project in Kuwait.

Western expertise

Western businesses are exceptionally active in the GCC region in terms of turnover, profitability and staff-count. Dubai and Abu Dhabi host many multinationals (MNCs) and big US and European banks – attracted by respective cities' global connectivity, efficient professional services, 'safe-haven' status and free zones – namely Jebel Ali Freezone (JAFZA), Dubai Airport Freezone (DAFZA) and Dubai Multi-Commodities Centre, as well as Dubai International Financial Centre (DIFC). The UK remains single largest FDI source in the UAE, accounting for one-tenth of total FDI stock. Most of the Britain's FDI in GCC-bloc is in hydrocarbons sector, which is unlikely to be affected by Brexit.

Construction civil engineering firms such as Bechtel (USA), Balfour Beatty (UK), Hochtief AG (Germany) and France-based Technip, Vinci, Bouygues and Carrefour have been involved in mega-projects. These include the Bahrain World Trade Centre, Burj Khalifa and metro system in Dubai, Khalifa Port and Kizad in Abu Dhabi, King Abdulaziz International Airport, Saudi Arabia, and Hamad International Airport, Qatar, among others.

In 2014, a Spanish-led consortium was awarded contracts for a

GCC Export and imports: Share by Region, 2015

	Exports (percent)	Imports
Emerging & Developing Asia	30.0	27.8
Developed Asia *	17.2	7.4
Middle East North Africa, plus		
Turkey	21.9	16.6
Japan	12.0	4.6
USA	5.3	10.8
European Union- 28 members	7.9	25.0
Other Industrialised Economies **	1.8	4.7
Sub-Saharan Africa	3.0	0.9
South America & Caribbean	1.0	1.9

* Includes Hong Kong, South Korea, Singapore and Taiwan.

** Includes Australia, New Zealand, Canada, Switzerland and Norway.

By 2020, the GCC economy is predicted to reach US\$2 trillion, with consumer spending power rising across the region.

high-speed railway and metro lines in Saudi Arabia.

Defence and aerospace are lucrative contracts source for western firms that lead the sector. After more than four decades, the UK remains Saudi Arabia's biggest suppliers of defence equipment, including the 1980s Al-Yamamah deal, worth over £40bn. BAE Systems is currently in talks on the sale of 48 Typhoon combat aircraft to Saudi Airforce. More recently, US aircraft maker Boeing concluded a major deal to supply Qatar Airways with wide-body jetliners. The deal includes 30 787-9 Dreamliners and 10 777-300ERs, valued at about US\$11.7bn, plus the option of buying 60 737 MAX 8s, valued at US\$6.9bn. It is the largest single order ever placed by the GCC carrier.

The USA super-majors (ExxonMobil and Chevron Texaco) are well placed to upgrade facilities and processing needs of the GCC petroleum industry.

Japanese firms such as JODCO (Japan Oil Development Co.), which has stakes in Abu Dhabi offshore fields, are present in the GCC. Japan's power utilities own minority stakes in Qatargas and RasGas, which between them exported 77mn tonnes of LNG in 2014, the world's highest (72 percent to Asia). Investing in renewable energy (mainly solar photovoltaic and wind power) is becoming popular in GCC where western firms are pre-eminent in the sector.

Relations between GCC-Brazil and Russia remain modest but diplomatic initiatives suggest potential for synergies, especially in mining, oil and gas exploration and tourism and hospitality sectors. In fact, MNCs in Brazil like Vale (mining giant) has invested over

US\$1.25bn in Oman's Sohar industrial complex, and Odebrecht has undertaken civil works, including a runway extension at Abu Dhabi international airport. Meanwhile, Lukoil of Russia is drilling for gas in the 'Empty Quarter' under a joint venture with Saudi Aramco.

The UAE's role for many decades as a 're-exporter' to huge Iranian markets make it a viable base for global companies. The lifting of UN sanctions in January 2016 has reopened the country to a stream of investments across a range of industries – financial services, consumer electronics and renewable energy. The primary investing countries during this period were South Korea and Germany, which together have a capital expenditure of US\$2.15bn.

Future trends

Free-trade agreements (FTAs) with key economic blocs would further deepen the Gulf's trade integration, while reducing tariff and non-tariff barriers. FTAs are foreseen to deliver a progressive and reciprocal liberalisation of trade in goods and services. Negotiations between the EU, China, India, Mercosur (Argentina, Brazil, Paraguay, Uruguay and Venezuela), and the GCC have yet to conclude. The main obstacles are the GCC's insistent on flexibility over export duties and generous subsidies to local petrochemical companies.

Jorg Wajohn, EU Counsellor for Trade, Saudi Arabia, was quoted in the *EIU* 2014 report, saying "The EU position is that we can offer some compromise and give some possibilities, but we cannot allow a completely free hand, otherwise it is not a real FTA." The 'GCC-Singapore FTA' (effective September 2013) is the only signed accord so far. The USA has a trade and investment framework agreement (TIFA) with each GCC member-country and with the GCC-bloc as a whole.

In sum, amid global slowdown and depleted oil revenues, GCC governments are resolved to sustain vital public investment programmes by dipping into their accumulated external reserves, attracting FDI inflows, and opening up infrastructure to public-private partnerships (PPPs). Assuming oil-prices rebound to the US\$60-US\$65/barrel range, GCC-wide GDP growth of four to five per cent over the medium-term could be expected. By 2020, the GCC economy is predicted to reach US\$2 trillion, with consumer spending power rising across the region. ■

Lukoil of Russia is drilling for gas in Saudi Arabia's 'Empty Quarter' under a joint venture with Saudi Aramco. (Photo: tnabeel/Shutterstock)



Testing times: T&D sector slow, but growth obvious

Continued economic growth and industrialisation, driven by rising oil prices, are significant factors propelling demand for electricity in the region.

THE INCREASE IN demand for energy, resulting in transmission and distribution (T&D) expenditure around the globe, has meant growth and expansion in the T&D infrastructure.

But lowered oil prices and the stalling of mega projects in the GCC region has surely put a temporary halt to the growth plans of many utilities providers. In spite of this challenge, Megger has been pushing its way ahead with unique products and an open mind in the region.

As Nick Parton, UK, Middle East, Africa sales head at Megger, puts it, "These are testing times". But the company's innovations help Megger to do better than its competitors, Parton says.

He emphasises the wide range of products for transformer testing and diagnosis, in particular the new multifunction transformer and substation test system that brings all things together.

"We can offer solutions that fit all the different testing philosophies. On one hand, we have created a transformer test van which combines the individual pieces of test equipment and large number of test leads in a most practical way. The switching hardware, and software controlling the test routines, thus provides database and reporting of assets and results, is integrated to a level that greatly reduces the test time and increases the safety of the test for the customer testing the transformer."

In a separate development, Megger has developed a multifunctional portable transformer test set, where many of the different tests on the transformer have been brought together. Compact and light, it has been designed for ease-of-use with a modern app-based user interface that guides the user through the test routine, minimising the training process.

"What we have done is taken a lead from the smart phone where you can see icons on the homepage via which you can open an application. We have got exactly the same route with TRAX in designing the user interface," Parton points out.

TRAX is not just another multi-functional test instrument, but rather many intelligent instruments built into one box. The software includes a number of apps, making it fast and easy to perform a large range of different tests. The hardware offers flexibility and the range of cables and accessories adds even more flexibility, making the TRAX an efficient and time-saving system for any user in the world.

TRAX is a multi-functional solution for transformer testing. It also adds several common substation testing functionalities, and ultimately replaces numerous individual testing devices. Compared to conventional single-functionality instruments, TRAX saves time and is more cost-effective.

TRAX applications range from power transformers, where it offers several unique and outstanding features, to instrument



TRAX is not just another multi-functional test instrument, but rather many intelligent instruments built into one box. (Photo: Megger)

transformers, circuit breakers, relays and many other substation components.

Speaking about the transmission and distribution (T&D) market in the GCC, Parton reveals that the market is struggling a little bit with the budgetary constraints imposed by the rapid change in oil prices over the last couple of years. However, he asserts that the infrastructure development is very much ongoing and, in some countries, it is much stronger than others. A significant change in the region is the increasing adoption of localisation policies, Saudi Vision 2030 being a good recent example, and Megger actively supports the development of local talent and partners with local manufacturing to work hand-in-hand with regional governments' visions.

"Generally speaking, in many parts of the region here, Megger is winning as much business as the previous years. We are very comfortable with the level of business we have in the GCC. There is no boom but there is still a lot of business and a lot of infrastructure development going on. It is well accepted that testing and maintenance plays an important part in the development of a robust and reliable distribution and transmission network."

Parton also reiterates that Megger is putting a lot of energy into defining the brand better and helping its customers understand what it is to be partnering with Megger when choosing test equipment. "In terms of quality, reliability and local service support as well as back-up, we work to ensure that across all the application segments where we are active the customer gets the best possible experience. We cannot afford to be focused on just certain areas, we are structuring to maintain a focus on the full range of products so that all customers are well supported." ■



The **engine of choice** for the
power generation
market

Our engines make a difference.

 **Perkins®**

THE HEART OF EVERY GREAT MACHINE

www.perkins.com

ABB and Fluor partner to build substations globally

ABB AND FLUOR have formed a global strategic partnership to execute large turnkey engineering, procurement and construction (EPC) projects for electrical substations.

By combining ABB's technology and market leadership position in power transmission and distribution with Fluor's experience in delivering large EPC projects, the partnership will help meet the evolving need for power grids across the globe in safe, reliable and state-of-the-art electrical substations.

ABB CEO Ulrich Spiesshofer said, "Strategic partnerships like this are a core pillar of our next level strategy and help us to drive growth while mitigating risk. We are proud to partner with Fluor to tap the vast opportunities of the ongoing Energy Revolution and related power infrastructure investments. Together, we intend to grow our businesses by complementing each other's strengths in unique customer services for substation projects."

Substations are key elements in power grid infrastructure that facilitate the efficient transmission and distribution of electricity. They control and protect power



*Substations are key elements in power grid infrastructure that facilitate the efficient transmission and distribution of electricity.
(Photo: Tony Webster/Flickr)*

flows, connect power stations to the grid and link transmission and distribution networks.

"Fluor's new global strategic partnership with ABB targeting the sub-station market is expected to bring unique synergies to our power clients," said David Seaton, chairman and CEO of Fluor, adding, "This approach exemplifies our focus on addressing client

needs with our unique integrated solutions offering."

"This global partnership with Fluor reinforces our strategic focus on developing new business models as we continue to transform our business to generate enhanced customer value," stated Claudio Facchin, ABB president of the Power Grids division.

OMICRON extends its spectrum of IEC 61850 testing solutions

OMICRON'S IEC 61850 international standard for power utility communications defines two types of communication to be used for sub-station protection, control and automation – real time communication with GOOSE and sampled values, on the one hand, and client/server (C/S), on the other.

For all these cases, OMICRON offers internationally accepted testing tools such as IEDScout or Test Universe with its configuration tools for GOOSE and sampled values. Now, OMICRON has extended its portfolio with a new solution for protection testing with SCADA (client/server).

Due to Test Universe v 3.10's new IEC 61850 client/server test module, engineers responsible for the commissioning, developing, maintenance, testing and troubleshooting of protection systems in sub-station automation systems based on IEC 61850 (Ed. 1 and Ed. 2) can conveniently test the C/S communication during protection testing. The module creates a unique way to integrate an automated test of IEC 61850 SCADA communication in a control centre document.

Being the first Test Universe module that directly communicates with the device under test, it allows users to load the IED description from an SCL file, to configure a connection to the IED via Ethernet, to connect to the IED, to read data from the IED, to set the mode in the IED, to output signals as a 'stimulation' for the IED, and to create an automated test.

All information in the IED's data model is available for measurement and assessment.

Bahrain awards T&D contract to SNC-Lavalin

SNC-LAVALIN HAS BEEN awarded a transmission and distribution (T&D) contract by the electricity transmission directorate (ETD) of the electricity and water authority of Bahrain.

SNC-Lavalin will be responsible for the design and construction supervision of the relocation of underground T&D cabling networks and the construction of numerous 11kV substations in the country.

According to the company, this project will support the Ministry of Works' upgrades of the Sheikh Jaber bin Ahmed Al Subah Avenue, Sitra Causeway, Al Estiglal Highway, King Hamad Highway and other minor roads and avenues within the limits of the roads contract.

SNC-Lavalin will design and supervise the diversions of several 220kV and 66kV power cables circuits, including pilot and fibre optic telecommunication and telecontrol cabling.

"We are proud to contribute to the development of critical infrastructure upgrades in the Kingdom of Bahrain," said Karl Matalani, vice-president, Middle East, Hydro & Power Delivery, adding, "This contract builds on the previous consultancy work that we've done for ETD for diverting cable networks on various Ministry of Works (Roads) rehabilitation projects, awarded back in 2012."

The work began in January 2016, and is scheduled to be completed by December 2017.

140,000 M² OF PREMIUM WORKING CONDITIONS.

Thanks to a fast, safe and
easy to install piping system.

In the construction of a large-scale project like The Squire in Frankfurt, you not only count on the highest quality but also the highest efficiency: a combination effortlessly delivered by Viega. Our high-grade piping systems Sanpress Inox for drinking water and Prestabo for heating installations offer maximum reliability and can be installed with minimum effort. **Viega. Connected in quality.**

The versatile nature of air compressors

Sullivan-Palatek offers a wide range of portable rotary screw air compressors that are not only good to look at, but are also power-packed and eco-friendly.



THE GLOBAL AIR compressor market is expected to exceed US\$37bn by 2022. Increasing adoption of remote sensing technology to monitor performance is expected to contribute to market growth over the forecast period. Strong demand from the food and beverage industry, mainly due to mandates on food safety and health requirements is projected to drive growth. Low maintenance, retrofitting of existing systems, efficient operation at lower costs, and rising adoption of variable-speed systems are some of the other factors driving demand across key end-use industries.

The emergence of next-generation compressed air systems with low-maintenance and eco-friendly features are foreseen to encourage end-users to shift from traditional equipment to modern technology. There is an increasing demand for oil-free systems, which come with increased capacity. They can offer higher accuracy and efficiency, along with easy installation and maintenance.

Rising demand for portable products, mainly in mining and construction activities, are also expected to drive demand over the next six years.

Sullivan-Palatek's D750-D900 portable series is highly versatile for construction, blasting, drilling and mining projects.

Offered with a CAT or Cummins engine, these models are 750 CFM at 150 psi, 825 CFM at 70-125 psi, and also 900 CFM at 100 psi. The D750-D900 models are engineered with large 204mm twin screw air ends for high efficiency and carries a three-year unlimited warranty. The Galvanneal sheet metal exterior provides extra protection from rust and scratching while working in the toughest environments. Built with a full containment base and dual axle running gear, the machines are easier to maintain and transport.

When it comes to meeting a contractor's pneumatic tool needs, Sullivan-Palatek's 185 CFM portable compressor is immensely helpful. The 185 CFM is built to take a beating on the jobsite, while performing flawlessly under some of the harshest conditions. The Sullivan Palatek DE185P3IZ meets these standards and many more, according to the company.

The most popular export portable air compressor available, the DE185P3IZ, is lighter and more compact than any of our full size units. Powered by an Isuzu four-cylinder diesel engine and large 108mm twin rotary screw air end, the compressor provides 185 CFM (5.2 cu/m/ min) at 100 psi. Features include automatic zero to 100 per cent capacity control, a 75.7 litres fuel tank, two-stage dry type air filters,

automatic shutdown and protection system, side by side coolers for compressor and engine, and gull-wing doors for superior access to components and servicing.

For those jobs that require more capacity and pressure, the DE375Q7PJD is an ideal option. With a large 127mm diameter Sullivan-Palatek air end with three-year unlimited hours warranty, at its core, the DE375Q7PJD delivers 375 CFM (10.6 cu/m/min) at a pressure of 150 psi. The unit is powered by a John Deere diesel engine, and has a total fuel capacity of 151 litres. Some features include automatic zero to 100 per cent capacity control, side-by-side coolers, full length tool boxes in each side with lockable handles, Galvanneal enclosure that is rust and corrosion resistant, and an automatic shutdown and protection system. Standard instrumentation for this machine includes alternator light, fuel level gauge, discharge pressure gauge, hour metre, start run valve, fuse, ignition start switch, and bypass for engine oil pressure.

Sullivan-Palatek's largest portable compressor is the D1300-D1800 portable series. This newly redesigned range is bigger and better, producing 1300 at 150, 1600 at 150 and 1800 at 100 psi. The full line is built with dual axle running gear, a full containment base, a four-point lifting bale, and large service doors for ease of maintenance. ■

KNOWLEDGE IS POWER



Puts the power in your hands.

JCB LiveLink gives you complete control of your generators to keep the power on! Livelink improves productivity, maximises uptime and make it easy to manage the health of your generators by providing essential operational data. The most up-to-date information about how your generators are performing or where they are located becomes even more critical when it comes to making the right decisions. The more knowledge you have to generate uptime, the better value for money your generators deliver.

To find out more visit our website.

www.jcb.co.uk/livlinkgenerators





*Pneumatic equipment is increasingly being adopted by end-users for industrial applications.
(Photo: Henrique Silva/Shutterstock)*

Ushering in an advanced era of mechanisation

Saudi Arabia-based ARCOMA Technical Division has set new standards in pneumatic automation in the kingdom.

The global pneumatic equipment market will grow at a CAGR of 4.73 per cent during the period 2016-2020.

PNEUMATIC AUTOMATION HAS come a long way in recent years. Whereas in the past, automation with individual valves mounted on the actuator was standard, nowadays high-performance valve terminals with integrated electrical inputs and outputs are available. Integrated controllers enable small automation tasks to be carried out in the field, a study by FESTO, pneumatic and mechanical components manufacturer, reveals.

Pneumatic equipment is increasingly being adopted by end-users for industrial applications as it is driven by the force generated by compressed gases like air and other inert gases, making pneumatic equipment safer than electric and hydraulic tools. Technavio's analysts forecast the global pneumatic equipment market to grow at a compound annual growth rate (CAGR) of 4.73 per cent during the period 2016-2020.

Saudi Arabia's manufacturing sector is poised for significant growth in the sector, particularly in the field of technology, not only on a regional level, but on a global scale, says Martin Kuban, lead research analyst at International Data Corporation (IDC) Manufacturing Insights, Central Europe, the Middle East and Africa (CEMA) region.

"Manufacturing in technology and engineering-oriented value chains will be driven by emerging small and medium businesses, mostly established in industrial zones surrounding big cities," added Kuban. "Many of these hubs will emerge as centres of innovation and excellence, closely tied to newly developed research and development facilities," he notes.

The Saudi Vision 2030 was announced in April 2016 and represents Saudi Arabia's roadmap to diversify its economy and address the challenges brought by low

global energy prices. In June 2016, the National Transformation Program 2020 (NTP) was launched by the Saudi Arabian government as part of the implementation of the Saudi Vision 2030 with the aim of meeting interim targets by 2020 through various strategic initiatives.

The Saudi Vision 2030 and the NTP includes a strong emphasis on increased private sector involvement and investment, and the privatisation of a large number of government businesses as well as the development of various industries.

With the same aim, ARCOMA Company Ltd. has pioneered in providing specialised technical support services for factories in the kingdom in the field of automation and control engineering to aid various industrial sectors.

The company, in cooperation with FESTO of Germany, supplies a wide range of pneumatic components, in addition to servicing various types of machinery control systems in manufacturing and logistics.

Engr. Mohammad O. Bajammal, deputy general manager and executive director of ARCOMA Company Ltd., stated that with the industrial sector taking roots in Saudi Arabia, the need was felt for specialised technical support services such as automation and control technology.

"In the beginning, the ARCOMA - Technical Division was focussed only in the supply of pneumatic components. Later on, we developed control technology and automation for factories in Saudi Arabia. However, it was partly automated and there was a lot of emphasis on manpower. In 1986, we helped those factories design and implement automation solutions. We started as a components provider for the pneumatics but we ended up designing control systems."



Engr. Mohammad O. Bajammal, deputy general manager and executive director of ARCOMA Company Ltd.

To expand the range of ARCOMA - Technical Division business, the company partnered exclusively with Kaeser Kompressoren for the distribution of stationary air compressors in Saudi Arabia.

According to Bajammal, a lot of factories in Saudi Arabia, until now, lack the knowledge of compressed air, how it is produced and the energy savings associated with it. "We went commercial with Kaeser products for their renowned patented Sigma-profile that provides more compressed air for less energy. The

compressed air produced is used by pneumatic equipment," says Bajammal.

"With this product, we managed to surpass our main competitor in the air compressor sector and take a big slice of the market share. More so, our customers now know the profits generated with the savings from lower energy costs.

As automation grew in Saudi Arabia, so did the demand for more advanced technology in compressed air generation. According to Bajammal, manufacturers began looking for compact machines that could give more free air deliveries in one system. ARCOMA Technical Division is now working with Hanwha Techwin for the supply of centrifugal compressors that deliver very high flowrates.

Holding 35 per cent share in the pneumatics market, and 20 per cent share in compressors sector, Bajammal said that the two products that have gained a lot of market share in Saudi Arabia is the pneumatics range of products and services from FESTO, and compressors from Kaeser Kompressoren.

"We hold a lot of symposiums for the customers and have a lot of field engineers, who are trained by both FESTO and Kaeser. In addition, we have a massive after sales support that ensures that those components are run-up to the optimum

With the industrial sector taking roots in Saudi Arabia, the need was felt by ARCOMA Technical Division for specialised technical support services such as automation and control technology.

**Gardner
Denver**

Your **Ultimate** Source
For Pressure and Vacuum

Technological excellence
- choice comes as standard

CompAir BellissMorcom Elmo Retschle WITTIG Reavell
hydrovane tamrotor BOTTARINI Gardner Denver TRANSPORT SOLUTIONS ROBUSCHI

ROTARY SCREW | SIDE CHANNEL | CLAW | ROTARY VANE | LIQUID RING | ROTARY LOBE | RADIAL | RECIPROCATING | CENTRIFUGAL



Gardner Denver FZE, Office No. 18202,
JAFZA View 18, P.O. Box 61146, JAFZA, Dubai, UAE

Tel: + 971(0) 4 881 17 44 Web: www.gardnerdenver.com
Email: enquiries.fze@gardnerdenver.com



ARCOMA satellite system combines the density of drive-in systems with the benefits of pallet-flow systems and can be easily positioned and repositioned by lift trucks of an existing fleet.

utilisation of energy. From providing information to the customer and the market and also supporting after sales, these are the key issues that we have covered. In all, we provide complete range of solutions — from the designing of the compressed air station to the designing of the robotics system inside the factory.”

However, ARCOMA Company is not just limited to pneumatics and compressors as products of Technical Division. The company also caters to the food industry with shelving and racking systems, which are produced in Saudi Arabia in collaboration with Nedcon of Holland.

“The new product we are expanding outside the Shelving Division is the shuttle or satellite storage system. ARCOMA satellite system combines the density of

drive-in systems with the benefits of pallet-flow systems and can be easily positioned and repositioned by lift trucks of an existing fleet. The system uses self-propelled intelligent carts that run along rails. The rails are supported by a network of ARCOMA structural trusses and beams. The cart will shunt full pallet loads in and out of the deep-lane storage structure using remote

control,” Bajammal demonstrated.

With its head office in Jeddah and branch offices in Riyadh, Jeddah, Dammam, Khamis Mushayt, Madinah and Yanbu, ARCOMA provides sales and distribution coverage in Saudi Arabia and has sales presence in the UAE and Yemen, and also distribution networks in all Gulf States and Arabic countries. ■

The Saudi Vision 2030 was announced in April 2016 and represents Saudi Arabia’s roadmap to diversify its economy and address the challenges brought by low global energy prices.

Automated solutions drive Middle East’s food packaging industry

THE MIDDLE EAST’S packaging industry is undergoing rapid transformation with increasing demand for sophisticated automated solutions, according to exhibitors at Gulfood Manufacturing – the Middle East’s biggest food manufacturing, processing and packaging, logistics and materials handling exhibition – which was held at Dubai World Trade Centre (DWTC) from 7-9 November 2016.

UAE-based Al Thika Packaging, one of the domestic exhibitors participating in ProPack Middle East, with a dedicated processing and packaging zone within Gulfood Manufacturing, predicted that regional sector demand could double within five years as the food processing sector strives to become more competitive in response to increasing consumer demand for convenience products.

