

TECHNICAL REVIEW

النشرة التقنية - الشرق الأوسط

MIDDLE EAST

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GCC rail projects on the right track

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Annual Gensets
Buyers' Guide

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EDITOR'S NOTE

THE WILLINGNESS TO build at a rapid rate in cities throughout the Middle East has led to the construction of some of the planet's most impressive structures and infrastructure developments. It has, however, unveiled a host of logistical problems that need to be overcome in order to ensure economic growth is able to keep pace with development.

One priority throughout the GCC has been the rush to build a rail network that will bring the region's largest economic hubs closer together. With that in mind, this issue of *Technical Review ME* takes an in-depth look at the ongoing development of the GCC Railway Project, which if completed will span an impressive 2,177 km. We also look at Kuwait's infrastructure market, current trends within the region's electrical sector and sustainable innovation within the UAE's construction industry.

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

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TECHNICAL REVIEW

النشرة التقنية - الشرق الأوسط

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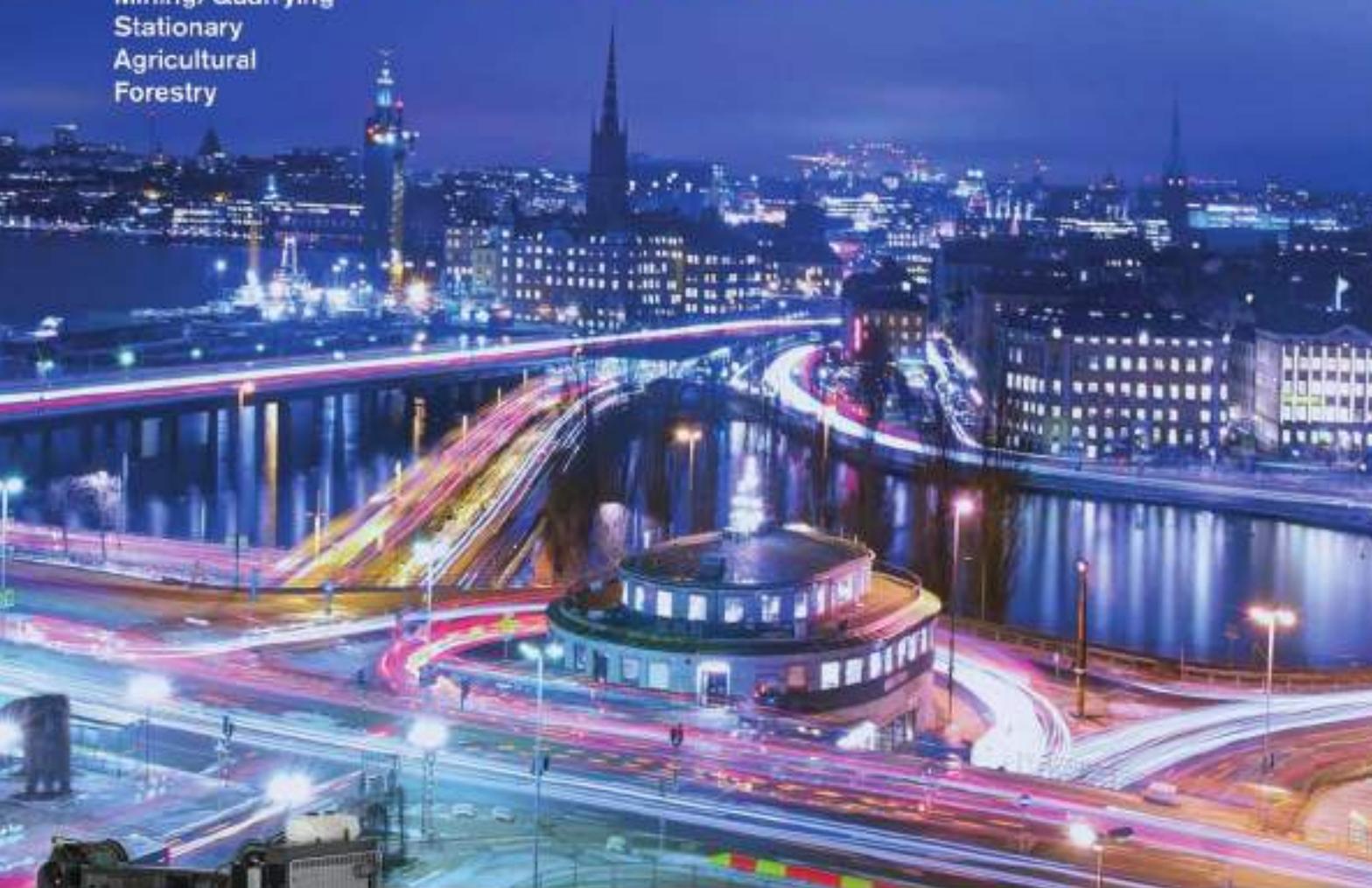


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Briefly

Honeywell's UOP launches biological wastewater treatment system

HONEYWELL'S WHOLLY-OWNED SUBSIDIARY UOP has launched an integrated bioreactor system to efficiently remove organic and inorganic contaminants from industrial wastewater streams.

The UOP Xceed bioreactor system, based on Honeywell's immobilised cell bioreactor technology, helps industrial, manufacturing, and groundwater remediation facilities meet contaminant removal specifications for wastewater discharge or reuse. Mike Millard, senior vice-president of Honeywell's UOP Catalysts, Adsorbents and Specialties Business, said, "Manufacturers are subject to stricter wastewater regulations and fees, which creates a need for more cost-effective treatment solutions that meet regulatory requirements and more stringent internal treatment standards. We have designed a high-performance biological treatment system that meets requirements efficiently and cost-effectively."

The integrated treatment process can be delivered as a modular system and incorporates mixed-media support for immobilised bio-catalysts or microbes. A sophisticated biological ecosystem enables longer biomass retention time and results in efficient biological oxygen demand (BOD) removal with low sludge production. The system also has a simple mechanical design that minimises energy consumption and required operator attention.

Ma'aden and Alcoa joint venture aluminium plant begins operations

SAUDI ARABIAN MA'ADEN'S joint aluminium smelter with USA-based Alcoa has started commercial operations. The US\$10.8bn plant at Ras al-Khair had experienced issues during the initial start-up phase last year when it had to shut one of its two smelting lines in October 2013 due to problems encountered during ramp-up. The smelter has a production capacity of 740,000 mt a year of aluminium with commercial operations to begin impacting Ma'aden's financials from Q3 2014, the company said.

Alcoa owns 25 per cent of the joint venture with Ma'aden holding the remaining share.

Massive growth potential for Sukuk market in Gulf region

THE GLOBAL SUKUK industry is expected to be one of the fastest growing segments of the Islamic finance industry with huge growth potential in the Gulf Cooperation Council (GCC) region, particularly in Dubai where Sukuks are expected to play an important role over the next decade in securing funds for the substantial line-up of new projects, a Dubai