“Automated solutions are being sought as companies try to reduce overhead labour costs and keep up with global supply trends,” said Tim Ansell, Al Thika’s sales director.

“International trends in food products are coming to way quicker into the UAE market with the increase in social media outreach and this has prompted this market to react faster to global trends.

“Food manufacturers are moving into ready meals, pre-packed ingredients and fruits and vegetables – we are following Western trends. The growth over the past six to seven years has not let up and, put simply, there is a desire to implement new technology; the regional industry is more open to innovation.”

Ansell added that demand for high-end automation is coming largely from Saudi Arabia and the UAE, though there has been

some recent pick-up from manufacturers and processors in Oman and Kuwait. High-end automation now represents 20 per cent of Al Thika’s sales with Ansell predicting that number will double within five years.

“Such is the demand from the food, drink and pharmaceuticals business that we have had to take on a project engineer to analyse customer requirements and produce integrated solutions and equipment.”

According to Torsten Giese, Ishida’s marketing manager, “Apart from rising automation to reduce packaging and waste costs at the manufacturing, retail and end-consumer stages, to increase speed and efficiencies there will also be increasing demand for check-weighers, metal detectors, X-Ray inspection systems and seal testers to secure quality control for exports outside the region.”

Al-Futtaim Engineering partners with EuroVentus

AL-FUTTAIM ENGINEERING, a subsidiary of Al Futtaim Group, has entered into a partnership agreement with EuroVentus to collaborate on future projects across the UAE.

Under the agreement, Al-Futtaim Engineering will partner with EuroVentus on various products including fans, filtration and air handling units especially tailored to operate in extreme weather conditions. EuroVentus is a widely recognised supplier of home ventilation, heat recovery ventilation, condensation control, heat exchange ventilation and ventilation extraction systems

Dawood Ozair, senior managing director at Al-Futtaim said, "We are pleased to partner with EuroVentus and look forward to a long and successful relationship. Through this association, we are in a position to provide innovative and cost-effective cooling solutions for various construction sectors including shopping malls, hotel buildings, and residential complexes as well as commercial towers."

Qais Marafie, chairman of EuroVentus, added, "This is an important step for us and we are very happy to announce this partnership with one of the most respected businesses in the region. I am confident that with time, we will make this collaboration stronger and mutually beneficial to both EuroVentus as well as Al-Futtaim Engineering."

All EuroVentus products are environmentally friendly, ERP approved, CE marked and Applus+ certified, the company said.

Al-Futtaim Engineering general manager Rajesh Devidas Bhatia



The agreement was signed by Dawood Ozair, senior managing director at Al-Futtaim Engineering and Technologies and Qais Marafie, chairman of EuroVentus. (Photo: Al-Futtaim Engineering)

said that EuroVentus ventilation products will complement the Al-Futtaim air conditioning solutions in the construction industry. "Appropriate ventilation with high energy efficiency standards is a key aspect of green building solutions, which is the future trend. The EuroVentus products are of very high quality and comply with the construction industry specifications. I am confident that our customers namely the developers, building owners, consultants and contractors will benefit with EuroVentus products in the ventilation solutions for their upcoming and retrofit projects," Bhatia added.

LG leads way with inverter technology

WITH AN ESTIMATED 25 per cent of the world's energy consumption coming from the combination of lighting plus heating, ventilation and air conditioning for residential and commercial buildings, LG recently unveiled its inverter technology platform that achieves 65 per cent more energy savings, 60 per cent faster cooling and greater durability, ensuring optimal indoor environmental comfort for users.

Homes consume large amounts of energy. Each household has a collection of home appliances and digital services. By concentrating on making this aspect of human life more efficient and less wasteful, there are significant gains to be made in protecting the environment. To achieve successes in this endeavor, technological innovations are crucial.

In this regard, the inverter air conditioner has been touted as a truly next generation air conditioner because of its impressive energy efficiency. When compared with conventional air conditioning units, inverter air conditioners take advantage of unique technological innovations that can control cooling and heating appropriately based on the ambient temperature. Through this, inverter air conditioners achieve strong performance levels while at the same time cutting back on the amount of electricity being used.

With the rise of smart cities and green development concepts emerging quickly in the region, HVAC products and the equipment market are all set to find high demand in the coming years. LG ensures that its products strictly comply with the latest energy efficiency norms laid down by the respective regulators, government, and other green building policy makers of a particular country in the region. Through its consistent focus on innovation and eco-friendly solutions, LG continues to ensure it is in line with the demands of current government regulations as well as that of today's consumers seeking optimal air quality within living and working environments.

TOP SCREW METAL CORP.

TEL: 886-4-7237159 FAX: 886-4-7246640
 MAIL: cherry_chou@topscrow.com.tw
 http://www.topscrow.com.tw/

TE: LANE 415, TAY HO RD., SEC. 2, KU YI LI, CHANG HWA CITY, TAIWAN, R.O.C.



The materials handling sector is expected to experience further expansion with the construction of the fourth Industrial City to the north of Jeddah. (Photo: nattan726/Shutterstock)

Handling with care

Industry reports predict a boom in Saudi Arabia's materials handling and logistics industry aligned with a growing focus on the kingdom's industrial sector.

JEDDAH'S WAREHOUSE, LOGISTICS and manufacturing market is set to witness a considerable boom, according to *Colliers International's Jeddah Warehouse & Logistics Market Overview* report, as the Saudi Arabian government targets a contribution of 20 per cent of GDP from the industrial sector by 2020.

The report reveals that approximately

45mn sq m of land has been allocated to Modon, a semi-government organisation that promotes investment and job creation in industrial manufacturing sector through the development of industrial cities. The report describes that 25mn sq m of this land has already been developed in Jeddah, with the remaining 20mn sq m still in the construction pipeline, indicating

considerable expansion in Jeddah.

The market has continued to experience significant development, as planned expansion of the city's logistics capabilities is actively addressing a strong demand for newer trends in the automotive, consumer and construction sectors in the region.

The sector is bound to experience further expansion with the construction of the fourth industrial city to the north of Jeddah and the expansion of facilities in the second and third industrial cities.

To address this boom in the logistics sector, Jeddah-Messe Frankfurt Middle East, one of the region's largest exhibition organisers, is expanding its regional reach with the announcement of the inaugural Materials Handling Saudi Arabia 2016.

The two-day conference and exhibition,

“Saudi Arabia's logistics and materials handling industry is undergoing immense expansion and change and with it challenges that are unique to the kingdom.”

Ahmed Pauwels, CEO, Messe Frankfurt Middle East

to be held from 28-29 November in Jeddah, will offer global suppliers and regional manufacturers direct access to the Kingdom's thriving logistics, warehouse, freight and cargo industries.

"Saudi Arabia's logistics and materials handling industry is undergoing immense expansion and change, and with it challenges that are unique to the kingdom. We felt the need to provide a dedicated trade and networking event so key stakeholders can share their experiences, understand the market realities, and prepare for future developments," says Messe Frankfurt Middle East CEO Ahmed Pauwels.

Materials Handling Saudi Arabia is a biennial event alternating between the flagship Materials Handling Middle East Exhibition in Dubai and will be organised in partnership with Saudi-based Al-Harithy Company for Exhibitions (ACE).

"Materials Handling Saudi Arabia is the latest development in our ongoing expansion in the kingdom, and together with Materials Handling Middle East, we have a dual platform offering intralogistics

Jeddah's logistics capabilities is actively addressing strong demand for fundamentals from the automotive, consumer and construction sectors in the region.

and supply chain players unmatched access to one of the most promising markets in the world," Pauwels added.

Muwaffaq Al-Harith, chairman of ACE, noted, "The warehousing and logistics sector in Saudi Arabia is currently on the upswing, riding on a phase of sustained industrial and retail expansion, along with infrastructural development. Over the years we have succeeded in identifying demand for focused trade events and we look forward to continuing our association with Messe Frankfurt Middle East to bring Materials Handling Saudi Arabia to fruition."

The first edition of Materials Handling Saudi Arabia will also host the two-day

Supply Chain and Logistics Forum, which will bring together top industry leaders, academics and solutions providers to discuss the opportunities and challenges in a rapidly evolving market.

According to the organisers, Materials Handling Saudi Arabia has attracted a healthy initial response from suppliers of products and services related to intralogistics, warehousing, supply chain, ports, and port equipment. Confirmed exhibitors at the show include Launch Partners Swisslog, SSI Schaeffer and Daifuku, while industry partners include Abdul Latif Jameel Industrial Equipment Company – the Saudi distributor for Toyota forklifts – Log Square and Al Samaani. ■

Solutions for **Energy Saving**





Theben provides more energy efficiency for building automation

- 1 - 8 Channel annual time switches synchronised with GPS
- Movement detectors for safety lighting and twilight switches
- ASTRO-time switches e.g. for illuminated advertising
- Segment time switches with top user friendliness
- Duofix plug-in terminals make installation 40% quicker

Are you interested?

More about energy saving solutions on internet: www.theben.de



BIN HAM
BIN HAM Electrical Equipment Trading LLC

PO BOX 4301 - Dubai - UAE
Ph. +971 4 2273939
Fax +971 4 2217619
Web: www.binhameet.com
Email: sales@binhameet.com

BIN HAM is proud to be exclusive distributor of theben for UAE

Safety products for work zones

**Road hazard
warning equipment**



**Mobile crash
barrier systems**



In expanding our network of dealers and service partners abroad, we are looking for suitable partners for the sale of our traffic technology products.

If interested, please get in touch.



Peter Berghaus GmbH
Phone +49 2207 96770 · Fax +49 2207 967780
Herrenhoehle 6 · 51515 Kuerten · Germany
www.berghaus-verkehrstechnik.de

The GCC remains one of the world's most active construction and infrastructure markets. (Photo: gyn9037/Shutterstock)



Carrying the load

Martin Clark understands some of the challenges associated with cranes in the GCC's busy construction market and how operators are working to overcome them.

THE GCC'S BUSY construction market continues to fuel demand for cranes and other lifting equipment, among many other services.

Major civil projects in Qatar, the UAE, Saudi Arabia and beyond soak up huge resources, including the supply of cranes, as contractors test themselves against ever more ambitious designs. Many new-build projects include Qatar's 2022 World Cup soccer stadia and Dubai's 2020 World Expo infrastructure, as well as the emirate's dizzying array of leisure parks.

These include the region's first Legoland and Bollywood theme park, plus international mega movie resorts such as Motiongate Dubai and IMG Worlds of Adventure, said to be the GCC's first US\$1bn indoor theme park.

Understandably, the logistical and financial challenges of putting all of these projects together present a huge test for the region's construction industry and its available resources. It also poses immense technical challenges too.

Service and innovation

Industry players are responding with product innovation and in other innovative ways.

One major player, Germany's Liebherr, recently resumed production of its rough terrain cranes – which can drive on highways as well as construction sites – after a decades-long break. This is to cater for the Middle East, which it says remains an “active” market for this machinery class.

Liebherr will launch the LRT 1090-2.1 (rated at 90 tonnes capacity) and the LRT 1100-2.1 (100 tonnes) in March 2017, powered by Cummins engines.

There is a lot of product innovation happening right now in the cranes and lifting equipment sector.

The two models differ only in boom length, telescoping technology and ballast weight. The cranes have Liebherr's VarioBase variable outrigger monitoring system as standard. The outriggers results in the crane's computer automatically

adjusting lifting capacity to prevent it overturning.

The LRT 1100-2.1 has a 50-metre telescopic boom with a Telematik telescoping system on which the various telescoping sections can be extended independently with a single cylinder, and then pinned to the telescopic section above. It has 14 tonnes of counterweight.

It underscores an innovative trend as suppliers seek to cater for the Gulf's high growth market.

Others, like Bobcat, are seeking to differentiate through other means, including providing top quality service to customers.

The company has launched a new standard three-year warranty for the complete range of its rigid telehandlers manufactured at the company's plant in France.

These are available as standard in the Middle East on all models in the Bobcat telehandler range up to and including the top-of-the-range T40180 18 metres model, Bobcat says the new warranty reflects the high quality and reliability of its products.

Environmental responsibility

Away from the flagship billion dollar

Experience the Progress.



Liebherr Wheel Loaders L 524 - L 580

- Minimal operating costs due to economical fuel consumption and low tyre and brake wear
- Higher productivity and stability achieved through the unique position of the engine
- Significantly fewer wear components due to innovative drive concept
- Optimum service accessibility for all important components

construction projects there are a myriad of other new-build programmes taking place across the GCC. There are plush housing estates and towering office blocks, through to new roads and other infrastructure, as well as new energy projects to help the region become more environmentally responsible.

Here, major players like Konecranes are responding with new solutions to help builders in their work.

It recently introduced a range of lifting and materials handling technologies specifically designed for waste-to-energy and biomass applications in the Middle East.

Waste to energy – which means creating energy, usually electricity and steam, from the incineration of urban waste – has become a priority area for officials across the region, given the high demand on the GCC's oil and gas resources and its environmental footprint.

The GCC region produces an estimated 150mn tonnes of waste annually, with much of this bound for municipal dumps and landfills.

Safety first

After the fatal crane collapse in Saudi Arabia last September, the kingdom's government has taken all steps necessary to prevent such an accident occurring in future. It has laid down regulations and introduced new safety rules that urge tower cranes to be soil tested by contractor before operating heavy machinery. Crane operators have also been told they must have adequate training, the necessary certificates and should wear protective equipment.

As investments continue to pour into the GCC construction and infrastructure markets, there is also an increasing need to look into safe practices for ensuring fleet efficiency.

In order to further safety and compliance with respect to heavy lifting equipment in the GCC, the first Cranes and Transport Middle East (CATME) conference, to be held on 8 December 2016, will be a high-level, one-day conference focused on the safety and productivity of lifting and transport operations.

As investments continue to pour into the GCC construction and infrastructure markets, there is also an increasing need to look into safe practices for ensuring fleet efficiency. The key topics of discussion will be improving health and safety in lifting and transport operations; increasing the efficiency of fleet management practices; enhancing the productivity of equipment on site; and highlighting best practice advice and case studies from around the world.

Smart automation

Cranes play a crucial role in modern incineration plants, from the arrival of waste and separation to incineration. This means it is key to specify lifting needs, (for instance the total burning capacity of a facility's incinerators, the layout of handling areas and the type of waste being processed) to

achieve optimum safety and reliability levels of the lifting equipment.

Konecranes' new standard solution for programming waste-to-energy automation is a Main User Interface, a computer integrated with the crane's PLC system to allow an operator to schedule and program 20 different work routines in full automation.

This gives plant managers more flexibility to manage pit operations for receiving, mixing and burning waste.

Joseph Botros, director and head of waste to energy at Konecranes, says an array of 'smart' features help streamline load lifting and moving operations, increasing equipment ease of use and reducing material cycling time.

"Essentially, completely autonomous crane pit operations can be managed via our main user interface," he says. "Automation helps improve facility safety, load travel accuracy and performance efficiency."

These are frenetic times in the GCC's construction sector and there appears to be no let up in sight with so many key projects planned and underway. However, the industry is responding to keep pace with new lifting and crane requirements. ■

BOBCAT'S NEW STANDARD three-year warranty for the complete range of Bobcat rigid telehandlers is manufactured at the company's plant at Pontchâteau in France.

The Pontchâteau plant produces 14 different Bobcat telehandler models with lifting heights from five to 18 metres. Aimed at applications such as construction, rental and recycling industries, Bobcat has introduced a new generation of machines over the last four years including:

- TL series (Telescopic Loader) TL358, TL358+, TL360, TL470 and TL470HF, 5.8 metres to seven metres two stage boom models aimed at intensive applications.
- T Series (Telescopic) T35105, T35105L and T36120SL 10-12 metres middle lift models; the T35130S, T35130SL, T35140S and T40140 13-14 metres high lift models; and the top-of-the-range T40180 18 metres telehandler.



The T40180 from Bobcat.



**CONCRETE BATCHING
PLANT is OUR
BUSINESS**





IF IT'S NEW,
IT'S HERE.

THE **TECH** EXPERIENCE

New at CONEXPO-CON/AGG 2017

Be among the first to visit the new exhibit that lets you experience tomorrow's construction world:

6,900 square meters immersive experience

Emerging technologies like wearables and new material

The future of your job, worksite and industry

Register now to get the special \$149 rate
(and save up to \$100) at www.conexpoconagg.com

March 7-11, 2017 | Las Vegas Convention Center | Las Vegas, USA



3-D printed concrete formwork now a reality

CLIENTS IN THE construction sector are increasingly demanding more complex designs and forms for houses and structures such as viaducts. This requires a lot of effort in terms of implementation and the design. These complex forms can be made through the traditional process; however, it costs a lot of design time and man hours to implement. 3D printing a concrete formwork, or even an entire construction, offers the potential to make free, organic forms of equal quality, but at lower costs (up to 50 per cent lower).

Heijmans and CyBe Construction have printed two formworks with a 3D concrete printer in the Netherlands. The printed formwork remains part of the construction element and is, therefore, a form of permanent formwork. The two companies carried out the test to explore possible 3D-printed formwork applications in civil engineering (road and hydraulic engineering).



The printed formwork remains part of the construction element and is, therefore, a form of permanent formwork. (Photo: CyBe)

“Although the technology still requires further testing and refinement, 3D concrete printing mainly provides the necessary opportunities,” said Jurre van der Ven of Heijmans, adding, “Our aim is to print a double curved concrete formwork, which we will fill with reinforced concrete, and then use it to construct a bridge or a viaduct, because if an element is strong enough for such heavy constructions, it can be further developed and used for residential building. The tests we have recently carried out were successful. ‘From practical research and tests of this nature we see that the technology is becoming more widely applicable. Above all, we notice from this that the advantages of 3D concrete prints are becoming more visible. Ultimately, it will help us to facilitate the sector with this technology so that construction can be carried out faster, cheaper and at a higher quality.’”

Doka goes digital with innovative concrete-sensor technology

STUDIES INDICATE THAT even today, as much as 57 per cent of the work in construction generates no added value, due to mistakes and shortcomings, waiting times and search times, lack of harmonisation across construction routines and poor communication. In future, digitisation could unlock all this potential. Innovative technologies are the key. The ideal example here is Concremote – a technology that Doka has already deployed on more than 100 jobsites.

Concremote determines the optimum time for stripping the formwork, increasing productivity. With Concremote, Doka contributes significantly to Building Information Modelling (BIM). The sensor-based solution returns data on the temperature and strength development of in-situ concrete in real time, vital



Concremote determines the optimum time for stripping the formwork, increasing productivity. (Photo: Doka)

information for the construction process. The use of Concremote can normally shorten the construction cycle on the core build of a typical 47-storey highrise by a day per storey, resulting in a 20 per cent increase in productivity.

Concremote has a very wide operating range. As proved at temperatures down to -

40°C on the Muskrat Falls project, Canada's second largest hydroelectric facility, and during construction of the Highpoint Tower in London. Concremote helps in ascertaining whether the concrete mixture planned is suitable or should be optimised, to find the earliest possible formwork stripping time and to shorten cycle times.

Measurable successes in real-time

By transmitting real-time data, Concremote makes successes more measurable and formworking and cast-in-place concreting more effectively schedulable. Concremote uses two types of sensors to collect data – wireless slab sensors that are inserted into the fresh concrete as soon as the slab has been screeded, and cable sensors that are installed directly into the form-ply.



LOGO.3



The excellent shape for high concrete quality, short forming times

www.paschalinternational.com · Phone: +49 7832 71-0 · service@paschal.de







Inspiration from the woods

Jotun Powder Coatings' sustainable Woodspiration Collection defines the look of wood in aluminium and steel surfaces.

REAL WOOD IS a costly resource that is not available locally in the Middle East region and requires frequent maintenance in hot and dry climates. The climate can take a toll on wood flooring and laminates, thereby decreasing its shelf life.

On the other hand, powder coated aluminium with wood effect provides an economical, versatile and durable alternative to wood. Wood effect aluminium is an environmentally friendly alternative to the real wood, especially for outdoor structures and design elements.

Taking this innovation to new heights, Jotun, a leading paint and coatings company, added a brand new wood inspired collection to its growing portfolio. The Woodspiration Collection is an innovative powder coating solution that offers the aesthetic appeal of wood without compromising on strength and durability.

"The Woodspiration Collection is the result of a long journey of research and development to provide our customers with advanced technology that addresses latest trends and helps them realise their boldest design ideas," says Yulia Gvozdeva, global product manager, Jotun Powder Coatings.

Speaking on the importance of



Yulia Gvozdeva, global product manager, Jotun Powder Coatings. (Photo: Jotun)

sustainability, she added, "When developing the Woodspiration Collection, we kept in mind the ecological impact of both our products and the buildings they would coat."

The collection provides a versatile, durable and easy-to-maintain finish that replicates the realistic look of wood on

aluminum or steel objects. Furthermore, the collection delivers exterior performance under severe climatic conditions as it is resistant to humidity, UV radiation and abrasion. Outdoor performance of the Woodspiration collection is supported by Qualideco – the standard that certifies exterior performance of wood effect finishes and the materials used to create them.

The Woodspiration effect can be achieved through both the sublimation process and the powder on powder process.

"The global launch of the Woodspiration Collection is focused on addressing the needs of the architectural community and construction industry for a high quality powder coating that can offer both superior durability and realistic wood finish," added Gvozdeva.

"We believe that the superior capabilities of this collection will give architects and designers the confidence to create sustainable and attractive wood-inspired projects over time."

Jotun has been involved in projects including Masdar City Abu Dhabi, Burj Khalifa Dubai, Eiffel Tower Paris, Marina Bay Sands Singapore, the Louvre Abu Dhabi, the Nile City Complex Egypt and the Shanghai Tower. ■

The **KING** of **AIRLESS**

The First Electric Airless Sprayer designed for Protective Coatings

e-Xtreme™



ENERGY
SAVINGS



NO ICING



REDUCED NOISE



THREE-YEAR
WARRANTY



ATEX
APPROVED



PLUG-IN
& SPRAY

The Electric Airless Solution

The e-Xtreme sprayer operates on a more reliable, convenient and available electric power source, which rectifies inefficiencies associated with compressors. Furthermore, electric technology reduces pulsation and prevents motor icing, making your jobs run smoother every single time.

Discover all Advantages



electric-airless.com



In 2015, The Big 5, held in conjunction with PMV Live and Middle East Concrete, welcomed a record of more than 73,000 visitors across 113,526 sq m space. (Photo: Wikimedia Commons)

New floor layout leads to bigger plans at The Big 5

The new outline at the Dubai World Trade Centre will facilitate more business opportunities with the right products at the right place.

THE BIG 5 is the largest, most influential and renowned construction industry event in the Middle East. For its 2016 edition, organiser dmg events Middle East, Asia & Africa have announced a brand new floor plan of The Big 5 show, clustered in five product sectors.

From 21 to 24 November, The Big 5 2016 is expected to attract 75,000 participants, hosting over 3,000 exhibitors in the Dubai World Trade Centre.

Event director Josine Heijmans says that she is confident the new layout will facilitate business opportunities, while effectively responding to the current needs of all construction industry professionals.

“One of the key reasons for our visitors to attend The Big 5 is to look for specific products, innovations and new technologies as well to network with new or existing business partners and industry peers,” Heijmans states.

Although the event’s old layout already accommodated dedicated product sectors, the majority of the international exhibitors were located in country pavilions. This, coupled with the expansion of The Big 5 over the years, made it more challenging for attendees to find the specific products or the companies they were looking for.

The five product sectors in which exhibitors will be grouped this

The new floor plan is aligned according to construction industry’s current trends.

year are building interiors and finishes, MEP services, building envelope and special construction, construction tools and building materials, and smart building and design technologies.

Presenting The Big 5 2016’s new layout, Heijmans explains, “These main sectors are further broken down into subsectors, so it will be really easy to navigate the exhibition halls and find the right exhibitors and products. In addition, a new App, route planners, a search function on the website and staff onsite will further support visitors attending the show”.

Beyond offering visitors and exhibitors a better experience, the new floor plan is studied to align with the construction industry’s current trends, as the introduction of the Smart Building & Design Technologies sector shows.

Heijmans also promises a stronger focus on the theme of sustainability at The Big 5 this year. Visitors will be able to cast their votes for the show’s Gaia Awards, which, since 2008, has honoured companies in the construction sector whose products and services demonstrate a reduction of construction’s impact on the environment.

In 2015, the Big 5, held in conjunction with PMV Live and Middle East Concrete, welcomed a record of more than 73,000 visitors across 113,526 sq m space.

Dubai’s ongoing construction projects worth US\$400bn

According to BNC’s Dubai Construction Market 2016 report commissioned by The Big 5, the largest construction industry event in the Middle East, over 3,700 projects are currently ongoing across the emirate. Their total value is estimated around US\$400bn.

The Dubai construction market is on an upward trajectory, the report shows. Although approximately 21 per cent of them are on

hold, a large number of projects are in advanced stages of construction, with an estimated value of over US\$100bn. Noteworthy high-value projects under construction include the Sobha Hartland Development (US\$2.1bn), the Royal Atlantis Resort and Residences – Palm Jumeirah (US\$1.4bn) and the Innovation Hub PT-163 – Dubai Internet City (US\$1.2bn).

As per the BNC project intelligence database, commercial and residential units, education, healthcare and hospitality buildings, leisure and recreation facilities, religious buildings, retail facilities and mixed use urban developments make up approximately 77 per cent of all project values in Dubai, amounting to almost US\$320bn.

“A growing population, tourism sector, strategic government investments like the Dubai Plan 2021 and the Expo 2020 Dubai are fuelling the local construction industry,” Heijmans notes.

Dubai’s population is expected to reach 3.4mn in 2020. The emirate is also becoming a major destination hub for international travellers. Last year, it welcomed 14.2mn overnight visitors, and is on track to reach 20mn by 2020.

“This impressive increase is likely to put a strain on the city’s infrastructure, creating a need to expand its capacity” Heijmans stresses. Indeed, state planning is strongly supporting the construction market’s growth. The government of Dubai has outlined an ambitious 2021 Plan, which includes the development of Dubai as a ‘Smart and Sustainable city.’”

The emirate is also getting ready to welcome up to 25mn visitors to the first World Expo in the Middle East, 70 per cent of which are expected to come from overseas. Total spend on infrastructure projects related to Expo 2020 Dubai might reach up to US\$18bn, with estimated development costs of the Dubai South Area between US\$8.1bn and US\$8.7bn.

Presenting the Dubai Construction Market 2016 report, dmg events Middle East, Asia & Africa, stated that the shift towards smart and sustainable solutions and the introduction of new building regulations are motivating companies to look for new, innovative products and services.



The rate of construction in Dubai has grown by a whopping 90 per cent from last year. (Photo: Syda Productions/Shutterstock)

Gaia Awards

The eight edition of the Gaia Awards will take place during The Big 5 2016 at the Dubai World Trade Centre (DWTC) on Nov 23.

This year for the first time ever, shortlisted products will also be voted for by the public through a voting page on The Big 5 2016 website. Voting stations will be available at the DWTC during the first and second day of the Middle East’s largest construction event, from 21-24 November.

The overall winner chosen by the Gaia Awards judging panel will receive a prize of US\$50,000 in marketing value. ■



DIESEKO GROUP



booth MEC F90



www.diesekogroup.com

**PVE VIBRATORY HAMMERS
WITH VARIABLE MOMENT:**

**SAFE TO USE IN HYDRAULIC
BOOM CRANES
SUITABLE FOR URBAN AREAS**

OUR PRODUCTS

Vibratory hammers
Power packs
Clamps
Pressing machines
Vibroflots
Piling rigs
Impact hammers
Drilling rigs
Rotary heads
Auger cleaners

SALES - RENTAL - SUPPORT

Dieseko Group B.V.
Middle East office:
P.O. Box 124975
Saih Shuaib 4 street
Dubai Industrial City
Dubai,
United Arab Emirates
Tel: +971 4 44 14 256
www.diesekogroup.com
middle-east@diesekogroup.com

THE BRANDS OF DIESEKO GROUP



'UAE tops the hospitality and leisure sector in the GCC'

THE UAE IS leading the booming hospitality and leisure-recreation market in the GCC, according to the latest BNC report commissioned by The Big 5.

The combined value of the hospitality, and the leisure and recreation sectors in the region, currently valued at US\$178.8bn, is expected to increase driven by tourism, a growing population and global events.

Presenting the findings of the *GCC Hospitality & Leisure-Recreation 2016* report, The Big 5 event director Josine Heijmans commented, "In the GCC, several state-led initiatives are sponsoring construction projects to diversify the local economy. With tourism contributing to 8.5 per cent of its GDP by the end of 2016, the UAE is vigorously investing in infrastructure projects to welcome more and more visitors."

The Expo 2020 Dubai, for example, is expected to bring 25mn visitors, 70 per cent of whom will come from abroad.

With this in mind, Dubai is building 71,000 new hotel rooms. The emirate will increase the offer of rooms from 94,000 on hand at the start of 2015 to approximately 164,000 at the time of the Expo, the BNC Report showed.

According to Charlie Taylor, Jumeirah's group director of brand communications, the popularity of the UAE as a destination has developed rapidly over the years. "Demand continues to grow as new attractions come on stream and more choices for accommodation, dining and entertainment become available."

Jumeirah has a robust and growing pipeline of new openings in the region.



The Emirates Palace, in Abu Dhabi, is one of the most expensive hotels in the world. (Photo: TravelNerd/Shutterstock)

Jumeirah Al Naseem, with its 430 rooms, is set to open in Dubai on 1 December 2016, followed by Jumeirah at Saraya Bandar Jissah in Oman and Jumeirah Sa'adiyat Island in Abu Dhabi, both due to open in 2017.

"One of the driving forces for development in Dubai is the tourism vision looking at attracting 20mn visitors by 2020. This, together with an expected 25mn visitors to the Expo 2020 site, means that Dubai needs to continue to develop the hospitality sector to accommodate the demand," Taylor added.

As per the BNC report, the GCC hospitality sector, comprising of projects related to hotels, hotel apartments and resorts, is worth US\$126.8bn. The leisure and recreation sector, including projects related to cinemas, theatres and auditoriums, golf courses, race courses, parks, stadiums, theme and water parks, animal reserves and zoos, sports clubs and facilities, museums and galleries, has a combined estimated value of US\$52bn.

There are approximately 1,692 hospitality and leisure-recreation projects in the GCC, according to the BNC Project Intelligence

Database. The UAE has the highest market share: it makes up approximately 42 per cent of all hospitality and leisure-recreation projects in the region, or the 55 per cent in terms of value (US\$98.3bn).

More than 200 hospitality and leisure-recreation projects are worth at least US\$100mn each in the UAE, with a combined value of US\$83.8bn. These include Firdous Sobha in Umm Al Quwain (US\$6.8bn), Dubai Eiffel Tower (US\$1.5bn) and Royal Atlantis Resort (US\$1.4bn) in Dubai.

"The GCC Hospitality & Leisure Recreation 2016 report shows that many projects are in the initial stages of construction. This indicates a strong pipeline in the near future and positive prospects for construction industry professionals in the region," Heijmans stated.

"The Big 5 2016 will capitalise on these opportunities offering both visitors and exhibitors a unique platform to network with key decision makers and industry professionals, sourcing thousands of products from international and local manufacturers."

The Big 5 partners with Dubai Economic Council for Construction Summit

THE DUBAI ECONOMIC Council (DEC) and dmg events Middle East, Asia & Africa have entered into a strategic partnership for the organisation of the 'Excellence in Construction Summit'.

Taking place on 22 November during The Big 5 2016 at the Dubai World Trade Centre, the Summit will gather 500 industry leaders to discuss current and future trends of the construction sector in Dubai, the GCC region and beyond.

Hani Rashid Al Hamli, secretary general of the DEC, said, "Our endorsement of The Big 5 2016 and the Excellence in Construction Summit mirrors the Dubai Economic Council's keenness to support and contribute to all activities that enhance Dubai's economy. The Big 5 is the largest construction event in the Middle East and its summit is a rich opportunity for all stakeholders who look forward to develop the construction industry."

The construction sector is considered among the key pillars of Dubai's economy beside trade, tourism and banking. According to a recent international report, the value of Dubai's construction

projects in execution and planning stages is expected to reach a record of US\$390.7bn this year and 13.7 per cent of these projects, which are valued US\$53.5bn, are currently under progress in the emirate.

This year, Dubai is expected to award an additional US\$36.5bn worth of projects. "The construction sector is key for the sustainable growth of the emirate. Dubai Plan 2021, Expo 2020 Dubai and the massive number of projects launched by the government over the last few years are all vital areas intrinsically related to the construction industry," Al Hamli added.

"Dubai is currently witnessing a new momentum of growth, thanks to the critical initiatives launched by the Vice-President and Prime Minister and Ruler of Dubai, HH Sheikh Mohammed bin Rashid Al Maktoum. The knowledge-based economy, innovation, Islamic economy, in addition to the Industrial Strategy 2031, to name a few are driving forces strengthening the contribution of the construction sector to Dubai's economic growth."

CONVERGENT GROUP offers advanced floor care solutions for industrial concrete surface treatment. As a leading manufacturer of Nano-Lithium products such as Pentra-Sil® (NL), our Group provides high quality treatments for use as surface hardener, sealer and densifier and also for the preservation and maintenance of new or old concrete floors. **CONVERGENT GROUP** is also the manufacturer for LisoChem SA, a wide range of green surface waterproofing and maintenance solutions.

Our advance proven and environmentally friendly formulas are used by industrial manufacturing industries, commercial retail and the building trades worldwide. Audi, Ikea, Nestle, Gucci, Metro, Pepsi Cola, L'Oréal, Lufthansa, Chrysler, Scania are amongst the major industries that we serve.

THE LITHIUM TECHNOLOGY



CONVERGENT GROUP S.A.

The Concrete Technologies

CONVERGENT GROUP S.A. • A Company Certified Iso 9001 & Iso 14001/EMAS

Rue des Mousquetaires Gris 35 • 5660 Mariembourg Belgium • Phone : +32 60 390 752 • RPM Dinant • VAT: BE 0479-433-386

info@convergent-group.com • www.convergent-group.com

BIG 5 STAND HALL 6 • 6B242 – MEC STAND E127 • E135

Briefly

Firefighting solutions for construction sector from NAFFCO

FIREFIGHTING SYSTEMS

SOLUTION provider NAFFCO will showcase its range of distinct quality products at The Big 5 this year. NAFFCO perceives a global interest for safety and security in the construction industry and recognises The Big 5 exhibition as an effective platform to reach international market, according to the company.

Ahmed Al Khatib, executive director of NAFFCO, said, "We are delighted to be part of The Big 5 Exhibition as it is a prominent event for organisations in the construction industry. At NAFFCO, we are genuinely committed to protect lives and properties by providing complete fire protection solutions under one roof. We strongly believe that our range of products will address the need of advanced safety and security solutions."

NAFFCO will display the following products – ELV (extra low voltage solutions), fire pumps, all types of certified fire extinguisher and pipes and fittings highlighting huge fire door, a first-of-its-kind in the Middle East measuring up to 3 metres X 3 metres with British Standard Certification. So far, NAFFCO's repertoire of solutions has included a range of fire-fighting equipment, put together after thorough research and evaluation of different scenarios that need fire-fighting assistance. Fire Falcon 6, Smoke Management System, Pump Cloud and Inert Gas systems are all the latest offerings from NAFFCO.

Jafza at The Big 5 to promote global firms



Jafza is home to more than 7,000 local and international companies, including 100 companies on the Fortune 500 Global list.

JEBEL ALI FREE Zone (Jafza), Dubai and the UAE's flagship trade and logistics hub for the wider Middle East region and Africa held a forum, recently, for the construction and steel sector companies based in the free zone at the National Industries Park. The forum was attended by industry leaders, key officials from partner entities and senior management from Jafza.

Talal Al Hashimi, Jafza CEO, emphasised the industry's significance in driving the local economy with the government launching several ambitious construction projects that are expected to be completed over the next few years.

Al Hashimi said, "Despite the global market facing stiff challenges, recent reports are extending an optimistic outlook for the growth in this sector, locally and regionally. The Business Monitor International (BMI) has reported a 6.6 per cent growth in the construction sector in the UAE this year to reach a total value of US\$49.28bn by end of 2017, compared to US\$44.11bn this year; thus revealing a promising growth of six per cent over the next three years."

He asserted Jafza's keenness in providing additional incentives to the sector, having allocated an area of 1.1mn sq m in Jafza South for companies in the construction and steel industry, adding that Jafza supported the role of the construction and steel industry by facilitating incentives for investors for regional and global economy.

The forum also provided an insight into the industry through a presentation titled *The Future of the Industry* that offered a detailed information on the 3,872 projects active in Dubai worth US\$350bn.

Jafza has also invited companies to participate at the Big 5 event as part of the Jafza Pavillion to promote their companies.

The forum was attended by some of the market leaders from the steel and construction industry such as Duke International, Conares, Danube, PAN Emirates Building Materials Trading, Alpin Metals along with senior management of Jafza and representatives of DP World, Dubai Customs, Dubai Chamber, Trakhees, Dubai Exports, and the port and free zone security and a number of Jafza strategic partners.

GASKET INSULATION KITS

FOR CRITICAL APPLICATIONS.....

Confirms to LR Type Approval System by Lloyd's Register



STARTEC 6020-EG Gasket
Steel Reinforced Epoxy
Epoxy Resin



STARTEC 6020-EG Gasket
Steel Reinforced Epoxy Resin
Epoxy Resin



STARTEC 6020-EG Gasket
Steel Reinforced Epoxy Resin
Epoxy Resin

Benefits:

- Stable usability and insulation performance in severe conditions
- Withstand extremely corrosive conditions such as CO₂, H₂S and produced water line
- Reinforced metal core applicable on ASME Class 2500
- Better compressive strength and heat resistance by using NEMA G11
- Protection for electrical corrosion in dissimilar metal connection
- High strength of sealing retainer prevents damages from excess compression
- Stable performance with double sealing structure of serrated gasket
- Certifying API 608 Fire Test



INMARCO FZC, P.O. Box # 120284 SAIF Zone Sharjah, UAE. Tel: +971 6 5578378 Fax: +971 6 5578948
Web: www.inmarco.ae E-mail: info@inmarco.ae



www.ascenduae.com



Ascend Access Scaffolding LLC. DIP 2, Dubai

Tel. No.: +971 4 8855001 | Email: sales@ascenduae.com

TOLL FREE: 800 SCAFFOLD

VEDA France to showcase passive fire protection products

DESIGNER AND MANUFACTURER of full range of joints, VEDA France, offers tailored solutions to all types of building for both standard and seismic joints. It is also one of the world's leading manufacturers of fire-stop systems for expansion joints, heads of walls and curtain walls.

The range of passive fire protection products such as ropes, mattresses, blankets, filler boards and foam has been certified by European Norms (EN), Underwriters Laboratories USA (UL) and British Standard (BS).

At The Big 5 event, VEDA France will showcase products and systems recognised by the UAE Civil Defence, Qatar Civil Defence and Kuwait Fire Department, which are namely the following –

VEDAFEU C rope system: They are unique, protected and patented. The ease with which they can be installed, their budget-

friendly cost and close implementation control allow for time and financial savings. They are the best available fire-stop solution for joint gaps up to 120mm and qualify for a four-hour fire rating.

VEDAFEU M mattress system: They are suited to joint gaps up to 450mm. They boast a two-hour fire rating and accept seismic movement: tension up to 275 per cent, compression up to -95 per cent. The mattress is easy-to-use and quick to set up.

VEDAFEU N blanket system: VEDAFEU N blankets provide solution for very wide gaps, up to 840mm. They feature a four-hour fire rating and allow tensile movement up to +50 per cent and compression up to -75 per cent.

LINEAFEU filler board system: The boards are all-in-one products, performing a formwork function, as well as offering fire-stop and heat/acoustic insulation properties. They are suited to joint gaps up



to 100mm and feature a four-hour fire rating.

VEDAFEU PU foam: It is the simplest and quickest passive fire protection solution for joint gaps up to 40mm, with a four-hour fire rating.

Stand No: 8B335

Cemom to unveil latest offerings

CEMOM, A FRENCH hinge specialist, will be showcasing its innovative products at The Big 5, which begins on 21 November, in Dubai.

The group has two main areas of activity – coated abrasives for the furniture industry and the automotive sector, where its customers are companies such as Renault/Nissan, besides concealed and screw-in hinges. The firm produces more than 50mn hinges each year.

Cemom-Moatti will be at the four-day event to introduce two of its latest offerings –

*Estetic 80 for doors weighing between 70kg and 80kg.

*Estetic 100 for doors weighing between 100kg and 120kg, tested over 300,000 cycles and fire tested for 60 minutes.

"Our products combine manufacturing simplicity, great robustness, an up-to-date design and highly competitive pricing," said a company spokesman.

"We will be presenting these hinges at the Business France pavillion so as to ramp up our presence in this vibrant and highly promising market," he added.

The French hinge specialist exports 60 per cent of its



production output to more than 40 countries across the globe. Its key markets are Europe, Eastern Europe, Middle East Asia and the Americas.

The Cemom group has factories in France, Poland and Sweden, generating a turnover of US\$33.5mn.

Stand No: SSF80

Fire-resistant products from ODICE



ODICE IS EXHIBITING its full range of fire-resistant products – intumescent seals, incombustible boards, insulation materials, sealants, fire resistant ventilation grilles – for the manufacturers of fire-rated doors, partition walls, shutters, dampers and other passive fire protection constructions at The Big 5.

ODICE's products are designed in order to maintain fire resistance in a building for 30, 60, 90 and 120 minutes and the company is prepared to present its latest abilities at the event.

According to ODICE spokesperson, the company saw a steady growth in 2015 due to the increased presence in export markets. ODICE has also invested in the development of new concepts closely in line with its strategic business partners.

ODICE's own fire laboratory FIRELAB de Marly for preliminary fire tests of his customers and partners is equipped by two fire resistance test furnaces: 3 metres x 3 metres (vertical) and 1.5 metres x 1.5 metres (vertical and horizontal).

The company provides expertise according to existing regulations applicable for European countries and also for USA, following EN1634, EN1366, EN1364, BS476-22 and UL10c.

Stand No: 2D87

Terrasses Grad to debut at The Big 5 this year

TERRASSES GRAD HAS been manufacturing and installing wood frame roofs and houses since 1988, initially under the Architecture du Bois brand and, since 2012, the grad moniker. The company will unveil its latest decking products when it takes part in the Big 5 Show, at Business France pavillion.

Ecologically-Oriented Innovation

The construction of external wooden structures is governed by specific rules, adherence to which, if followed, increases their longevity. Over the years, the company has made significant improvements, many of which are patented.

JuAn Clip

The invisible clip system allows pre-grooved decking or siding boards to be snapped into place with ease, invisibly and extremely reliably. The wood is neither drilled nor milled. This eliminates the possibility of splinters and any weak points; the support structure's insulation and ventilation, which are important for durability, are both optimal; and the board alignment is automatic.

Rail System

The Rail System adapts to all types of deck structure and makes installation considerably easier. It offers advantages – it can be dismantled easily; is straight, precise, quick to install and modular.

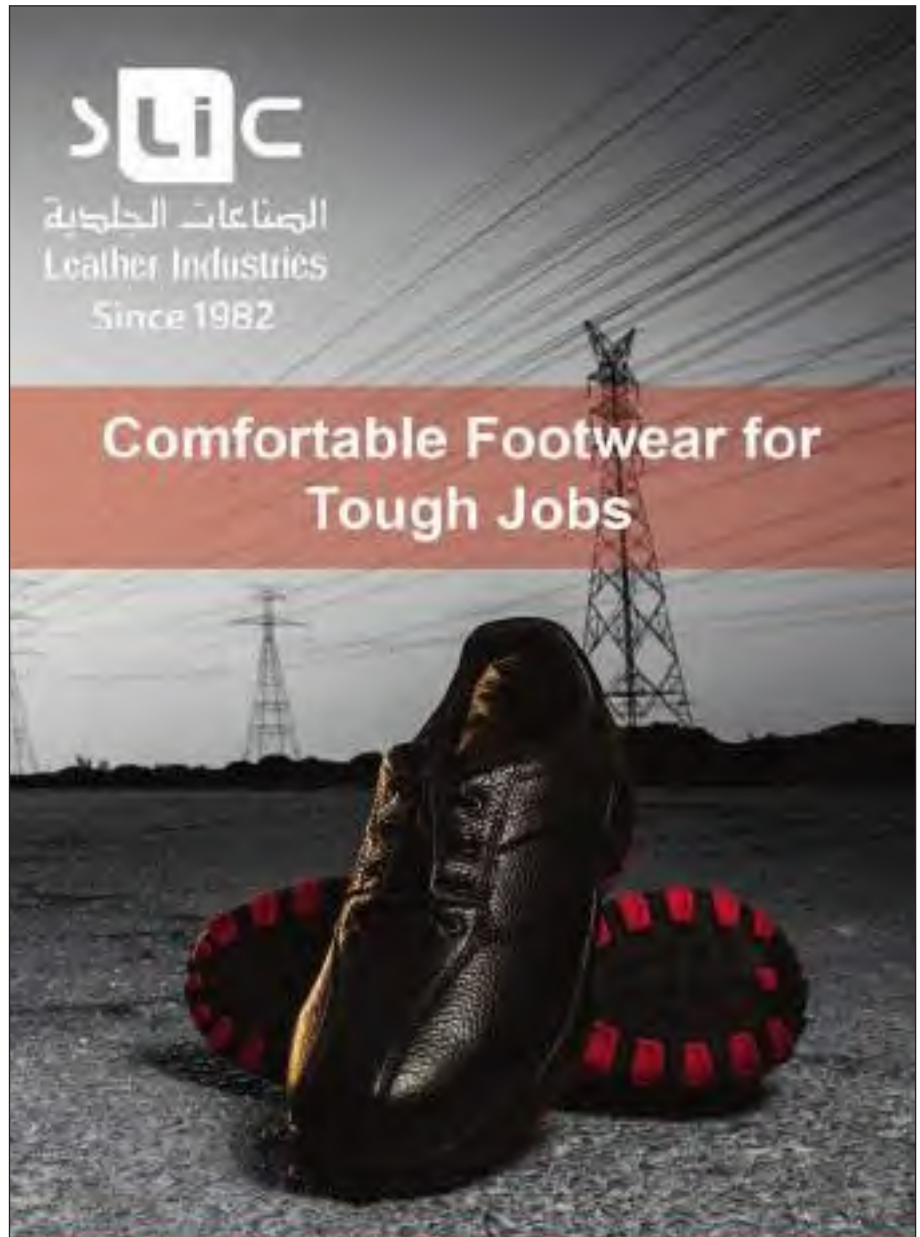
Stone Rail

The aluminum frame provides a cohesive and uniform base. With this, the structure remains stable, laying the slabs level is easier and no readjustment is required; rainwater is evacuated via the joints between the slabs and the deck dries quickly after a shower; and includes a technical space for electrical ducts and pipes.

TOP LIFT Adjustable Pads


TOP LIFT is an adjustable pad designed specifically for battens or joists used in wood, composite and ceramic stoneware decking. With traditional adjustable pads, four or five different models need to be produced to cover an adjustment range of between 3 cm and 20 cm. TOP LIFT pads offer an adjustment range of between 35mm and 235mm with a single model and a single type of riser block.

Stand No: SSE84





SLIC
الصناعات الجلوية
Leather Industries
Since 1982


Comfortable Footwear for
Tough Jobs



Electrical Hazard
Resistance







Visit us on
www.slicshoes.com

Oman's pipe manufacturer to display region-specific products



The new generation of multi-layer HDPE pipe is ideal for the poor and stony soils of the MENA countries, which can produce high stresses in the pipe wall when sharp objects press on the buried pipe. (Photo: Muna Noor)

OMAN'S PLASTIC PIPE manufacturer Muna Noor is set to make its debut at the The Big 5 in Dubai this year.

Besides showcasing some of the world's best-selling plastic pipe products for water control projects, including the multi-layer high-density polyethylene (HDPE) pipe at the event, the firm will be celebrating the success of its newly-launched pipe and valve centre in Salalah. Made of three co-extruded layers that become one during extrusion, the HDPE pipe can be laid into excavated trenches without the need for expensive bedding material, said the company.

In comparison to mono-layer HDPE pipes, Muna Noor's new generation multi-layer HDPE Pipe delivers greater reliability and

durability since they are not subject to internal and external stress cracking. Made of three co-extruded layers that become one during extrusion, the HDPE pipe can be laid into excavated trenches without the need for expensive bedding material. Additionally, these pipes can be lined with an abrasion-resistant layer for moving materials such as mining slurry or pumping sands during dredging, making it the ideal solution for water, gas and sewer applications in the hot and harsh grounds of the Middle East. Additionally, these pipes can be lined with an abrasion-resistant layer for moving materials such as mining slurry or pumping sands during dredging, making it the ideal solution for water, gas and sewer

applications in the hot and harsh grounds of the Middle East, it added.

Grant Phipps, group general manager of Muna Noor, said, "We are proud to pioneer new approaches for our company and Oman. The Salalah launch has been a massive landmark for Muna Noor and we look forward to launching more new centres in Oman and throughout the Middle East over the next year.

"The Big 5 certainly is the event for Muna Noor to showcase at and we look forward to offering expert technical advice whilst making new contacts and building strong relationships."

Stand No: Zabeel P116

UK's Midlands Engine mission brings 10 construction firms to Dubai

TEN CONSTRUCTION COMPANIES from the Midlands will attend The Big 5 as part of a Midlands Engine visit to represent British expertise and innovation.

According to *Birmingham Press*, the delegation, organised by UK's department for international trade (DIT) in the Midlands, will see the businesses visit exhibition, touted to be the largest construction event in the Middle East with more than 3,000 exhibitors from 142 countries.

Ian Harrison, acting director, DIT in the Midlands, said, "The Midlands Engine mission to Dubai is a huge opportunity for businesses in the construction sector. Not only will they get to visit the exhibition, attend seminars and have the scope for individual meetings, they will also get the chance to spend a day in Abu Dhabi and find out more about how they can get involved in the Expo 2020 Dubai.

"The Midlands has world-leading capabilities when it comes to innovation and quality. Being able to take these companies to showcase their work is a real boost and as our 'Exporting is GREAT' campaign demonstrates, there are some very good international opportunities out



Ian Harrison is the acting director at DIT in the Midlands.

there. Never before has it been so important to expand internationally and the DIT has the expertise to help businesses of all sizes succeed."

There are currently more than 250 live export opportunities in the construction sector, from a call for waste water treatment plants in Morocco and light fittings in Kuwait to a need for road contractors in Uganda and railway

engineering products in Japan.

Pietro Cardente, international sales director of Dudley-based Conex Bänninger, which designs, manufactures and supplies plumbing fittings, valves and bathroom products, will be one of the businesses attending.

He said, "Attendance at the Big 5 gives us the chance to talk face-to-face with customers new and old, and explain the benefits of all the technologies manufactured by Conex Bänninger and the benefits they can offer the MENA market.

"One striking difference between the UK and MENA markets is the types of fittings used, with the Middle Eastern territories continuing to use traditional braze fittings. Whilst still a valued method, especially for bigger installations on a commercial scale, braze fittings do present challenges in terms of time efficiency, reliability and health and safety. Press-fit technologies, like those that we are showcasing here at The Big 5, are an innovation that has massively grown in popularity in the UK, Europe and international markets, and we predict that it will here, too."



Associated Power Solutions
Solutions To Power Your World

European Manufacturer Builds New State of the Art Facility in UAE



Diesel Generators | Fuel Tanks | Lighting Towers...and more

OEM for **Perkins** & **LEROY SOMER**

Hamnyah Free Zone, Sharjah, UAE.
Telephone: +97165528142, Email: sales@apsuae.com

www.apsuae.com



GALVA COAT
For Galvanizing & Lighting Poles



NEW PRESS BREAK MACHINE



We are proud to introduce one of the biggest **FOLDING MACHINES** in the world, with the following capacity:

- Folding Length: 12 meters
- Maximum Thickness of 50 millimeter sized plates
- Variable Punch, Die Setting & Bending

NEW CNC PUNCH MACHINE

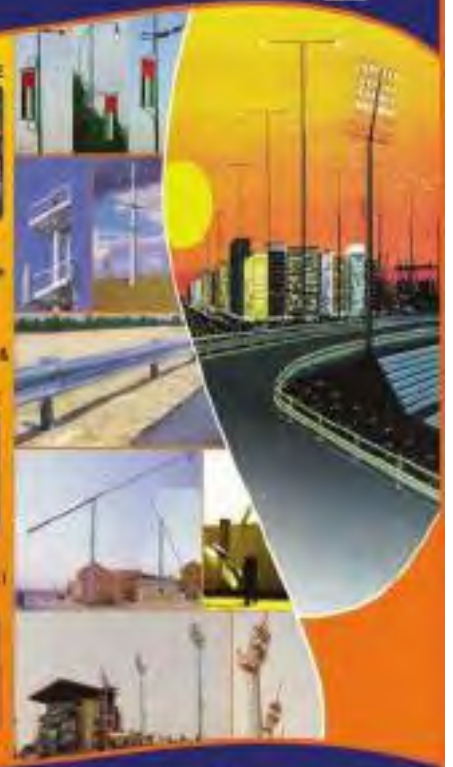


Perforation and Decorative Cable Management Systems (Tray / Ladder / Trunking, etc.)

NEW LASER MACHINE



Laser Cutting Services (All sizes / plates, etc.)



P.O. Box: 5485, Abu Dhabi - U.A.E.
Tel: +971 2 5511185 - Fax: +971 2 5510188
Email: galvaand@emirates.net.ae, Website: www.galvaccoat.ae



SAUDI BUILDING SYSTEMS MANUFACTURING COMPANY



Better Delivery

Unbeatable Quality

Top Design

Low Prices

Extra Features

Richer Finishes

Suitable for:

- Offices & Showrooms
- Commercial Centers
- Maintenance Shops
- Aircraft Hangars
- Wedding Halls
- Power Plants
- Warehouses
- Factories

Saudi Building Systems Manufacturing Company

JEDDAH Tel: (012) 6370036 (10 LINES) Fax: (012) 6352173

RIYADH Tel: (011) 4659212 /4633736 Fax: (011) 4647695

DAHMAN Tel: (013) 8275306 /8272077 Fax: (013) 8275324

E-mail: sbsmfg@saudbuilding.org

Web: www.saudbuilding.com



The GCC governments are looking to spend US\$100bn on infrastructure projects in the next three years.
(Photo: Scruggelgreen/Shutterstock)

Excavating opportunities at PMV Live 2016

Co-located with The Big 5 in Dubai, the event is the largest platform for the plant, machinery and vehicle community to share, source and learn about the most innovative solutions.

There are more than US\$12bn worth of theme park projects in the GCC currently.

THE OUTLOOK REMAINS extremely positive as regional governments continue to splash out on flagship developments to meet the needs of a growing population and the increasing demands of tourism. Multi-billion dollar infrastructure initiatives such as Expo 2020 Dubai and the 2022 FIFA World Cup in Qatar have already presented a huge opportunity for worldwide construction companies.

The GCC governments are looking to spend US\$604bn in the next three years, which will include US\$100bn on infrastructure projects. They are also targeting private-public partnerships to safeguard project continuity in the region.

Along with the Expo and World Cup events, airports in the region are set to expand by 2020 to keep up with the demands of increasing passenger numbers and cargo traffic. In addition, investments are pouring into road and railway construction projects such as the Dubai Metro's Route 2020 extension.

Elsewhere, and already under construction are the Qatar National Rail

Scheme and the Riyadh Light Rail Network. In Bahrain, plans are afoot to build a rapid transport network and in Makkah, Saudi Arabia, the construction of the Makkah-Madina Railway Link (MMRL) is out to tender.

There are more than US\$12bn worth of theme park projects in the GCC at a range of stages, from planning to under construction. Added to that are a host of recreational projects such as museums, a zoo, a library, cultural centres and theatres.

Taking these into account, PMV Live will provide a platform to network with the movers and shakers across the GCC region responsible for some of the major developments that are now taking place. Furthermore, it is a chance for investors to seal a few money-spinning deals.

Thousands of state-of-the-art and ground-breaking technologies, as well as revolutionary ideas will be showcased by more than 400 exhibitors to 32,000 international participants searching for products that can save money, energy, reduce emissions and minimise waste. ■

YOUR BUSINESS PARTNER

A SYSTEM FOR YOU



FULL OFFERING

Complete Line up of commercial vehicles
From 3.5T up to 45T and above
Suitable for every mission

EUROPEAN TECHNOLOGY

Top Leading Technology
High performance in on and off-road conditions
High quality features
power, torque, safety, ergonomics

AFTER SALE SERVICE

Repair and Maintenance Contracts
Comprehensive Warranty conditions
Origin 100% Iveco parts

FINANCING SOLUTIONS

Tailor-made solutions
Top Financial Partners
Qualified Team of Experts

YOUR NEEDS, OUR SOLUTIONS.

BAHRAIN - YK. ALMOYAYED AND SONS B.S.C. - Manama - almoayyed@almoayyed.com.bh

IRAQ - MTT - MACHINE TECHNOLOGY TRADING CO. - Baghdad - commercial@mts-iraq.com

JORDAN - GLOBAL BRAND TRUCKS LIMITED - Amman - sales.admin@ivecojordan.com

LEBANON - OMATRA - Beirut - lebanon@omatra.org

OMAN IVECO - INTERNATIONALEQUIPMENT & CONTRACTING CO. - Muscat - pep@suhaibahwastawitgroup.com

OMAN ASTRA - AL FAIRUZ TRADING AND CONT. CO. LLC - Muscat - jobby@alfiruoman.com

QATAR - IBIN AJAYAN TRADING CO. WLL - Doha - arun.dsouza@ibinajayan.com.qa

KINGDOM OF SAUDI ARABIA - ORIENT MARKETING & TRADING COMPANY LLC

Jeddah, Riyadh, Dammam, Abha, Al Madinah Al Munawwara, Jubbah - iveco@alfuttaim.sa

U.A.E. - AL GHANDI AUTOMOTIVE GROUP - Dubai - rasheed@alghandi.com

U.A.E. - UNITED ALSAQER HEAVY EQUIPMENT LLC - Abu Dhabi - mohammad.havro@alsaqergroup.com

IVECO

Your partner for sustainable transport

www.iveco.com

MB Crusher's new screening bucket for Middle East

AT THE BIG 5 Dubai, MB Crusher, attachment specialist, providing materials processing equipment to the recycling, demolition, construction, landscaping and waste management industries, will be showcasing crushing and screening buckets for the Middle East market. This includes the new hydraulic drum cutter MB-R800 and MB-LS220 – the first screening bucket designed specifically for owners of loaders and backhoe loaders from 12 tonnes to 35 tonnes.

The MB-R800 is suitable for concrete wall and surface profiling, trenching, rock excavation,

demolition and dredging and for any use in urban areas and also on restricted jobsites.

The new MB-LS220 allows optimisation of loaders and backhoe loaders, transforming them in a few minutes into an efficient mobile screening plant, able to process debris in all the process phases.

As it does not need to operate over the heap of material, as otherwise required by other excavators screeners, the MB-LS220, facilitates and speed the processing of the material on different sides of the same construction site. Used in any type of process for separation of waste or natural materials, the MB-LS220 can sift material of various sizes, used for example in drainage jobs to obtain an end product to use it in the coverage of underground pipelines for protection. MB-LS220 allows to reduce up to 60 per cent the crushing time and allows to recover materials and handle it in the best way.

There are many applications for the new screening bucket: used in any type of process for separation of waste or natural materials. The new MB-LS220 can sift material of various sizes, used for example in drainage jobs to obtain an end product to use it in

the coverage of underground pipelines for protection. MB-LS series has three models – **MB-LS 140**, the smallest in the series, is suitable for skid steer loaders and backhoe loaders from 2.6 tonnes;

MB-LS 170, launched at the beginning of 2016, is suitable for skid steer loaders and backhoe loaders from 6.5 to 11 tonnes; **MB-LS 220** is suitable for backhoe loaders and skid steer loaders from 12 to 35 tonnes. All MB screening buckets are equipped with interchangeable modular panels to allow a rapid change of grid size. The unique and innovative conic basket shape is designed to significantly increase the hourly production performance and to sift all the material scooped, with no residue.

Stand No: OSF40



Germany's MEILLER brings specialist tipper trucks to Middle East

MUNICH-BASED COMPANY MEILLER has now partnered with Dubai-based KHF Automotive to offer tippers and skip handlers to customers in Middle East.

The product range, apart from rear tipper, includes tipping semi trailer, rock ripper, asphalt tipper, container transport trailers and skip handler.

In earthworks and construction fields the MEILLER rear tipper, which will be exhibited here at The Big 5 this year, has a distinctive box body robustly fitted with eight mm floor and six mm sidewalls with jet reinforcement ribs fits almost 18cu/m of bulk material when level, on a triple axle chassis. The features includes scissor tipping stabiliser, giving additional stability while tipping, reduced loading height, which also lowers the vehicle's point of gravity, low tare weight, maximum payload and useful volume, high tipping and lowering speeds and mechanical tailgate locks with fewer wearing components. The tipper body is



The tipper body is constructed using fine grain high grade steel, thus making the product the most adaptive to Middle East conditions.

constructed using fine grain high grade steel, thus making the product the most adaptive to Middle East conditions. At the heart of the MEILLER tipper is the proven MEILLER high pressure hydraulic system with its trust in axial piston pump having

high rate of flow, giving maintenance-free operation and maximum efficiency. The cylinder of the hydraulic ram is nitride and has a long working life.

Stand No: OSC25



INTERNATIONAL
TRADE SOLUTIONS (FZE)



Let us show you how you can invest in robust,
efficient, productive and profitable machinery

YOUR ONE STOP SHOP

CLIFFORD

MACHINES & TECHNOLOGY



HIGH SECURITY FENCING LINE

World leaders in machines to produce High-security fencing and narrow pitch, self-supporting fencing.

Features: Precision wire placement for accurate pitches; Cross wire tensioning ensures flat panels; Direct welding ensures highest weld quality; Automated trimming, mesh stacking and handling options for high production.



FORGE GRATING MACHINES

The finest machines for the production of light and heavy duty forged grating products.

Features: Precise weld control; Highest quality grating to international specifications; high tolerance of raw materials; High Reliability; Wide range of configurations from fully automated to semi and manual machine options; Local support.



Contact: Graham Raynor (General Manager)

International Trade Solutions (FZE), Dubai

+971 (0)52 9373222

www.itsol.ae | www.eurolls.com | www.cliffeng.com

HTC to launch new generation of floor grinders

SWEDISH COMPANY HTC, which developed the method of grinding floors using diamond abrasive technology, is now launching a totally newly-developed floor grinder DURATIQ.

The machine is available in two grinding widths – 600mm and 800mm. Both of the versions are new designs and are based on many years of intensive studies of the future needs of customers.

Some of the new features incorporated into DURATIQ are –

- Newly-designed digital control panel and remote control that offer even new operators full control and easy handling;
- New grinding head, hermetically sealed and dustproof for maximum reliability;
- Compact, robust chassis design for optimal manoeuvrability, handling and simple transport;
- Enhanced AirFlow technology and Mist Cooler System that increase productivity by up to 216 per cent and dust collection by 100 per cent;
- Simple-to-adjust weights, 20 different handle settings and 74 per cent less vibration ensures significantly improved ergonomics

Since DURATIQ has been designed from scratch by HTC's own R&D department. The numerous smart features include GPS tracking, USB ports to download operating data, upload new software and charge personal equipment.

Stefan Lind, CEO of HTC, emphasises that this is the most pioneering launch in the history of the company.

"HTC developed the method for grinding concrete floors using diamond abrasive technology 29 years ago. The step that we are now taking with the launch of DURATIQ is almost as huge in the development of our business and the industry. DURATIQ sets a completely new standard for productivity, reliability, operability and flexibility. I am convinced that the industry will talk about the time before and after DURATIQ in the same way that we sometimes talk



The grinder has more than 100 new features and is 54 per cent more efficient.

about leading-edge innovations in technologies, such as mobile telephony.

"As a company, HTC's fundamental motivating force is to always be at the forefront of development. Once again, DURATIQ is proof of HTC's innovativeness for the whole industry," Lind adds.

Stand No: C90

Inotec mixing pumps ensure cleaner air and dust-free environment

THE INOCOMB PICCO Power is a trendsetter among compact 230 V mixing pumps. With its power output, a conveyor length of 30 metres and a lifting height of 20 metres are easily achievable. As a result, the Picco Power – even without high-voltage current – is very versatile on any construction site.

As an option, INOTEC has attached a device to the material hopper of the mixing pump to fix the filter hose of an air cleaner and ensure a dust-free working environment – and there are good reasons for this.

Within the construction industry, dust is an issue that will not go away. Painters, plasterers, façade constructors, tilers and floorers are particularly affected. Dust gets raised or mechanically produced by nearly all activities imaginable. This dust mixture may contain quartz dust, which can cause silicosis and

potentially cancer.

Personnel are exposed to a double health risk when mixing bagged goods with a conventional hand mixer. They are not only subject to a high level of physical strain, but also to possible lung damage when inhaling dust.

With the new Picco Power mixing pump, INOTEC has put together a package in conjunction with the DC AirCUBE 1200 air cleaner that saves your personnel from back and breathing problems. This double pack ensures that the dust created when filling the mixing pump is directly extracted from the workspace. This also prevents toxic dust from being breathed in and dust emissions from being spread around.



Picco Power mixing pump. (Photo: INOTEC)

Stand No: OSF30

ENERGY UNDER CONTROL



- Power Capacitors
- Reactors (Inductors)
- Capacitors for Power Electronics
- Capacitor Banks
- Induction Heating Capacitors
- Components for PF Correction

ZEZ SILKO, s.r.o., Pod Černým lesem 683, 564 01 Zámberk
 tel.: +420 465 673 111, fax: +420 465 612 319, e-mail: zez@zez-silko.cz, www.zez-silko.cz



Our commitment to providing only the highest quality, sustainable and reliable low voltage switchgear solutions has ensured our strong partnerships with leading MEP contractors and consultants across the government, commercial and residential sectors. ”



Channel Partner for
ArTu K Series LV Systems

powertechswitchgear.com
info@ptswitch.ae



Sustainability, now cast in concrete

Middle East Concrete is back this year to showcase new opportunities and discuss challenges in the concrete sector. In an exclusive interview with *Technical Review Middle East*, event director James Meltz talks about the developments in the regional industry.

Technical Review Middle East (TRME):
What is driving the concrete sector in the Middle East region?

James Meltz (JM): I would say the future is the overall driving factor for the concrete sector. It is during the beginning of any construction cycle that the concrete and heavy machinery play a more vital role. Construction cycles are not always cyclical and can actually run concurrently depending on the final objectives. This region is currently focusing on the Expo 2020 Dubai as well as the Dubai 2021 plan, which addresses the urban environment including both natural and built assets, and looks at the living experience of the people of Dubai and its visitors as a result of their interaction with this environment and the economic and social services provided. In addition, the plan also focuses on the economy, which is the city's development engine and its fuel for its march forward.

Aside from the UAE, there are growth prospects for Qatar with the FIFA World Cup

“With the future growth of the region, and with the governments now mandating the use of sustainable concrete, it will now become the norm rather than an exception.”



James Meltz is the event director of Middle East Concrete 2016.

2022 and Oman, which is well underway to diversify away from hydrocarbons. Oman Vision 2020 has laid out plans to boost industrialisation. These are driving the concrete sector currently in this region.

TRME: At these times of lowered oil prices and deferred projects, what mind-set, in your opinion, would the sector participants bring to the show?

JM: Cautious optimism. The majority of exhibitors were already conducting business in this region during the last global recession, which had a much stronger effect on global growth than currently. They have learned from this past experience and now tend to view projects with an approach of realism. Many continue to see their business grow, albeit as a slower, more sustainable

rate, and are looking forward to the future. Many have reported that they already expect 2017 to show additional growth.

TRME: Are you witnessing a shift towards sustainability in the concrete industry?

JM: Absolutely, without a doubt. The concrete industry has always had the reputation of unfortunately having high levels of carbon dioxide because of the cement utilised. While this often seems to be the topic of conversation, it should also be noted that concrete is one of the most powerful tools for proper flood control by means of damming, diversion and deflection of water. However, the future will begin to shift towards sustainability. The Dubai Municipality has issued a circular to all stakeholders of the construction sector to



Aside from the UAE, there are growth prospects for Qatar with the FIFA World Cup 2022.
(Photo: Wikimedia Commons)

use eco-friendly and sustainable concrete materials in building construction, which will reduce carbon emission and create a more environment-friendly urban environment.

With the future growth of the region, and with the governments now mandating the use of sustainable concrete, it will now become the norm rather than an exception.

TRME: How does the concrete sector in the Middle East region differ from other regions and what are the challenges and opportunities that the concrete industry faces here?

JM: Changes in the accepted regulations are being implemented in this region and the ACI (American Concrete Institute) is set to

become the leading authority of consensus-based standards. At Middle East Concrete, we are pleased to host Antonio Nanni, who will be discussing advanced materials and techniques for reinforced concrete structures.


During the four days of the event, Middle East Concrete and PMV Live will present more than 50 different CPD seminars that will focus on various topics such as –

- Challenges and Opportunities in the Concrete Industry
- Concrete Sustainability
- Application and dynamics of Green Concrete in Dubai

Also, on 22 November the event will feature a full day focused on Deco Concrete with live demonstrations on site.

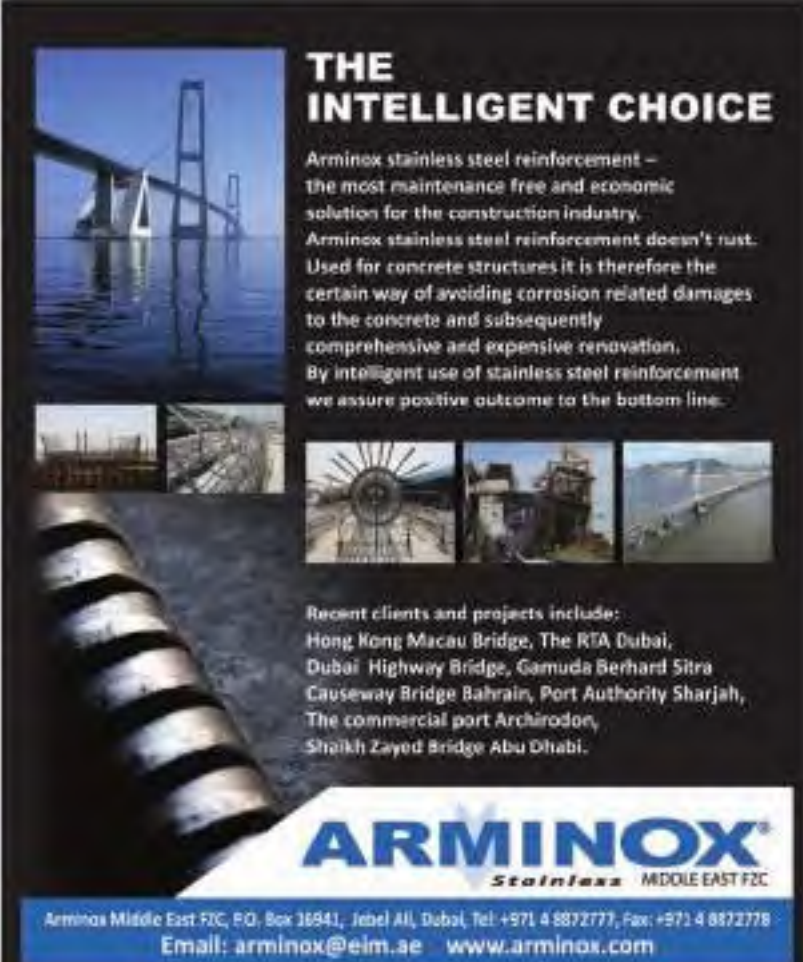
TRME: What is the main focus of MEC 2016?

JM: The region's largest gathering of professional industry experts to conduct trade and business. The event has a strong emphasis on the continuing education of the various sectors with the strongest educational line-up ever. ■



INOX
INOX Global FZCO
Stainless Steel, Duplex, Super Duplex & Nickel Alloy

P.O. Box : 18491, Jebel Ali Free Zone
Dubai, United Arab Emirates
Tel: +971 4 881 8699, Mobile :+971 50 551 3593
Email: info@inox-global.com www.inox-global.com



THE INTELLIGENT CHOICE

Arminox stainless steel reinforcement – The most maintenance free and economic solution for the construction industry. Arminox stainless steel reinforcement doesn't rust. Used for concrete structures it is therefore the certain way of avoiding corrosion related damages to the concrete and subsequently comprehensive and expensive renovation. By intelligent use of stainless steel reinforcement we assure positive outcome to the bottom line.

Recent clients and projects include:
Hong Kong Macau Bridge, The RTA Dubai, Dubai Highway Bridge, Gamuda Bernhard Sitra Causeway Bridge Bahrain, Port Authority Sharjah, The commercial port Archirodon, Shaikh Zayed Bridge Abu Dhabi.

ARMINOX
Stainless MIDDLE EAST FZC

Arminox Middle East FZC, P.O. Box 38941, Jebel Ali, Dubai, Tel: +971 4 8872777, Fax: +971 4 8872778
Email: arminox@eim.ae www.arminox.com

Masdar experience: Taking concrete steps ahead in sustainability

IN 2015, the Dubai government made it mandatory for new buildings to use more eco-friendly supplementary cementing materials (SCMS) replacing old ordinary portland cement (OPC), which can help to reduce carbon emissions. In fact, a tonne of OPC produces more than a tonne of carbon dioxide (CO₂), which severely damages the environment contributing to global warming, not to mention the negative health effects. It is a major part of Dubai's bid to become one of the top ten sustainable cities in the world by 2020 but this move could have also been prompted by the Masdar experience in Abu Dhabi.

Low carbon city

Masdar is attempting to become the world's most sustainable and low carbon eco-city by initiating environmentally-friendly building projects and dramatically reducing energy consumption, water and waste.

There is still work to be done in Masdar but when completed, an estimated 40,000 people will live there with 50,000 additional people commuting every day to work and study in the city.

One of the key companies involved in the construction of the ground-breaking buildings in Masdar is Al Falah Ready Mix and their marketing manager, Sam Rifki, will be delivering a presentation entitled 'Concrete Sustainability – the Masdar Experience' during MEC and PMV Live 2016.

According to Rifki, despite the issue of mixing cement in an eco-friendly way, concrete is still the material of choice for the construction of offices, shops, schools and hospitals.

"It has been around since the Roman times as it is strong, very durable and far

cheaper than having steel structures. However, the production of cement generates carbon emissions in the atmosphere. The production of one tonne of cement produces one tonne of CO₂. We have to supplement some of the cement with products that do not produce so much CO₂ such as fly ash and ground-granulated blast-furnace slag (GGBS). It is not cheaper but it is just more sustainable."

Energy-efficient

Concrete is a very eco-friendly material and ideal for constructing energy-efficient buildings such as those in Masdar. "But we wanted to lower the carbon emission, not just in the cement production, but also in the usage of ice plants and the ammonia that disseminate a lot of gases and carbon in the atmosphere. Our research and development team did a lot of work in Masdar to make the concrete more sustainable. We added about 70 per cent of GGBS to the mix and lowered the cement content. That means we used the lowest cement content possible in order to achieve desired strength and durability standards. This move lowered the carbon emissions by 30 per cent."

As Rifki explains, "The Masdar experience was very important to us. It's sometimes very difficult to convince people. Many of them think that the more cement you put in the mix, the better; but this is not really true. There are other issues to consider. We produced the concrete with very low cement content and a very low water to cement ratio and we were able to produce concrete in Masdar that has a 100-year service life. That is not very common but a great example for others follow."

Masdar City in Abu Dhabi, one of the world's most sustainable urban developments, will undergo significant expansion over the next five years. (Photo: Forgemind ArchiMedia/Flickr)



Recycling

The Cement Sustainability Initiative, run by the World Business Council for Sustainable Development, encourages the industry to consider recycling more concrete. According to them, recycling concrete can reduce natural resource exploitation and the associated transportation costs, decreasing waste that goes to landfill. Sam agrees that more recycling should be done by companies. "This is still not widely used even though it is very practical. The process is simple enough; you demolish the concrete and crush it into stones. What we do in our washing area is treat the returned concrete or washed concrete out of the trucks and then we separate it into aggregates.

"We developed a sustainable line called Alfacrete used as low grade concrete, which we have used on some of our projects and it worked well. It was strong and durable but it is not so widely used. Yes it costs a little more but changes like this have to be made at the end of the day. It is not just mixing the cement that is the issue. It is where we source it from and from how far away. It is all related."

Maschinenfabrik adds new models to its mills technology

THE RANGE OF products and services offered by Maschinenfabrik Gustav Eirich GmbH covers the planning and construction of machines and innovative production facilities, along with their installation and maintenance. At Eirich, the company develops and manufacture all of the key pieces of equipment and machinery required to design the process ourselves. Industrial mixing technology is one of the group's core areas of activity, as confirmed by numerous patents, which are at the same time an indicator of innovation, according to the company. Its granulating systems are intensive mixers with special functionalities.

A key process step for many industries when preparing raw materials is fine and very fine grinding. Up to now, Eirich has offered agitated media mills for this task. Now it has added three more models to its range of mills, along with classifying technology.

The MaxxMill® serves the core market of the ceramic industry and industrial minerals, while the TowerMill covers the core market of the processing of ores.

Through acquisition in the market, the product range has now been

extended by other types of mills and air classifiers:

- Centrifugal ball mill with vertical axis, for the dry grinding of soft to medium-hard materials. Grinding and simultaneous drying of wet, plastic materials is possible.
- Attritor mill for the dry grinding and disagglomeration of soft, low-abrasive materials. Suitable for the simultaneous grinding and drying of moist, plastic materials.
- Ball mill with horizontal axis for the dry grinding of abrasive and hard materials.
- Improvements in terms of design and construction facilitate the optimum transport of the material in very fine grinding processes.
- Dynamic air classifier for particle top cuts of 5 to 400 µm for fine materials. For sharp classification in the very fine range, a patented multi-wheel air classifier is offered.
- The mills are available in a range of sizes and with different linings as well as for iron-free grinding.

Stand No: MECF56

ZOOMLION

LEASE TO
OWN PROGRAM
AVAILABLE

Introducing OUR BRAND NEW RT CRANE

SALES ▶ RENTAL ▶ SERVICE

RT 60

ROUGH TERRAIN CRANE | 60 Ton/66 US Ton

- ▶ 5 Boom Section
- ▶ 43 Mtr. Working Height
- ▶ U-shaped Forged Booms
- ▶ Cummins Engine (US)
- ▶ Dana Axle (US)
- ▶ Harishmen LMI System (DE)
- ▶ 60% Imported World Class Components
- ▶ Best in Class Maximum Loading Capacity
- ▶ Unlimited One Year Warranty
- ▶ ANSI Certified



الربيعية والنصار للتجارة
RABIAH & NASSAR COMMERCIAL




Contact

Khobar: +966 13 8991566 | E: laith@rancogroup.com
Riyadh: +966 12 4910590 | E: trading@rancogroup.com

For inquiries Contact:

Zoomlion Product Manager: +966 56 7777 383

Khobar • Riyadh • Jeddah

 @Ranco_group  @rancogroup  www.rancogroup.com

Aquamec to demonstrate new watermaster dredger

THE AMPHIBIOUS MULTIPURPOSE watermaster dredgers are used worldwide in flood prevention, deepening shallow waterways, cleaning urban canals, building infrastructure in water environment and industrial-pond maintenance work.

With its large selection of heavy duty attachments, the versatile watermaster can do all the work that conventionally requires separate machines, including dredging, excavating, raking, piling and hammering.

Watermaster Classic V has 50 per cent more suction dredging capacity compared to the Classic IV-model. Finnish company Aquamec's continuous research and development work has also generated the innovative watermaster Urban dredging concept and new features for hard soil dredging.

With a bigger Watermaster Cutter Pump together with a more powerful engine and other new features, the Classic V reaches 900 cu/m per hour pumping output.

"It would be easy to increase dredging capacity by growing the size and weight of the dredger, but at the same time you would lose the excellent mobility, which is the key feature of an amphibious dredger. The challenge has been to increase dredging capacity while keeping the dredger compact, mobile and robust at the same time. "Watermaster is a unique combination of these features," says Lauri Kalliola, managing director of Aquamec.

The size of the Watermaster has stayed basically the same (20 tonnes) since the first generation model, Classic I, but the capacity has nearly tripled since then. "Watermaster Classic V is truly amphibious, not just in theory. It can work and move where others cannot, in the whole shallow water area from dry ground to six meters depth" adds Kalliola.

The Classic V-model has gone through an extensive test programme over the last two years. Several units have been



Watermaster dredger pumps sediments from a process water pond at a gold mine. (Photo: Aquamec)

operating in various environments for thousands of hours.

New innovative urban dredging concept and new features for hard soil dredging

A big part of the work watermaster does globally is located in urban areas and done for environmental reasons, such as flood prevention and removing of polluted sediments. Watermaster's patented Cutting Knife System for debris enables it to pump soils containing a significant amount of plastics and other urban trash and, thus, dredge in areas where only excavation work was previously possible. Other new features increase the pace of the urban dredging process further.

Stand No: MECG113

New developments in magnetic formwork technology from Ratec

PRECAST PRODUCERS ARE facing increasing requirements to continuously develop and improve their offers and range of products in order to maintain their success in the competitive marketplace. Developing new and improving existing shuttering solutions provides them with the support they need to master these challenges. The central question to be posed in many cases is how to achieve maximum flexibility and economic efficiency while minimising the use of economic and human resources. To answer this, Ratec offers three solutions:

MST – multipurpose plywood beam for standard solid elements

The MST modular plywood beam originated from the need to offer a simple, versatile, flexible and lightweight system that would be able to cover numerous different shuttering requirements. The MST modular plywood beam is a multipurpose unit suitable for the production of wall and floor elements at thicknesses ranging from

100mm to 500mm. The system combines the benefits of various other solutions as it is flexible in both length and height, is comprised of fewer single parts, and impresses with its low weight and ease of handling. The modular plywood beam is secured at the SPB 2100 magnet box by means of a clamp and serves as a base for mounting wooden formwork or front plate.

UAR for upstands at any specified angle and protruding reinforcement

The new UAR (universal adapter) is another all-rounder and, to date, the only known system of its type. It enables upstands to be created at any specified angle, which customers were previously usually required to produce on an individual basis. The system is also suitable for elements comprising continuous reinforcement and stepped upstands. The pivoting arm can be continuously adjusted in both height and distance while being securely fixed at the same time. Steel or wood can be used as formwork facing and is secured by means of

the C-rail. A patent application has been filed for this unique product development.

RT U60 Pro adapter – added value for filigree shuttering systems

An adapter enabling solid elements to be produced using filigree shuttering has been developed for specific use by the producers of filigree slabs and double walls. It is exceptionally suitable for the production of partition walls using the existing shuttering. The adapter is used to set up filigree shuttering systems and is secured on the form quickly and reliably by means of an intelligent "keyhole" solution. Wood can be bolted on to serve as formwork facing. Alternatively, wood and fibre-concrete upstands can also be secured by means of a hold-down feature. In addition, calibration of the shuttering can be dispensed when using a shuttering robot. Potential future applications could include window blockouts for double walls.

Stand No: MECF61

DSDX.3 Series with energy saving SIGMA PROFILE 

The next generation

The next generation of DSDX series rotary screw compressors is now available for free air deliveries from 25 to 31 m³/min. Together with a range of other enhancements, new SIGMA compressor airends and IE4 motors now combine to deliver up to five percent improved specific power compared to previous models – which translates into significant energy cost savings.



Kaeser Kompressoren FZE

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

www.kaeser.com

Promoting construction and mining ties in Iran

As the Iranian economy further stabilises, the IranConMin show proved that the country's industrialisation process is progressing at a rapid rate.

WITH NEARLY 80MN inhabitants and a still increasing young population, Iran is a high potential market for the construction material and building machinery industry. More than 50 per cent of the Iranian population lives in rural areas with a low standard of living. In the medium run, this will create a high demand for housing and infrastructure.

The demographic structure and ongoing growth in the last decade indicate an upcoming demand in all fields of the construction sector.

The prospect of lucrative deals that Tehran can make after the unfreezing of funds, coupled with an almost decade-long investment backlog puts Iran in worldwide focus as a trading partner.

Munich-based international exhibition company Internationale Messe- und Ausstellungsdienst (IMAG) has partnered to organise eight trade fairs in Tehran.

"Regardless of whether a company is specialised in the processing of crude oil, in the automotive industry or in environmental technology, the interest in Iran regarding expertise and products from abroad is tremendous at this time," says Peter Bergleiter, managing director of IMAG.

One of the most important of these was IranConMin, the international trade fair for construction machinery, mining, building materials and the natural stone industry, that was held from 5-8 November 2016, at the Permanent Fairground in Tehran.

This year, there were national pavilions from Germany, China, Korea and Finland. The event offered a well-established platform to present products, innovations and solutions to a receptive clientele in one of the most important growth markets.

IranConMin also included a technology symposium organised by the German Construction Equipment and Building Material Machinery Association (VDMA) on



Iran has large deposits of iron ore, copper and zinc. (Photo: IranConMin)

6 November, entitled 'Machines and systems for producing concrete, concrete products and pre-fabricated components', where member companies presented their products and technologies. It was open to

representatives of the building, construction and housing industry, in particular the precast concrete industry, and producers of concrete and concrete products.

IranConMin was accompanied by the International Mining Congress, organised by the Iranian Mining Association to discuss the latest developments and technologies.

According to IMAG, Iran's construction industry is in need of equipment modernisation, while in the traffic infrastructure sector, there is a great need for investment in road construction as well as for the expansion and modernisation of airports, ports and rail mass transit and mainline systems.

The mining sector is also regarded as a sunrise industry because of Iran's resource wealth. Iran's plans to extensively expand its metal industry will require a comprehensive expansion of mining. Iran has large deposits of iron ore, copper and zinc. The extraction of marble also plays an important role. ■

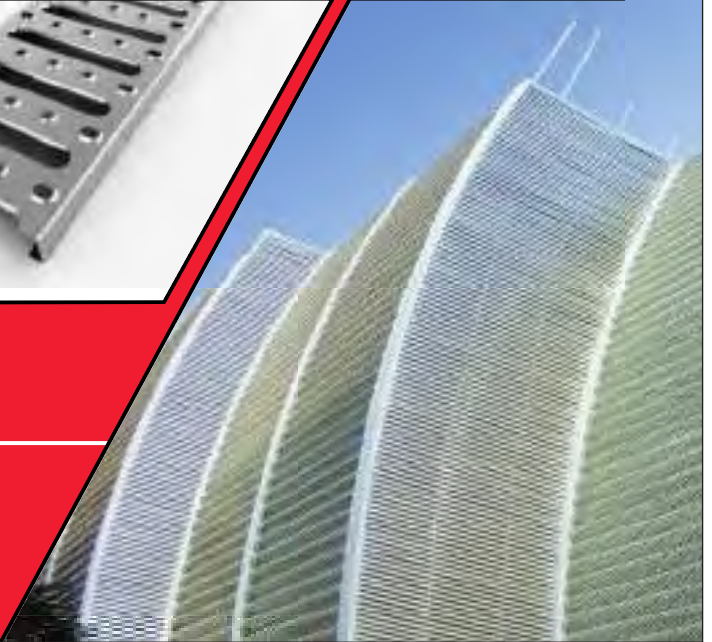
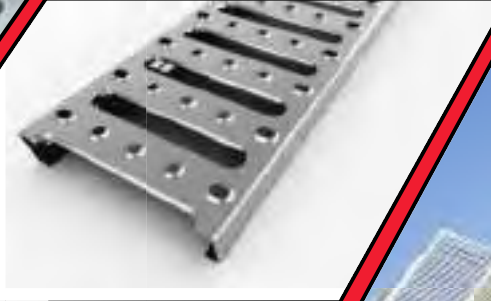
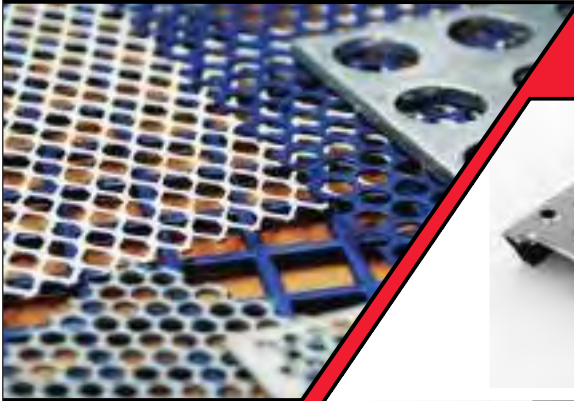
After the easing of sanctions on 16 January 2016, sources say that Iran is becoming the preferred trading partner in almost every industry.



DIAMOND
METAL SCREENS PVT.LTD.
...wHOLEsome Metals

Over thousands of perforation patterns manufactured for various architectural and construction purposes.

- Facades
- Ceiling Panels
- Railing Panels
- Cable Trays
- Sun Shades
- Anti-Skid Flooring
- Ventilation Grills
- Metal Gratings and more ...



Asia's Leading Manufacturer of
PERFORATED METAL PRODUCTS

Plot No.26, R.S No 336/1, Majagaon,Udyambag
Belgaum - 590 008 Karnataka, India.
PH: +91 831 2441496 / 2407775 / 2407778 / 2441508
FAX : +91 831 2441524 / 2426222
Email: diamondscreens@vsnl.com
Website: www.diamondscreens.com

Over Five Golden Decades of Dedicated Service to Power Sector

For over five decades now, one name has facilitated Applied Research in electrical power engineering, enabling Testing and Certification of electrical Power Equipment as an Independent Third Party laboratory - CPRI. The Institute is renowned Internationally as a reputed brand and well-recognised for its Quality and Excellence. CPRI is adequately equipped with advanced infrastructure to handle Collaborative Research with Academic Institutions and Training to Utilities/Industry.



TESTING & CERTIFICATION

- State-of-art Test facilities for High Power Short Circuit, Ultra High Voltage, High Voltage testing of Transformers and Switchgears, Cables and Capacitors, Transmission Line Towers, Material characterisation, Seismic Qualification, Power System Studies, Energy meter testing
- Facilities for testing equipment of 800kV/1200kV rating
- Protocol testing for Power System Automation
- Refrigerator and Air-Conditioner test facility
- Pre-Qualification Tests on Cables & Accessories up to 400kV

RESEARCH

- Center of excellence for undertaking Collaborative and advanced Research in Power Sector
- Sponsored Research Projects of relevance to Power Sector
- Coordination of National Perspective Plan Projects

CONSULTANCY SERVICES

- Smart Grid initiative – Design and Development of Pilot Project for BESCO
- Third party Inspection and supervising work under RGGVY scheme
- Diagnostics & Condition Monitoring of Power Equipment
- Consultancy in Power System Studies
- Power System Protection Audit
- Energy Efficiency & Audit Services
- Third Party Inspection Services & Vendor Assessment

TRAINING

- Customised Training Programmes
- One Year PG course on Testing & Maintenance of Electrical equipment

ACCREDITATIONS

- Member – Short Circuit Testing Liaison (STL)
- Accredited as per ISO/IEC 17025:2005
- Corporate Member in DLMS UA, UCA IUG
- ISO 9001:2008 Certification for Research and Consultancy activities



2500MVA Short Circuit Generator



HVDC Generator at UHVRL, Hyderabad



2400kV, 240kJ Impulse Voltage Generator



केन्द्रीय विद्युत अनुसंधान संस्थान
CENTRAL POWER RESEARCH INSTITUTE
(Autonomous Society under Ministry of Power, Govt. of India)

Prof. Sir C.V. Raman Road, Sadashivanagar P.O., P.B. No. 8066,
Bangalore - 560 080, INDIA Ph: +91-80-2360 2329 Fax: +91-80-2360 1213
E-mail: hegde@cpri.in / kamala@cpri.in / shyamr@cpri.in / manoharnagula@cpri.in
Website: www.cpri.in

Gearing up for **more prospects**

The MENA Mining Show, region's largest quarrying and mining event, boosted investors' morale as the mining industry continues to display slow but sure growth.

AS THE GCC struggles with low oil prices, the region's governments are looking to aggressively pursue non-oil economy. The UAE and Oman are gearing up for new mining laws to speed up the processing of mining licences. Even Saudi Arabia is boosting its output in gold and base metals mining; phosphates; aluminium; and industrial minerals including magnesite, kaolin and low-grade bauxite.

The value of global underground mining equipment will reach US\$30.5bn by 2023, according to a market research study recently published by Credence Research.

Based on what the research company calls a "comprehensive analysis of market influencing and inhibiting factors related to underground mining equipment industry", the report concludes that growing urbanisation in Middle East, Asia Pacific region, Africa and Latin America is driving up the demand for coal and coal energy.

Against this backdrop and to boost the general mining industry morale, Terrapinn recently organised the MENA Mining Show 2016 in Dubai on 25-26 October to provide a premium platform for miners, both in Middle East and Africa, to meet with global investors and build relations in the trillion-dollar mining industry.

The organiser Terrapinn designs, produces and creates conference agendas for the event keeping in mind the needs of the industry. The keynotes included genuine disruptors, innovators and thought leaders who presented content and topics that are relevant, well-researched and at the cusp of global and regional trends.

For seven years, mining companies, ministries and investors continued to attend the high level conference to find solutions to their challenges. It's where they formed new and lucrative relationships and partnerships. And it's where they source and invest in new exploration and production solutions.

Now in its ninth year, the show is acknowledged as a world leader in providing innovative products and technical solutions to both the domestic and international



The MENA Mining Show 2016 hosted more than 2,000 visitors along with 100 government officials and 150 mining companies. (Photo: Terrapinn)

minerals industries. It also offered the perfect marketplace platform for visitors to buy the latest mining equipment, technologies, and services.

According to Terrapinn, the event brought together ministers, mining companies, investors and key solution providers to promote investment and optimise operations.

The MENA Mining Show 2016 hosted more than 2,000 visitors along with 100 government officials and 150 mining companies offering a platform for them to raise capital, win exploration licenses and buy world-class solutions and leading equipment. There were industry leaders who have already developed existing mining projects in the Middle East and Africa who spoke at the event as well.

The free-to-attend event provided demonstrations ranging from mineral processing solutions, mining simulations, mobile crushing, screening and conveying and 3D imaging to increasing productivity.

The list of key delegates included ministries from the UAE, Niger, Nigeria, Liberia, Uganda, Afghanistan, Jordan, Sudan and Egypt. The companies exhibiting and attending included Anglo American, Anglo Gold, Ma'aden, ABB, Barrick Gold, Caterpillar, Managem and IBM, to name a few.

The organisers stated that from exploration and investment opportunities to best practice methods and practical

examples of technology and machinery for operating mining companies, The MENA Mining Show turned out to be a catalyst of innovation for the mining sector.

"There are many reasons to be excited about the industrial minerals and aggregates sector. Monster haul trucks, cutting-edge technologies, enormous earthmovers, fascinating geological wonders, mega-mergers and multi-billion dollar tenders. Yet, most exciting of all is the launch of the first annual Quarrying & Construction Materials Show incorporated with The Mining Show," said the organiser.

Supported by the UAE Ministry of Energy and the Fujairah Natural Resources Corporation, The Quarrying & Construction Materials Show was designed for professionals in the aggregates industry. The two days witnessed the region's biggest quarry and construction players, the most innovative pioneers and champions of sustainability and efficient materials management.

The conference addressed key operational challenges including maintaining licenses to operate, production efficiency, power generation, digital transformation, project optimisation and environmental conservation.

With an aim to diversify economies in Africa and strengthen the Middle East ones, the conference demonstrated how countries are focusing on aggregates as an asset. ■

HITACHI

Reliable solutions



EXCAVATORS

Bahrain - Yusuf Bin Ahmed Kanoo WLL, www.ybakanoo.com | **Egypt** - Orascom Trading, www.orascom-trading.com
Ethiopia - Hagbes Pvt. Ltd. Co. (HCM Products), www.hagbes.com | **Iraq** - Savanna Group, www.savanna.com | **Jordan** - Integrated Automotive, www.ia-jordan.com | **Kenya** - Rock Plant (Kenya) Ltd., www.rock-plant.co.uk | **Kuwait** - Boodai Trading Company Ltd. WLL, www.boodaitrading.com | **Libya** - Al Qima Heavy Machinery, www.qima.ly | **Oman** - Al Fairuz Trading & Contracting, Company LLC, www.alfairuzoman.com | **Qatar** - Arabian Supply Center (ASC), www.asc.com.qa | **Saudi Arabia** - Rolaco Trading and Contracting, www.rolaco.com.sa | **Saudi Arabia** - Omar K. Alesayi & Co. Ltd., www.alesayi.com | **South Sudan** - Juba Auto Co. Ltd., Tel: 00249 156111340 / 00211 956799910 | **Sudan** - TARA International Co., Ltd., www.tara.sd | **Turkey** - ENKA Pazarlama Ihracat Ithalat A.S., www.enka.com.tr | **United Arab Emirates** - Middle East Crane Equipment Trading LLC, www.mecetrading.com
Yemen - Elhussaini Motors Agencies Tel: +967 1 208 846 / 7, 537897

www.hitachicm.ae

Powering Egypt's electricity sector

The 26th edition of ELECTRICX, co-located with the sixth edition of SOLAR-TEC, is the largest power exhibition dedicated to the innovation and growth of the electricity and renewable energy sector in Egypt.

TAKING PLACE IN Cairo's International Convention Centre, the 26th edition of ELECTRICX will bring together over 250 leading power and solar energy companies and will provide the opportunity for industry professionals to source new products, technologies and solutions from the leading international and regional manufacturers, suppliers and distributors.

"As ELECTRICX enters its 26th year, we continue to be the leading exhibition in North Africa for bringing together those in every area of the energy sector, from generation to distribution," says Anita Matthews, group director of Informa Middle East's Power and Energy Exhibitions.

"This year also marks the sixth anniversary of our co-located partner event, SOLAR-TEC, focussing on Egypt's rapidly developing solar power industry. We hope this year's event will provide our exhibitors and visitors with yet more opportunities to learn, connect and grow, continuing to mark a key opportunity for the Egyptian energy sector. We also welcome the Egyptian Ministry of Electricity and Renewable Energy and the Egypt Engineering Syndicate who will be supporting this year's event for the first time," adds Matthews.

The demand for electricity is growing rapidly in Egypt, at an estimated additional 1,500MW to 2,000MW per year, due to rapid urbanisation and economic growth. Egypt is also the largest importer of gensets in Africa – 58.6mn units annually and 30GW of capacity are now planned to be installed in every year until 2020.

Speaking at last year's event, Mohammed Al Mutua, chief commercial officer at Ducab, said, "We truly believe that Egypt is the main gate to the African market and also provides us in the UAE with great potential to expand. We have been visited by many consultants, the Ministry of Water and Electricity as well as VIP businessmen. A big thanks to the organisers for the great coordination and



Anita Matthews (extreme left) at the 25th edition of the show last year.
(Photo: Informa Middle East's Power and Energy Exhibitions)

management of the exhibition."

The solar market in Egypt is also predicted to see huge growth in the coming years. The total installed power capacity from solar sources is expected to increase from 140MW in 2014 to around 9,500MW by the year 2022, creating a huge number of solar-related opportunities for the private sector.

"The Egyptian solar market is very important for us and that is why we put emphasis on being present at SOLAR-TEC, the leading solar power event in Egypt. We have met the right customer segment here and presented our projects and opportunities to many regional contacts and networks," commented Kareem Mohy, Africa sales manager at Jinko Solar.

A two-day conference will run alongside the main events featuring speakers from companies and organisations including Huawei, Siemens and the United Nations, as well as a keynote from Dr Mohamed

Shaker, Egypt's minister of electricity and renewable energy.

Key themes for this year include smart cities and smart grids in the Egypt Power Agenda and the use of solar power for irrigation and agriculture in the Egypt Solar Agenda. A number of regional and international companies will be joining ELECTRICX and SOLAR-TEC this year including Aksa Generators, Ducab, SDMO, Schletter, Petrokima, Ingteam, Metaloumin, Jinko Solar, JA Solar and Canadian Solar among others.

At last year's event, Khaled Saif, business development sales manager at SDMO commented, "We always participate at ELECTRICX to maintain our presence in the Egyptian market as this exhibition is considered to be the leading and largest of its kind in the country. It has helped us reach many potential contacts and showcase our new technologies." ■

COMPLEX PROJECTS, UNLIMITED POWER

FIRST
INTRODUCTION
IN THE ELECTRICX
TRADEFAIR
IN CAIRO
STAND NO : 2.D30



NEW! FROM 800 TO 4200 kVA KD SERIES

KD SERIES is the newest line of generators powered with our advanced KOHLER diesel engines. The generator sets unprecedented power density makes this new line ideal for needs which are constantly more demanding. With a wide range of powers (800-4200 kVA / 800-4000 kW_e), they are ideal for every industrial power segment use and benefit from the KOHLER-SDMO worldwide quality of service.

KOHLER-SDMO passion is gaining power. Visit : www.kdseries.com

KOHLER®
SDMO®

Already, SABIC has made significant progress in creating a strong plastics downstream value chain with the involvement of local companies.
(Photo: tpsdave/Pixabay)

Paving the way for Vision 2030

The SABIC Technical Conference highlighted its commitment to develop Saudi Arabia's industrial and manufacturing capabilities.

THE EXHIBITION OF The SABIC Technical Conference in Jubail, held from 6-9 November 2016, was thronged with visitors, with more than 450 exhibitors expressing pleasure at the high rate of attendance from representatives of SABIC and local facilities. The event, held in conjunction with the SABIC Technical Conference, brought together local, regional and international companies and professionals to showcase their innovative technologies and solutions, at a time when Saudi Arabia's Vision 2030, with its focus on industrial development, technology enhancement and localisation, is at the top of the economic agenda.

Opened by HH Prince Saud bin Naif, governor of Eastern Province of Saudi Arabia, HH Prince Saud bin Abdullah bin Thenayan Al-Saud, chairman of SABIC and chairman of the Royal Commission of Jubail and Yanbu, and Khalid Al Falih, minister of energy, industry and mineral resources and chairman of Saudi Aramco, the exhibition was significantly larger than the previous edition in 2014, and as such represented a "big step" for SABIC, according to Peter Boros, marketing director at Sherbiny. It can be seen as an indication of SABIC's commitment to diversify its supply chain, support local companies and bring in new

cutting edge technologies in the drive for further industrialisation.

Already, SABIC has made significant progress in creating a strong plastics downstream value chain with the involvement of local companies, with many plastics-based finished products used in the kingdom produced by Saudi-based SMEs.

The event was the show to be at for those seeking to push the business and especially the ones looking to do business with SABIC.

The exhibition was significantly larger than the previous edition in 2014, and as such represented a "big step" for SABIC.

"We cannot afford not to be here," commented one of the exhibitors. For those with long-standing involvement with SABIC it represented an opportunity to strengthen relations, while those newer to the market

were looking to further progress their business. Participants ranged from the large Saudi trading companies such as Al Abdulkarim Holding, to international industrial companies such as Honeywell and Siemens, which are helping the Kingdom to move to the next level in its digital transformation, and smaller more specialised providers. Partnership and localisation were strong themes at the event. 3M has multiple initiatives at a high level with SABIC, and along with other industry-leading companies is involved in its 'Home of Innovation' initiative, a collaborative platform to develop innovative solutions to market needs.

Myles O'Connor, regional sales director of training provider Petroskills, highlighted "exciting" opportunities for technical training, with SABIC looking to increase investment in this area in the drive for localisation.

While the postponement of major projects, government cutbacks and the squeeze on suppliers are clearly causing difficulties, a number of exhibitors commented that servicing and replacement business was still good, and there was some optimism related to the focus on Vision 2030 commitments and the development of areas such as mining and solar energy. ■

Innovations highlighted at Intersolar Middle East

The first edition held in Dubai brought together members of the solar industry from across the world's most influential markets.

IN 2016, DUBAI set a new record for the cost of solar power of about three US cents per kW/h. During Intersolar Middle East, from 25-27 September, an extremely low price of US\$2.42 per kW/h for solar energy was bid during an auction for a solar farm near Abu Dhabi in the UAE. That is by far the lowest solar farm bid. This largely signifies that solar is quickly becoming the cheapest energy source compared to all other energy sources, including fossil fuels and nuclear power.

Intersolar Middle East covered the complete value chain of PV with 100 international exhibitors from manufacturing companies as Centrotherm and Schmid, cell- and module makers such as Solarworld, Canadian Solar, and Sharp, inverter companies like Fronius and Kaco, up to energy storage solutions from the likes of OutBack Power, and electric vehicles from Microtron Technologies.

The exhibition also covered content-wise all PV and CSP related topics. In two open rooms, 17 free of charge, CPD certified workshops from IRENA, RENAC and Solar

“Solar is quickly becoming the cheapest energy source compared to all other energy sources, including fossil fuels and nuclear power.”

Energy International draw a lot of attention to the international audience. The high attendance of each workshop showed the big interest in content and the need of information to grow the solar business in the region. The Intersolar Study Program on the last day of the exhibition gave the next generation an insight into the chances of the renewable energy industry. This was followed by presentations of the ‘Young Leader’s Innovation Challenge’ winners.

The co-located conference with 80 renowned speakers, gave deep insights in all MENA country markets, perspectives in PV development as well as policies and regulations. The need for local manufacturing was discussed as well as the importance of innovative and reliable technologies.

The Global Solar Leader’s Summit and Intersolar Middle East conference was opened by Saeed Mohammed Al Tayer, managing director and CEO of Dubai Electricity and Water Authority (DEWA) and HE Dr Matar Al Neyadi, Undersecretary of the UAE Ministry of Energy.

One highlight of this year’s conference was the keynote speech by Ben Hill, vice-president of Tesla Energy Europe and Africa about energy storage. Ben Hill also joined the official technical tour to ‘Dubai Sustainable City’.

Faris Saeed, CEO and co-founder of Diamond Developers, said, “Our technical tour of The Sustainable City at this year’s Intersolar Middle East Exhibition and Conference has provided us with an opportunity to showcase our sustainable community as a model in development, and to discuss innovative solutions with engineers, solar experts and energy specialists. This will help us continue our work for sustainable development and encourage other developers to be part of this green economy.”

The second edition of Intersolar Middle East will take place again in Dubai from 25-27 September 2017. ■



Winners of the ‘Young Leader’s Innovation Challenge’ award. (Photo: Intersolar)

For stronger HSE values in the region

The two-day event, organised by *Health, Safety & Security Review Middle East** magazine, focused on health and safety concerns related to construction, fire prevention and oil and gas industries in the Middle East.

THE 2ND ANNUAL Health, Safety & Security Forum, organised by *Health, Safety & Security Review Middle East* magazine, took place at Le Meridien Dubai Hotel & Conference Centre on 23-24 October 2016.

The conference opened with the keynote speech by the head of occupational health and safety at Dubai Municipality Raed Al Marzouqi, on heat stress management at workplace.

“Winter is coming, but the importance of heat stress management does not diminish,” Marzouqi noted. He said that it is important to understand the impact of heat stress at work. He also underlined the factors affecting illnesses induced by heat and steps to overcome them.

Preventing heat stress is necessary but so is incident reporting in case of an accident. Dr Huda Al Salmi, who is the head and section head at Abu Dhabi Municipality (ADM), spoke about the rise in cases of incident reporting in the emirate and the launch of ALDAA software with Abu Dhabi Occupational Safety and Health Center (OSHAD) for the ease of reporting the incidents online. The ADM is also working with Abu Dhabi Police and hospitals to better collect and manage incident reporting.

Besides speaker presentations, the Forum also hosted the region’s first-of-its kind mock court trial, illustrating the workings of the justice system after a serious accident at the workplace. Abu Dhabi-based Al Tamimi & Co’s head of litigation Mohamed Al Marzouqi and senior associate litigation Omar Khodeir demonstrated how parties are held responsible in cases of accidents onsite.

Day One’s panel discussion revolved around the topic Tourism Growth Questions Enhancement of Safety Culture and Crowd Management. With one million tourists expected for Expo 2020 Dubai, questions on how to tackle crowd management were touched upon. According to Cayongcat, the



The mock fire drill led by Dubai Civil Defence at Le Meridien Dubai Hotel & Conference Centre.

first step, as mandated by Dubai Municipality, is emergency planning in the workplace and arranging an emergency response team. Ghaleb Abbasa stressed the importance of appropriate building designs that aid faster evacuation.

by Dubai Civil Defence (DCD), which demonstrated the DCD’s efficiency in responding to fire incidents in the emirate. According to Terry Johnson, senior fire service advisor – operations department at the DCD, the aim of the DCD is to make

“This is a very nice and well-attended Forum by safety practitioners. We hope to see more business leaders here in the future.”

Dr. Waddah S. Ghanem, ENOC’s executive director, EHSSQ & Corporate Affairs

Speaking about evacuation, Gary Hicks, general manager, Emergency Management Consultant at Evac+Chair, said that knowing evacuation processes goes a long way in saving lives. He provided details on how good evacuation processes helped saved lives during the 9/11 incident. ENOC’s executive director, EHSSQ & Corporate Affairs Dr Waddah S. Ghanem and IOSH vice-chair Rob Cooling spoke about how to develop EHS practitioners into executive business leaders.

However, the highlight of the Forum was the mock fire drill, organised and carried out

Dubai one of the safest cities to live in. He also spoke about the soon-to-be-released 2016 Fire & Life Safety Code, adding that the new code will be more descriptive, stricter for developers and favourable for building dwellers.

The event was endorsed by Dubai Municipality, Abu Dhabi Civil Defence and Abu Dhabi Municipality and sponsored by ATG Lanka, Leader Healthcare, Evac+Chair, Al Hoty-Stanger Laboratories, Safe Mobility and ARASCA. ■

* An Alain Charles Publishing Publication

Oil Review

Oil · Gas · Petrochemicals

Middle East

One success leads to another

Oil Review Middle East, the region's leading oil and gas publication, has been putting sellers in touch with buyers for almost two decades. The magazine makes sure that it strikes a balance between respected editorial and your advertising message, to maximise the return on investment for your business.

Oilreview.me

Website-Monthly Statistics
1,022,151 Page Impressions
52,662 Unique Visitors

E-newsletters

Circulation: 20,500+
The Oil Review Middle East fortnightly e-newsletters can deliver your marketing message directly to decision makers.



The magazine's circulation claims are independently verified by an ABC audit



Alain Charles
Publishing
Serving the world of business

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

E-mail: post@alaincharles.com
Web: www.alaincharles.com
www.oilreview.me



The windows and doors industry is predicted to grow at a CAGR of more than 6.8 per cent over the next eight years. (Photo: inter reality/Shutterstock)

A window of opportunity

The Windows and Façades Technical Conference held in Doha recently looked into the growing demands of the booming sector within the construction industry in the region.

“International expert keynote speakers from Parsons Brickerhoff, Dorsch Holding, Priedmann, Hilson & Moran and the Qatar government were hosted at the event.”

ACCORDING TO A market analysis report by the Grand View Research, the GCC windows and doors market was valued at US\$6,340.2mn in 2015 and is expected to grow at a CAGR of more than 6.8 per cent over the next eight years.

The rise in construction related activities in the GCC is estimated to fuel demand for windows and facades. The report states that the forecast period will witness the rise in the number of construction, refurbishment and renovation projects across the GCC with tourism and important events such as World Athletics Championships 2019 and 2022 FIFA World Cup lined-up.

The recently held Windows and Façades Technical Conference in Doha aimed to address the demands of the burgeoning industry. A collaborative forum co-organised by tremco illbruck, Reynaers, ALPOLIC and Guardian Glass, the event aimed to respond

to common questions and challenges presented by the design and installation of windows and façades in the Middle East.

International expert keynote speakers from WSP/Pasons Brickerhoff, Dorsch Holding, Priedmann, Hilson & Moran and Qatar Government were hosted at the event. The conference focused on the latest innovative technologies and sustainable designs for windows and façades and offers guidance on building regulations, current fire safety codes and lessons learnt from high-profile case studies from across the region.

Fire and safety was one of the issues addressed at the conference by Robert Davies, head of fire & life safety at Parsons Brinckerhoff and Reynaers Aluminium. Presentations by Meinhardt Façade Technology, Guardian Glass and tremco illbruck showcased innovations in design and engineering. ■

NEARLY 50 YEARS OF SHAPING POSSIBILITY

With the right tools and a relentless focus on innovation, partnership and community, we believe anything is possible.



PLASMA | LASER | WATERJET | AUTOMATION | SOFTWARE | CONSUMABLES

Like our Hypertherm EMEA Facebook page
www.facebook.com/HyperthermEMEA



Like us and receive automatic news about our new products, technologies, events and more!

Hypertherm[®]
SHAPING POSSIBILITY™



OMEGA FACTORY FOR LUMINAIRES, POLES & GALVANIZING (Div. of S. & A. Abahsain Co. Ltd.)



Galvanized Steel Poles & Accessories for OHL Distribution Network (33/13.8/11kV)

Galvanized Street Lighting/Garden/Stadia/Flag Hoisting Poles & Accessories

Highmasts with Raising & Lowering Devices

Hot Dip Galvanization

Out-Door Lighting Fixtures and Floodlights



P.O. Box 22258, Riyadh-11495, Saudi Arabia Tel +966.1.4984587 Fax +966.1.4982383
E-mail omega@omega-abahsain.com Website <http://omega-abahsain.com>

Certified ISO 9001 by



RANCO unlocks new potential with equipment rental

Rabiah & Nassar Group (RANCO), distributors of Zoomlion, Goodsense and Altec heavy equipment in Saudi Arabia, has launched Linklease Arabia, a new division specialising in long term heavy equipment rental.

A **COLLABORATION BETWEEN** RANCO and the experienced equipment rental professionals at Linklease Group, Linklease Arabia provides a brand new innovative array of services. By focusing on critical aspects of utilisation, asset management and cash flow optimisation, the firm aims to match the long-term rental needs of companies in the current fluctuating business climate.

“We are proud to introduce our range of rental services to the Saudi Arabian equipment market,” says RANCO group operations manager Roy Evans.

RANCO stated that a ‘one size fits all’ approach does not apply to today’s challenging market and as such developed four unique product offerings for clients who need long term rental and ownership structures. The four rental options are – Easy Rent, Flexy Rent, Rent to Own and Equity Rent.

According to the company, the Easy Rent products deliver exactly what the name suggests and allows customers to simply use and return the equipment. This service is ideally suited for customers who need equipment for a specific contract period or project. The rental is inclusive and the company also has the option of providing a certified operator, if required.

Flexi Rent offers the same features as Easy Rent product but with the added benefit that customers may choose to purchase the equipment at market related prices any time during the rental period. Rent to Own products, on the other hand, provides customers with an opportunity to take ownership of the equipment at conclusion of the rental contract.

Equity Rent products are designed to release tied up capital from unencumbered equipment. Linklease Arabia will purchase the unencumbered equipment and rent it back to the customer with the same unique features and benefits as our Easy Rent, Flexi



Linklease Arabia will offer four rental options for its customers.

Linklease Arabia aims to foster business growth in Saudi Arabia by making it simple for businesses to acquire the usage of equipment and for sellers to maximise inventory turnover.

Rent or Rent to Own products.

“We, at Linklease, are excited to be collaborating with RANCO in order to help promote growth in the Saudi Arabian equipment market,” adds Linklease Group CEO Steve Williams.

Linklease Arabia aims to foster business growth in Saudi Arabia by making it simple for businesses to acquire the usage of equipment and for sellers to maximise inventory turnover. Long-term rental enables businesses to have access to equipment without tying up capital and restricting liquidity.

“Linklease Arabia provides customers an additional route to our proven Zoomlion, Goodsense and Altec equipment range,” RANCO commercial manager Faisal Mobayedh. ■



Su-Kam
SOLAR

**Su-Kam
Made in India,
Loved Worldwide.**



**SOLAR SOLUTIONS
FOR EVERYONE, EVERYWHERE**



From lighting a DC solar bulb in a remote village to making Army run on solar, our solar products are suitable for all budgets and needs.

SOLARIZING MIDDLE EAST & AFRICA

UAE | Yemen | Syria | Lebanon | Saudi Arabia | Iraq | Jordan |
Nigeria | Ghana | Senegal | Sierra Leone | Uganda | Kenya | Tanzania | DRC | Cameroon
Sudan | Malawi | Ethiopia | Gabon | Rwanda | Zambia | Zimbabwe | South Africa | Egypt & so on

Su-Kam Power Systems Ltd, India: E-mail: export@su-kam.com; Contact: 91-81301 92199

www.su-kam.com | www.sukam-solar.com

**MORE THAN
250
PRODUCTS**

- Solar PCU
- Solar UPS
- Solar Inverters
- Solar Charge Controller
- Solar DC System
- Solar Batteries
- Solar Panel
- Solar Street Light System
- Solar Home Lighting System
- Solar Remote Monitoring System
- Solar Grid-Tie Inverters



**The Spirit of our Quality
is Your Best Solution !**



Visit us at
the MEP
Services
product
sector
STAND NO. C186
NEW!
Floor-plan layout

21- 24 NOVEMBER 2014
Dubai World Trade Centre
11:00 - 19:00 Daily
Register for FREE
and save AED150

Joiner Fastener Enterprise Co., Ltd.

No. 500, Hsin-chung St., Gangshan District, 82057, Kaohsiung, Taiwan
TEL: +886-7-622-8709 FAX: +886-7-622-8708
URL: <http://www.joiner-fastener.com.tw>
E-mail: anthony@joiner-fastener.com.tw



Fasten up for the ride

Italian fastener manufacturing company Specialinsert's innovative self-anchoring insert for stone and solid surfaces, 'Keep-Nut', allows for quick and easy installation.



Keep-Nut has been awarded the ETA certification (ETA-15/0615). (Photo: Specialinsert)

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

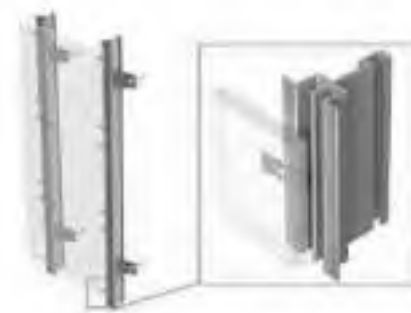
Keep-Nut comes in different lengths, with or without flange, to fit to several different panel thicknesses. The insert is specifically developed for ventilated facades, wall-coverings, décor and interiors, furniture, kitchen and sanitary elements fastening, funerary art and many more.

Installation made easy

According to the company, one of the biggest advantages of the product is that it facilitates an easy and fast installation. The insert has to be only pressed in after the material is drilled with the correct hole diameter, thereby eliminating the need for undercut holes. Additionally, it can be customised with different versions and sizes, in order to fit the customer needs.

The product eliminates the need for adhesive or resins and is cheaper compared to these products. It can be installed at the factory and moved without damage to the panels.

Keep-Nut allows installation without external dimension and easier handling and storage of panels. It is claimed to provide the highest pull-out and shear strengths on solid surfaces.



“Another innovation for the Keep-Nut range is a series made of AISI 316L stainless steel in order to fulfil the highest corrosion resistance standards.”

The company stated that Keep-Nut has been positively tested not only on ceramic but also on marble, granite, engineered stone, HPL, Corian, Dekton, teak wood and many other solid surfaces.

According to Specialinsert, Keep-Nut is one of the best-selling products of the year with applications on kitchens and bathrooms elements, furniture, décor and interior design, construction and more.

Another important innovation for the Keep-Nut range is the introduction of the series made of AISI 316L stainless steel in order to fulfil the highest corrosion resistance standards.

Certification opens doors

Keep-Nut has been awarded the ETA certification (ETA-15/0615) to be used as fastener for the rear fixing of façade panels made of ceramic tiles (stoneware), according to EN 14411:2012.

The achievement of the ETA is the result of a long and severe process carried out by the Deutsches Institut für Bautechnik (DIBt) with outcomes from about 100 different lab tests performed by the Polytechnic of Milan as independent body, the company stated.

The company also said that with the ETA certification Specialinsert will now be able to approach the building and construction industry, in particular companies working on wall cladding and ventilated facades projects, for which Keep-Nut will be a perfect solution as a concealed anchor. ■

DISCOVER AND SOURCE THE LATEST POWER TECHNOLOGIES, PRODUCTS AND SOLUTIONS FROM AROUND THE GLOBE!



250+
exhibitors



3
country
pavilions



20+
influential
speakers



17+
exhibiting
countries



Free to attend
conference
and workshop

Contact

Tel: +20 (2) 2735 3877
+20 (2) 2735 5837

Email: info@electricxegypt.com
Website: www.electricxegypt.com



ELECTRIX

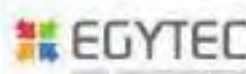
ENERGISING THE INDUSTRY

4 – 6 DECEMBER 2016
CAIRO INTERNATIONAL CONVENTION
CENTRE, EGYPT

Supported by

Co-Located

Organised by



informa
exhibitions

Compact alternator packs a punch

Cummins Generator Technologies (CGT) has launched its new 250 to 450kVA segment alternator, the S4, designed to be more powerful and compact than the earlier HC4 model

CGT HAS SET out to replace its complete range of alternators under the 'S' nomenclature in the next two years, while keeping its iconic Stamford and AVK brands. Each range will be more powerful and compact than the range it replaces. The first range S0/S1 was launched this year at Middle East Electricity for the 7.5 to 62.5kVA range. The S-range, when fully launched, will cover from the S0 at 7.5kVA to the S8 with an output in excess of 4,000kVA.

The commercial drive to comprehensively update the ranges for Cummins is clear – to stay competitive in the over supplied market of alternators. To do this, CGT aims to offer better power densities for a better price per kVA output. The products have also been revamped to stay one step ahead of the counterfeiters and copiers, which the company estimates is costing the industry US\$100mn and possibly much more to the end users when counterfeit alternators or parts fail causing operational downtime and worse. As poorly manufactured alternators suffer a drop in power output, counterfeit alternators often struggle to maintain the same power output compared to the unit it is a copy of.

Counterfeit prevention

The S4, with its further enhanced thermal management, will be hard to copy given its compact size, Cummins said. The redesign focused around better use of space, improved impregnation of insulation in the manufacturing process to protect the windings and better airflow to maintain temperature under the Cummins new trademark, CoreCooling. The result is a alternator that is more compact with eight per cent more power density than its predecessor. The advantage of this design is that it would allow genset manufacturers to introduce the new S-series models into their existing production lines without changing their canopy design and also



Alastair McQueen, director of product development at Cummins Generator Technologies.

The power output of the S4 is 12 per cent higher than the previous HC4 Stamford model for only an extra 30mm of length.

utilise the increasing power that newer engine models produce. The power output of the S4 is 12 per cent higher than the previous HC4 Stamford model for only an

extra 30mm of length.

To drive the value of the new model for the genset assemblers, the new design has variable brackets to allow the unit to sit on mountings design for Cummins' competitors and match their different output shaft heights. This helps to minimise the need to redesign the existing genset product line for customers to use the S4. To further minimise assembly costs, the S-range is designed to be fitted to an engine in half the time of the existing model. All CGT models go through a rigorous testing regime. The S4 has been put through 1,500 operating hours and 1,500 thermal cycles and have been tested in harsh client environments.

The S5 will be unveiled at Power-Gen USA in December 2016 and the S6 at Middle East Electricity in February 2017. ■

Transforming cables to ensure greater safety

SAUDI ARABIA-BASED Middle East Specialized Cables (MESC), one of the leading cable manufacturers in the region, is focussing on improving safety in cables through their zero halogen, low smoke HFFR cables.

According to MESC vice-president, operations and UAE, Simon Baker, the concentration of toxic gases generated by fire depends on the material under combustion, oxygen available, temperature of the fire and ventilation systems. Some toxic gases are undetectable in low concentrations by human senses, hence cannot be tested, seen or smelled. However, they can be very quickly lethal. He points out that MESC offers HFFR cables, which contain zero halogen materials and achieve complete non-toxicity benefits. Zero halogen is generally measured by the international standard IEC 60754 Part 1 and MESC HFFR cables exceed the standard.

Another threat to safety is corrosive gases that are often produced by PVC cables. To exemplify, Baker explains that a cable with 2.9kg of PVC insulation can produce up to 320 litres of hydrochloric acid. These acids cause weakening of steel reinforcing of concrete and can lead to the destruction of electronic equipment. The materials used in MESC HFFR cables generate no corrosive gases. MESC HFFR cables meet the international standard IEC 60754 Part 2 standards, which measure corrosivity.

The generation of smoke causes obstruction of exits and safe evacuation of people and fire-fighting becomes greatly hampered. The amount of smoke produced in a fire depends primarily on the material type and quantity. A metre of burning cable containing around 0.85kg of PVC will produce complete obstruction in a room



MESC focuses on low current and coaxial cables for substations and power projects in all GCC countries. (Photo: MESC)

of 1000 sq m within five minutes. MESC HFFR cables contain low smoke materials to overcome this problem. Light transmittance of more than 60 per cent is stipulated in the international standard IEC 61034 and MESC HFFR cables exceed the standard.

MESC has been improving its existing manufacturing facilities in KSA and the UAE. Baker points out that production capacity in both the factories have continued to grow and are achieving higher output levels than the previous year. The last twelve months have also seen MESC supply increasing quantities of product outside the GCC into Asia, the UK, Europe and Africa.

Genavco completes 17,000-pallet Panalpina warehouse

GENAVCO HAS COMPLETED the supply and installation of Stow selective pallet racking system for the storage of more than 17,000 pallet positions in Panalpina's newly constructed 40,000 sqm state-of-the-art facility in Dubai South.

Varun Viswanath, manager for storage and material handling solutions at Genavco, said, "Stow International is one of the leading and well-known racking brands. During our first meetings with Panalpina, we highlighted our expertise in mega warehouse racking projects in the UAE by furnishing the references of IKEA, RHS, IFFCO and many other prestigious projects that we have executed in this market."

According to him, the close bond between Genavco and Stow has helped the former build strong footprints in the UAE market. "We have completed many major projects including IKEA Distribution Centre in DWC, one of the largest warehouses in the region with a storage capacity of about 150,000 pallets; RHS Warehouse in DWC and IFFCO-Intergulf Warehouse are also



The Panalpina facility is located in Dubai South. (Photo: Genavco)

among our expanding clientele. Currently, our team is engaged in the process of making shuttle racking system for freezer application for a reputed group into distribution of food products."

Viswanath added that it took them three months to finalise the deal with Panalpina. "There was a lot of effort from our design team to present various options to customers to meet the expectations of the client."

Giving an outline on the Panalpina project, Clinton Campbell, logistics engineer

at Panalpina World Transport, stated, "Panalpina has invested heavily in its growth plans for the Middle East, Africa and CIS region (MEAC). These growth plans included a 40,000 sqm built to suit state-of-the-art new facility in Dubai South. Genavco and Stow were then approached to design and construct more than 17,000 new pallet positions for the facility."

Describing the decision to choose Genavco to carry out the design and construction of the facility, Campbell noted that it was not made solely on price. He said that Panalpina wanted to build a relationship with a partner for the future. "The 17,000 pallet positions in the facility are only the start and covers less than 30 per cent of the floor area. We wanted a strong partner who could understand and meet their growing needs," he added.

"The service received to date from Genavco has been better than expected. We are happy to be working with such a committed partner. This just validates that we have made the correct decision," Campbell added.

Michelin launches new earthmover tyre

THE NEW 40.00 R 57 and 53/80 R 63 Michelin XDR3 tyres have been designed for rigid dump trucks operating in surface mines. The company said that one of the main challenges facing mine operators today is to reduce the cost per tonne by improving operational efficiency, while still ensuring safety for all within the workplace, and thus increasing profitability. The new Michelin XDR3 responds to the needs of mine operators by incorporating key innovations, which together increase tyre life by a minimum of 10 per cent compared to its predecessor, the Michelin XDR2.

Michelin XDR3 is designed with a revolutionary new tread pattern that offers better endurance due to improved heat dissipation capabilities – 8°C cooler in the tread area. A greater volume of tread rubber is in contact with the ground which improves wear and ensures better load distribution throughout the contact patch due to a lower contact pressure. Finally, interlocking shoulder blocks resist excessive movement during cornering and further reduce tyre wear.

The product uses an exclusive new mixing process that ensures a more uniform composition of rubber compounds and a superior level of carbon black dispersion that increases wear resistance. Each unique compound offers specific performance characteristics adapted to site conditions and usage, from high wear resistance to high thermal capacity for speed, the company said. High-strength steel cables used in the tyre's casing are claimed to be 10 per cent stronger than in the XDR2 and are encapsulated in rubber to prevent the spread of corrosion within the casing, which extends the life of the tyre.

Revolutionising wire mesh fencing

CLIFFORD MACHINES & TECHNOLOGY has recently designed, manufactured and commissioned two new wire mesh fencing machines, for a major international supplier of welded mesh fencing products, which boasts unique features that allow the customer to produce an entirely new and unique range of weldmesh fencing. According to the company, these wire fence machines provide product flexibility, reliability and quality without compromising on the speed of production.

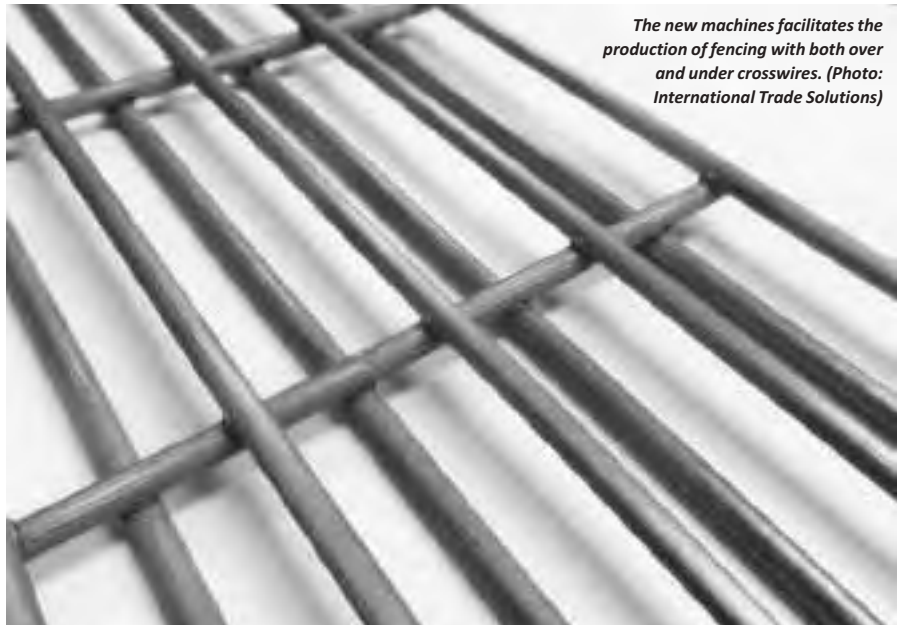
Clifford Machines & Technology has used advancements in the crosswire pre-tensioning system to create a multi-height tensioning system that allows tensioning to take place at different heights. This system coupled with Clifford's direct welding heads has made it possible to produce perfectly flat welded wire mesh while still maintaining the stream of production, allowing both quality and production targets to be met efficiently, the company said.

The company also stated that these particular welded wire fencing machines have numerous advances but one in

particular is the production of fencing over and under crosswires. This in itself is not a new technology but Clifford Machines & Technology has made it possible with different wire diameters and with under and over cross wires at different pitches to each other, which can also be flush trimmed to the outside line wires. This allows the client flexibility to produce various products, with minimal setup changes.

According to Clifford Machines & Technology, the ability to quickly change between products makes these machines as flexible and versatile as the ever changing wire industry market place.

Iain Ambler, technical director at Clifford, stated that it is the company's drive for quality and reliability that has led to many of its advancements in the welded wire mesh industry and the products it produces. He said, "Despite Clifford being a niche player in the industry, we are constantly boxing above our weight division as we bring new products and innovative ideas to our range which often we see being copied by our competitors".



The new machines facilitates the production of fencing with both over and under crosswires. (Photo: International Trade Solutions)

Chicago Pneumatic's CPLT H6LED light tower provides efficiency on the move

CHICAGO PNEUMATIC HAS launched its seventh light tower, which is equipped with wheels and featuring high-efficiency LED lamps with specially-designed optics to maximise light coverage and brightness. The new CPLT H6LED offers greater luminosity and improved transportability with the goal of reducing overall operational costs. According to the company, the combination of efficiency, toughness and portability ensures that the new models can meet the demands of applications including construction sites, events, rental and oil and gas.

The CPLT H6LED is equipped with four 350W high-efficiency LED lamps, which are equivalent to four 1,000W metal halide lamps. The effect is to maximise coverage up to 5,000 sq m, while reducing fuel consumption by up to 70 per cent. Longer refuelling intervals are enabled by a 130-litre fuel tank that supports run times of up to 185 hours. The stamina of the light tower is enhanced by IP67 protection of its LED lamps, which offer up to 30,000 hours of life before replacements are required.

INMESOL's new compact range solves transportation woes

INMESOL'S NEW CANOPY design model 145–165 kVA generator sets for the rental sector hits the market. The first shipment, comprised of six units of the new IIRN-165 generator set model, has also been shipped to the UAE.

According to the company, it has developed a new 145–165 kVA canopy for generator sets models IIRN–145, IIRN–165, IVRN–145, and IVRN–165.

It features a smaller design, while retaining all the qualities in terms of features and noise emissions as its predecessor. These generator set models were usually assembled in a canopy with the following dimensions – 3640mm x 1380mm x 2145 mm.



The new design benefits the companies looking at ease of transportation. (Photo: INMESOL)

Now the new dimensions – 3525mm x 1140mm x 1950mm – are ideal to take full advantage of both maritime and land load combinations, the company added.

Antonio Mármol, head of the rental commercial department in Europe, said, “This new design will benefit many renters who must transport several generator sets constantly from one place to another, and will be very welcomed by clients and potential clients who were looking to meet these kinds of needs, and whose suggestions I collected at bauma 2016.

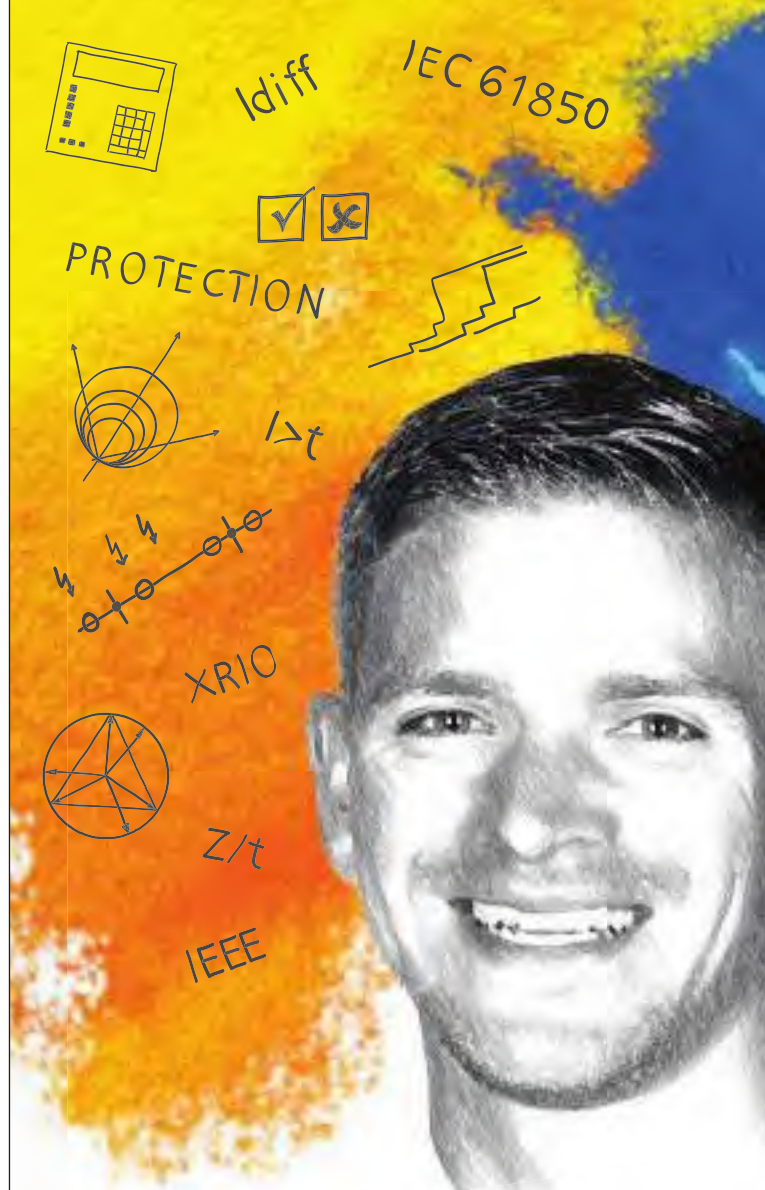
“Once again, we have developed a design to minimize the need for transport and, thus, fuel consumption and emissions. A new design aligned with INMESOL's philosophy, always focused on achieving the best economy, the highest efficiency, and to reduce the impact on the environment.”

While shipping to the emirates, in terms of power, the lorry transporting the six units with the new design, is capable of generating up to 900 kVA of PRP power. Up until several months ago, two such lorries were needed to transport the same amount of power. The CO₂ emissions and fuel and labour expenses are now reduced by half.

Overcoming challenges

In order to transport the units in 40-foot long lorry, the canopies were reduced by a few centimetres. The difficulty that lay in making this reduction was to overcome potential overheating and the sound emission levels in the equipment. The larger the canopy opening, the easier it is for the noise to escape the canopy.

However, the R&D department managed to solve the problem through the use of a design that offers optimal air flow (so that overheating does not occur) and a good sound trapping system to prevent the sound from escaping the enclosure.



Florian Fink
Application Engineer

Tomorrow's protection testing, today!

As a power systems engineer it's essential that I keep up to date with what's going on in the market and what our customers need. Based on this, I am constantly looking for better ways of doing things. Take our simulation-based protection testing solution; now even complex networks can be tested automatically from a single point of control. This allows a comprehensive assessment of the entire protection scheme, taking into account the settings and functionality of individual relays.

Siemens' integrated drive system first in Middle East

A NEW SIEMENS integrated drive system (IDS) at Qatar Steel's Rolling Mill #1 will raise annual output by up to 3.7 per cent and is expected to reduce troubleshooting time by up to 20 per cent.

The IDS, installed for the first time in the Middle East, allows the entire drive system in a manufacturing chain to be seamlessly integrated. The system is expected to increase Qatar Steel's annual production by up to 3.7 per cent.

Ali Bin Hassan Al-Muraikhi, Qatar Steel's managing director, said, "Boosting our output and reducing the maintenance and troubleshooting time are becoming increasingly important for us to improve our manufacturing operations. We are pleased to be the first company in the Middle East to implement this innovative Siemens technology, which is distinguished by its efficiency and reliability. Through using an integrated drive system to streamline our rolling mills operations, we look forward to improving our performance and realising the required efficiency, in terms of operations and productivity."

"An integrated drive system is capable of significantly transforming the productivity of manufacturing facilities, and we are proud that Qatar Steel is the first company in the Middle East to use this technology," added Bernhard Niessing, senior executive vice-president, Process Industries and Drives, Siemens Middle East.

"As Qatar's economy diversifies, the efficiency and reliability of its manufacturing sector is of increased importance. Innovative technology such as the integrated drive system is a key contribution to ensuring our customers in the region are getting the most out of their facilities, and operating at their most competitive."



Qatar Steel is the first company in the region to use Siemens' IDS technology. (Photo: Qatar Steel)

The productivity gains are mainly due to a marked reduction in maintenance shutdown time and complexity, as the IDS allows for flexible maintenance cycles. A reduction in troubleshooting time by up to 20 per cent also means that potential problems are diagnosed faster, and major maintenance cycles can be better planned for. Moreover, the plant-wide standardisation of Siemens machinery means that there is less downtime as parts are readily available. All these factors will lead to a faster time to market for Qatar Steel.

The Taiwanese expertise

JOINER FASTENER ENTERPRISE Co., Ltd. was founded in 2003 and is dedicated to becoming one of the most versatile screw manufacturers in Taiwan, with consistent product quality and excellent customised designs that are highly appreciated by its customers. In recent years, the company has gradually shifted its sales emphasis to Japan, Europe and Middle East aggressively tapping drilling screw markets there with its professional team of foreign language-speaking sales people. The company's general manager, Anthony Chuang, has 15 years of experience in the Japanese and European markets, cultivating a sharp awareness of how to lead business development there. Japan and Europe now account for 60 per cent of the firm's total revenues, and the ratio is steadily rising. Joiner Fastener has been certified to ISO9001:2008 and ISO14001:2004 standards, and the company says its insistence on the constant improvement of product quality, technology and professionalism is widely recognised and appreciated. Chuang stresses that his company is well experienced in developing customised carbon steel and stainless steel screws based on customer specifications. To meet the high quality requirements, the company has spared no effort to implement stringent quality controls at every step of the production process. Looking to the future, Joiner Fastener aims to apply a flexible operating strategy, work closely with upstream and downstream vendors and partners, and further upgrade production and quality control capability so that the ratio of revenue contribution from Middle East and Europe can grow to 80 per cent or even 100 per cent. The company manufactures drywall screws, chipboard screws, self-tapping screws, self-drilling screws, concrete screws and stainless steel screws.

Quieter generator sets for rental sector by HIMOINSA

HIMOINSA HAS LAUNCHED the Silent Plus Range, which reduces noise emissions without limiting the performance of the machine. The range of generator sets will include Yanmar, FPT-Iveco and Scania engines that will cover a power range of between 20kVA and 500kVA and will guarantee a noise level of around 60 dB.

The first model to be developed is the HRFW-250 T5. The low levels of noise emissions have been achieved due to the improved and more complex design of the air intakes and outputs. Two exhaust silencers have also been added as standard and top quality insulating materials have been used, such as high-density, 100mm thick rock wool, not to mention silent blocks that have been sized specifically for the engine-alternator assembly and its dynamic characteristics.

HIMOINSA's engineering team has conducted important enhancements for applications within the rental sector, making it an ideal genset for events and work in urban areas where there are greater acoustic restrictions. The unit has been fitted with a watertight and mechanically highly-resistant canopy and wide doors with more hard-wearing stainless steel locks for easier maintenance. Not only that, the new genset also comes with a large-capacity, 1,660-litre tank which, added to the low consumption of its common rail injection engine, allows it to run for almost four non-stop working days, 30 hours without having to refuel.

An optional extra is a powerlock connector with 100 per cent of the genset's rated kW capacity, which facilitates a quick, easy and reliable connection.

ENERGISING THE INDUSTRY

With the vision of energising the power industry, Middle East Electricity and Solar Middle East 2017 will celebrate a Smart Cities theme that includes product innovation zones, a dedicated conference, a consultant's arena and much more.

Hosted by the UAE Ministry of Energy and with the support of Dubai Municipality and Environmental Centre for Arab Towns, the exhibitions will attract the region's contractors and consultants to explore the technology driving the power sector forward.

Discover more
www.energisingtheindustry.com



**MIDDLE EAST
ELECTRICITY**
ENERGISING THE INDUSTRY

www.middleeastelectricity.com
info@middleeastelectricity.com



SOLAR MIDDLE EAST
ENERGISING THE INDUSTRY

www.solarmiddleeast.ae
info@solarmiddleeast.ae

الصدارة. والمعرض الأكبر هو أوتوماتيكا AUTOMATICA ويقام في يونيو/حزيران كل عامين في ميونخ (يقام الإصدار التالي في ٢٠١٨). وهناك العديد من المعارض الأخرى التي تعرض منتجات متعددة الاستخدامات، وأخرى مخصصة لكل قطاع على حد سواء، مثل CEBIT هانوفر (الذي يركز على المنتجات المكتبية) في هامبورغ وفريدريشسهافن.

كما يتم تنظيم فعاليات تجارية/ فنية بصفة منتظمة في الصين والهند. وقد احتضنت شنغهاي معرض أتمتة المصانع Factory Automation Asia الذي أقيم في الفترة ١-٥ نوفمبر/تشرين الثاني هذا العام. وهناك مراكز أخرى تستضيف أحداثا مهمة في هذه الدولة التي تستقطب الأنظار ومنها شنجن وتيانجين. وفي الهند، تعتبر مدينة مومباي القبة الأولى لحضور المعارض. فمعرض IA India سيقام في الفترة بين ١-٢ ديسمبر/كانون الأول هذا العام، وفي ٢٠١٧ يمكنك أن تتطلع لحضور معرضي Indian Automation & Control World (يناير/كانون الثاني) و Automation (أغسطس/آب). كما يقام معرض الأتمتة الصناعية سنغافورة Industrial Automation Singapore في الفترة ما بين ٤-٧ أبريل/نيسان ٢٠١٧. غير أن الموعد النهائي للحدث الرئيسي في شيكاغو (معرض الأتمتة الصناعية أمريكا الشمالية Industrial Automation North America، ١٢-١٧ سبتمبر/أيلول) قد مضى بالفعل.

وفي منطقة الشرق الأوسط، هناك معرض Elec Expo الدار البيضاء التجاري، وقدم منتج أتمتة صناعية ملائم للمنطقة، وقد أقيم في الفترة ١٢-١٥ أكتوبر/تشرين الأول من هذا العام. كذلك عبر دول مجلس التعاون الخليجي في Tabriz Autex في الفترة بين ٢٦-٢٩ مايو/أيار ٢٠١٧.

ومن المتوقع أن تشهد المعارض إقبالا جيدا في العام المقبل بسبب إعادة انضمام إيران مؤخرا للنظام التجاري العالمي، فهناك عروض كبيرة ومتخصصة. ولهذه الصناعة جذور راسخة هنا في دول مجلس التعاون الخليجي، حيث إن أغلب الأحداث المخصصة لقطاعات منفردة، مثل معرض ومؤتمر أبوظبي الدولي للبترول ADIPEC، الذي أقيم في الفترة ٧-١٠ نوفمبر/تشرين الثاني، والمعرض السعودي للبلاستيك والبتروكيماويات (٢١-٢٣ نوفمبر/تشرين الثاني)، والذي أقيم في أبوظبي والدمام على التوالي، تتضمن دوما الكثير من منتجات الأتمتة.

وعلى الرغم مما سبق، فإن حلول الأتمتة الصناعية لا تصلح للتطبيق بوجه عام على جميع الصناعات والقطاعات. فهناك أحوال لا يمكن فيها استبدال التحكم اليدوي.

كما أن أنظمة الأتمتة الصناعية تتسم بتكاليف الإعداد المرتفعة. فلا يمكن على سبيل المثال استخدامها لإنتاج نماذج أولية مرة واحدة باستخدام تقنيات التصنيع بالإضافة، مثل الطباعة ثلاثية الأبعاد.

غير أن الماكينات تتميز بقلّة عدد أخطائها مقارنة بمشغليها، وإذا ما اجتمع التحكم في التكاليف مع توافق الجودة، يكون الاستثمار في المزيد من أنظمة الأتمتة مجديا إلى حد كبير.

دوما وظيفة ما في أحد المواضع على طول الخط، وذلك لكي تتبع المدخلات العديدة باستخدام خوارزميات مصممة خصيصا للعملية الجارية. ويمكن عرض النتائج في وقت فعلي لإتاحة الفرصة للتدخل البشري في حالة الاقتراب من الحدود المعينة مسبقا. ويتوفر العديد من العناصر القابلة للاستبدال الجاهزة في هذه الأنظمة، سواء كانت أجهزة أو برامج.

الجدير بالذكر أن ملاك ومديري الشركات في دول مجلس التعاون الخليجي، لا سيما في دولة الإمارات العربية المتحدة، يحظون بروابط قوية بموردي أنظمة الأتمتة الصناعية المحليين، والدوليين، تتفوق على أي منطقة أخرى. ومن بين الأسماء الكبرى على الصعيد الدولي شركة ABB، وإيمرسون، وهاني ويل، وأومرون، وروكويل، وشنايدر إلكترونيك، وسيمنز. ومن المتوقع أن تتواجد شركة أستموم متعددة الجنسيات، والتي يوجد مقرها الرئيسي في فرنسا، في أكثر من مركز لتنمية الطاقة. ويوجد المورد الإقليمي الرئيسي، وهو الشركة السعودية للتحكم والصيانة المحدودة Saudi Controls في الخبر والرياض. وعند التركيز على خدمات الأتمتة، نلاحظ التطور السريع الذي تشهده الشارقة. غير أن دبي تضم أعلى تركيز لكبرى الشركات المتخصصة. وتستخدم شركة أفانسيون الدولية لتوريد أنظمة الأتمتة الصناعية بالولايات المتحدة، صورة رائعة لمترو دبي للترويج لأنشطتها العالمية عبر الإنترنت. فالخط المزدوج لنظام النقل السريع يوضح إمكانيات نظام الأتمتة الصناعية وفائدته حتى للتوسعة، حيث يتضمن وحدات مستقلة من دون سائق. ومن بين الشركات المحلية المنافسة، علاوة على شركات التوريد والتصميم والتصنيع للبيع بالجملة، الشركة السعودية للتحكم والصيانة المحدودة، وشركة اليات في دبي، وشركة سيسكو في جدة.

وصناعات الطاقة تعتمد، بشكل رئيسي، على جميع هذه الأنظمة. غير أنه لا يتسنى تأسيس أية صناعة أو نشاط خدمي هنا في يومنا هذا، من دون وجود نظام قوي للأتمتة الصناعية في قلب هذه الصناعات. ويشمل ذلك إنتاج الطعام والمشروبات والمواد الكيماوية الخاصة بالمنطقة، مثل الأسمدة النيتروجينية والمركبة، والصناعات الدوائية، والاتصالات والمرافق، وجميع الأنواع الأخرى لوحدات المعالجة الصناعية الحديثة. وهناك أيضا العديد من مصادر المعلومات الدولية والتعاون الدولي في مجال الأتمتة، كما الحال مع التخصصات الصناعية الأخرى.

وتنتج الجمعية الدولية للأتمتة ISA International Society، التي يوجد مقرها في ريسيرش تراينجل بارك بولاية نورث كارولينا، عددا كبيرا من الدراسات الأحادية المعيارية والفنية. ومن بين إصداراتها دورية InTech، إلى جانب تقارير المؤتمرات التي تصدرها بشكل منتظم.

وهناك اثنتان من الجمعيات الوطنية الرائدة عالميا في ألمانيا، وهما رابطة الروبوتات والأتمتة Robotics & Automation Association التابعة للرابطة الألمانية لهندسة الآلات والمصانع VDMA، وشعبة الأتمتة باتحاد الصناعات الكهربائية/الإلكترونية Electrical/Electronics Industries Federation. فعندما يتعلق الأمر بالمعارض التجارية، لا عجب أن تحتل ألمانيا موقع



حلول الأتمتة الصناعية تستخدم معدات تحكم لتشغيل الأجهزة في قطاعات مختلفة

الاختيار الأتوماتي

تستخدم أنظمة الأتمتة الصناعية (IA) أجهزة التحكم لتشغيل الأجهزة، مثل الغلايات، ومفاتيح الشبكات، ومنشآت المعالجة، والصمامات والروبوتات. والفرض من هذا الاستخدام هو توفير التكاليف عن طريق إلغاء التدخل البشري ورفع مستوى الحماية، علاوة على جودة الإنتاج وتوافق العمليات. كما أن توفير تكاليف استهلاك الطاقة يعود بالنفع أيضا على الشركات.

إمكانية التحكم عن بُعد. وهناك نظام «تسلسلي» وهو أكثر تعقيدا، ويمكن تشبيهه بالضوابط التي تتحكم في تشغيل نظام مضاعف متعدد الكبائن في مبنى شاهق الارتفاع. فمركز منطوق الترحيل يتلقى المدخلات بشكل متواصل ويقوم بتحديثها، ويحدد كيفية التحرك للأعلى لعدد كبير من الكبائن الفردية بأفضل طريقة، وبصورة تقلل أوقات انتظار المستخدمين.

وهذا الترتيب التسلسلي المبرمج مسبقا، والذي يضم جميع الخيارات - التحكم القائم على الأحداث- مطلوب أيضا عند تشغيل مجموعة من المحركات الكهربائية الكبيرة، التي يتم تشغيلها وإيقافها كل منها بشكل منفرد. وتؤثر حالة أحد الأجهزة بشكل سلبي على أداء جميع الأجهزة الأخرى حال عدم تضمين أداة تحكم منطوق قابلة للبرمجة.

فالمشغل يحدد الحمل اللازم خدمته، بينما تقرر أداة التحكم التلقائي كيفية تحقيق ذلك. فهي تتصل بسلسلة من الملفات اللولبية والمحرك الأخرى التي تجري الضوابط الفيزيائية والكهربائية. وهناك لوحة أم تؤدي

وتستخدم أجهزة الأتمتة الصناعية - بوجه عام- في صناعة النفط والغاز. وهي تسهم أيضا، في دول مجلس التعاون الخليجي وشمال أفريقيا، في تحسين عمليات مجموعة من أنشطة التصنيع والأنشطة الخدمية؛ مثل التموين والبيع بالتجزئة والاتصالات اللاسلكية وغير ذلك من المنافع الأخرى.

وتضم أنظمة الأتمتة الصناعية اليوم أدوات استشعار للنشأج، وهي توفر إمكانية التحكم في سلسلة من المحركات الميكانيكية والإلكترونية بمعايير محددة مسبقا من قبل المصمم. وبخلاف ذلك، تُستخدم هذه الأنظمة. دوما - في إيقاف تشغيل النظام بأكمله، وفي كثير من الأحيان لتشخيص المشكلات المصاحبة للعمليات والإبلاغ عنها. علما بأن كيفية وتوقيت تفاعل الضوابط بشكل مادي مع الظروف المتغيرة، تحدد نوع نظام الأتمتة الصناعية الذي يتعين تركيبه. وتكمن نقطة البدء في مفتاح تشغيل/إيقاف أوتوماتيكي شبيه بالترموستات. ويعتمد التحكم «المغلق والمتواصل» على مراقبة سلسلة من المتغيرات، بحيث يمكن ضبط الإنتاجية على نحو متواصل، ويشمل ذلك

وقد أصدر هذا الإعلان السيد السليطي خلال فعاليات منتدى سلامة النقل في قطر 2016. كما تحدث أيضا إلى وسائل الإعلام المحلية، وأضاف أن الهيئة العامة للسياحة في قطر قد كشفت بالفعل عن خطط تحويل ميناء الدوحة إلى محطة للنزهات البحرية، ومعلم للجذب السياحي.

المنشآت وأعمال تعميق القناة. وسوف تتم أعمال تطوير البنية التحتية على مرحلتين بدءا من أبريل/نيسان العام المقبل. وبينما يجري العمل، سيتم تحويل أغلب حركات السير من ميناء الدوحة إلى ميناء حمد الجديد والأكبر حجما، والذي يقع جنوب الدوحة.

التجريف الواسع للمنطقة المحيطة بالميناء لضمان وصول السفن الكبرى بشكل سلس، لاسيما سفن الرحلات البحرية، حسبما ذكر وزير المواصلات والاتصالات القطري، جاسم سيف أحمد السليطي. وتشمل خطط تطوير الميناء كلا من صيانة

دبي تبدأ تشييد أعلى برج في العالم

والبرج، الذي صممه المعماري الإسباني السويسري، سانتياغو كالاترافا فالس، سوف يشتمل على منصات للزوار توفر إطلالة بزاوية 360 درجة على المدينة الساحلية. وقال محمد العبار، رئيس مجلس إدارة إعمار، إنه سيتم الانتهاء من إنشاء البرج قبل معرض إكسبو التجاري 2020، الذي تستعد دبي لاستضافته. ومن جهة أخرى، تقوم حاليا شركة الملكة القابضة بإنشاء برج في جدة. ومن المزمع أن يتعدى برج خليفة، إذ سيتجاوز ارتفاعه الكيلومتر.

في العالم عند الانتهاء منه في 2020». وأعلنت الشركة العملاقة، إعمار العقارية دبي، عن خطط بناء البرج في أبريل/نيسان، حيث ذكرت أن ارتفاعه سيتجاوز ذلك الخاص ببرج خليفة، الذي يبلغ ارتفاعه 829.8 متر. ولم تكشف إعمار عن الارتفاع النهائي الفعلي للبرج. وقد ذكرت، في أبريل/نيسان، أن إنشاء البرج سيتكلف مليار دولار أمريكي.

بدأت دبي الأعمال الإنشائية لبرج من المقرر أن يتجاوز ارتفاعه ذلك الخاص ببرج خليفة، الذي يعد ناطحة السحاب الأعلى في العالم حاليا. وقد وضع نائب رئيس دولة الإمارات وحاكم دبي، الشيخ محمد بن راشد آل مكتوم، حجر الأساس لبرج خور دبي. وفي بيان صدر في حفل التدشين، حسب تقرير لوكالة فرانس برس، «أن البناء سيكون أعلى برج

مفكرة رجال الأعمال

نوفمبر/تشرين الثاني

- ٢١ - ٢٤ معرض بيج فايف دبي
- ٢١ - ٢٤ معرض خرسانة الشرق الأوسط
- وآلات البناء الثقيلة - MEC/PMV Live دبي

ديسمبر/كانون الأول

- ٤ - ٦ معرض معدات وخدمات الطاقة - Electricx القاهرة
- ٤ - ٦ معرض الطاقة الشمسية - SolarTec القاهرة
- ١١ - ١٣ معرض الشرق الأوسط للوقاية من الحريق والسلامة والأمن - MEFSEC القاهرة



لم تعلن شركة إعمار «المطور للمشروع عن ارتفاع البرج المقترح، لكن يتوقع إن يكون أعلى من برج خليفة الذي يصل ارتفاعه إلى 829.8 متر

عمان تدعو إلى عطاءات لإنشاء مشاريع كبيرة للطاقة الشمسية



مع زيادة الطلب على الطاقة، تقبل عُمان على مشروعات الطاقة الشمسية

الحكومي، ووفرة البيانات التفصيلية حول الطاقة الشمسية، وانخفاض الأسعار، يعني أن الوقت قد حان لإنشاء محطات للطاقة الشمسية على نطاق واسع في عمان». وأضاف أنه مع تزايد الطلب على الطاقة في عمان، سيتيح تنفيذ مشاريع على نطاق واسع (على غرار منتجي الطاقة المستقلين)، للشركة العمانية لشراء الطاقة والمياه تحقيق أهدافها في توفير القدرة على توليد الطاقة على نحو مستدام.

للطاقة الشمسية في عدد من المواقع المختارة، وذلك لجمع البيانات المتعلقة بالإشعاع الشمسي على المستوى الأرضي. وتحفظ الشركة العمانية لشراء الطاقة والمياه اليوم ببيانات تفصيلية جمعتها على مدار خمس سنوات لدعم تنفيذ مشاريع الطاقة الشمسية. وخلال فترة جمع هذه البيانات، انخفضت تكاليف توليد الطاقة الشمسية بدرجة هائلة. من جانبه، قال أحمد الجهضي، الرئيس التنفيذي للشركة: «إن الجمع بين الدعم

دعت الشركة العمانية لشراء الطاقة والمياه مقدمي العطاءات من المستشارين الفنيين والاقتصاديين المؤهلين، لدعم تنفيذ مصانع كبرى لتوليد الطاقة الشمسية في السلطنة. وقد جاءت هذه الدعوة عقب دراسة أجرتها هيئة تنظيم الكهرباء في عمان، وخلصت إلى أن مستويات الطاقة الشمسية في عمان تعد من بين الأعلى على المستوى العالمي، حسبما أوردت جريدة مسقط اليومية.

وقد ذكرت الشركة العمانية لشراء الطاقة والمياه، في بيان لها، أنه من المقرر أن يدعم البرنامج سياسة الحكومة الرامية لتشجيع استخدام الطاقة المتجددة لتلبية الطلب المستقبلي على الكهرباء. وورد في البيان أن تنفيذ المشاريع سوف يسير على نهج منتجي الطاقة المستقلين الناجح، وذلك باتباع عملية تنافسية تتسم بالنزاهة والشفافية لمنح العقود لشركات القطاع الخاص الأعلى تأهيلاً، ولتوفير حلول تقنية على الطراز العالمي.

وعقب إصدار التقرير، نفذت الهيئة العامة للكهرباء والمياه، بالتعاون مع الشركة العمانية لشراء الطاقة والمياه، برنامج مراقبة متطوراً



إنشاءات البنية التحتية سيبدأ تنفيذها على مرحلتين في العام المقبل

ترميم ميناء الدوحة العام المقبل بتكلفة 549 مليون دولار

المجال لأعمال التطوير، حسبما ذكرت بعض التقارير. وسوف تشمل أعمال إعادة التطوير،

الربع الثاني من العام 2017. وسيتم إغلاق الميناء أمام حركة الملاحة في مارس/آذار القادم لإفساح

من المقرر أن تجري إعادة تطوير ميناء الدوحة بتكلفة تبلغ 549 مليون دولار أمريكي، وذلك في

المحتويات

القسم العربي

أخبار

- ٤ عُمان تدعو إلى عطاءات لإنشاء مشاريع كبرى للطاقة الشمسية
- ٤ ترميم ميناء الدوحة العام المقبل بتكلفة ٥٤٩ مليون دولار
- ٥ دبي تبدأ تشييد أعلى برج في العالم

تحليلات

- ٦ الاختيار الأتوماتي



التشييد والبناء

تقنية المعلومات

النقل واللوجيستك

سفرات الأعمال

أخبار السوق

التطورات

ملخص محتويات القسم الانجليزي

التطورات: تطورات السوق.

تحليلات: اقتصاد منطقة مجلس التعاون الخليجي، النقل والتوزيع.

تعديين: التقرير السنوي للتعديين.

إنشاءات: الرافعات ومعدات الرفع، قوالب الخرسانة والسقالات.

فعاليات: بيع فايف، معرض إلكترونيكس، مؤتمر سابك التقني.

Country	Representative	Telephone	Fax	Email
India	Tanmay Mishra	(91) 80 65684483	(91) 8040600791	tanmay.mishra@alaincharles.com
Nigeria	Bola Olowo	(234) 8034349299	-	bola.olowo@alaincharles.com
South Africa	Annabel Marx	(27) 218519017	(27) 466245931	annabel.marx@alaincharles.com
UK	Steve Thomas	(44) 20 7834 7676	(44) 2079730076	stephen.thomas@alaincharles.com
USA	Michael Tomashefsky	(1) 203 226 2882	(1) 203 226 7447	michael.tomashefsky@alaincharles.com

الوكيل البريدي بالولايات المتحدة: النشرة التقنية - الشرق الأوسط Technical Review Middle East ISSN 0267 5307
 تنشؤها ست مرات في العام، لقاء 99 دولاراً أمريكياً، شركة آلان تشارلز للنشر
 Alain Charles Publishing , University House, 11-13 Lower Grosvenor Place, London, SW1W 0EX, UK
 يتم سداد ثمن المجلات لدى: Rahway, NJ

مدير البريد: أرسل التصحيحات إلى: Alain Charles Publishing Ltd, c/o Mercury
 Airfreight International Ltd, 365 Blair Road, Avenel, NJ 07001, US
 Agent: Pronto Mailers International, 200 Wood Avenue, Middlesex, NJ 08846

الإنتاج: دوناتيللا مورانيلي، ناتانيل كومار، صوفيا هويت، نيكي تا جين، برييناكا ثيربوتري.
 البريد الإلكتروني: production@alaincharles.com
 الاشتراكات: بريد إلكتروني: circulation@alaincharles.com



Serving the world of business

© Technical Review Middle East ISSN: 0267-5307

النشرة التقنية abc

TECHNICAL REVIEW MIDDLE EAST الشرق الأوسط

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

المحررة: روثينا باتناك، فريق التحرير والتصميم: بوب آدمز، هيريتي بايرو، أندرو كروفث، رانجاناث جي إس، براشانت إيه بي، زا تيب، سجال بات، ميريام برينكوفا، جورجيا لوييس، راؤول بوتيفيدو، نكي فالسماس، فاني فينوجوبال، لوزي ووترز.

الناشر: نيك فوردهام

مديرة النشر: بلاني باندي

مدير مبيعات المجلة: جراهام براون

هاتف: ٩٦٦٠ ٤٤٨ ٩٦٦٠ (٤) ٩٦٦١، فاكس: ٩٦٦١ ٤٤٨ ٩٦٦١ (٤) ٩٦٦١، بريد إلكتروني: graham.brown@alaincharles.com

المكتب الرئيسي:

Alain Charles Publishing Ltd

University House, 11-13 Lower

Grosvenor Place

London SW1W 0EX UK

هاتف: ٩٦٦٠ ٤٤٨ ٩٦٦١ (٤) ٩٦٦١

فاكس: ٩٦٦١ ٤٤٨ ٩٦٦١ (٤) ٩٦٦١

الطباعة: مطبعة الإمارات - دبي

مكتب الشرق الأوسط الإقليمي:

Alain Charles Middle East FZ - LLC

Office 112, Loft 2B

مدينة دبي للإعلام

دبي - الإمارات العربية المتحدة - صندوق بريد: ٥٠٢٠٧

هاتف: ٩٦٦٠ ٤٤٨ ٩٦٦٠ (٤) ٩٦٦١

فاكس: ٩٦٦١ ٤٤٨ ٩٦٦٠ (٤) ٩٦٦١

الترجم: عز الدين م. علي، ezzeddin@movistar.es

التصميم والإخراج الفني: محمد مسلم النجار، alnajar722@gmail.com

ADVERTISER INDEX

Company	Page
AEM Association of Equipment Manufacturers (CONEXPO 2017)	38
Aksa Jenerator Sanayi AS	3
Arminox Gulf FZCO	59
Ascend Access System Scaffolding LLC	47
Associated Power Solutions FZC	51
Bin Ham Electrical Equipment Trading LLC	33
Central Power Research Institute	65
CompAir	29
Convergent Group SA	45
Diamond Metal Screens Private Limited	65
Dieseko Group	43
Eaton Electrical Systems Ltd	5
Emerson Industrial Automation	11
FG Wilson Engineering Ltd	13
Galva Coat for Galvanizing & Lighting Poles	51
GRACO BVBA	41

Hitachi Construction Machinery ME Corp FZE	67
Hypertherm Europe B.V.	75
IIR Exhibitions (Electricx 2016/MEE & SME 2017)	79, 85
Inmarco FZC	46
International Trade Solutions (FZE)	55
Iveco SPA	53
JCB Power Products Ltd	27
Joiner Fastener Enterprise Company Ltd	77
Jotun Paints UAE Ltd (LLC)	7
Kaeser Kompressoren FZE	63
Kirloskar Oil Engines Ltd.	9
LG Electronics Gulf FZE	2
Liebherr Export AG	35
Megger Limited	17
Omega Factory for Luminaires, Poles & Galvanizing	75
Omicron Electronics Middle East	83

Omicron Electronics Middle East	CoverWrap
PASCHAL-Werk G. Maier GmbH	39
Perkins Engines Company Limited	23
Peter Berghaus GmbH	33
Powertech Switchgear Industries FZE	57
Ranco Group	61
Rittal Middle East FZE	91
Saudi Building Systems Manufacturing Company	51
Saudi Leather Industries Company Ltd	49
SDA Endustri Imalat Tic AS	37
SDMO Industries	69
Su-Kam Power Systems Ltd.	77
Sullivan-Palatek, Inc.	15
Tiger Profiles and Insulation	17
Top Screw Metal Corp.	31
Viega GmbH & Co. KG	25
Volvo Group Middle East FZE	19
ZEZ Silko s.r.o	57

Rittal – The System.

Faster – better – everywhere.



Our Expertise.
Your Benefit.

Embracing Standards... Empowering the Industry.

ENCLOSURES



POWER DISTRIBUTION



CLIMATE CONTROL



ACCESSORIES



A perfectly coordinated platform with vast product range covering Industrial/Electrical Enclosures, System Climate Control and Power Distribution suitable for Oil & Gas, Energy, Industries, Construction etc. Ri4Power Form 2-4: New structured solution for reliable low-voltage switchgear system compatible with international players (breakers).

Experience the Rittal 'Advantage' with our overall expertise as a systems supplier for the industry & building services.

Look forward to welcoming you at MEE 2017.



**MIDDLE EAST
ELECTRICITY**

ENERGISING THE INDUSTRY

Hall 5 - Stand 5D10

14 - 16 FEB 2017

Dubai World Trade Centre, UAE

for enquiries, mail to: info@rittal-middle-east.com

Rittal Middle East FZE

P.O. Box # 17599, Dubai - U.A.E.

Tel. +971 4 3416855, www.rittal.com/uae-en

ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

IT INFRASTRUCTURE

SOFTWARE & SERVICES

FRIEDHELM LOH GROUP



النشرة التقنية

UK £10 USA \$16.90

في كافة شركات المنطقة منذ 1984

الشرق الأوسط

الاختيار الأوتوماتي

أنظمة التشغيل
الأوتوماتي تعمل، في
الوقت الحالي، محل
العمليات اليدوية،
وذلك من أجل التحكم
في الجودة وتقليص
النفقات. ولا شك أن
منطقة مجلس
التعاون الخليجي
تتلقى خدمات جيدة
من الموردين
العالميين للمعدات
والخدمات التي تحقق
هذا الهدف.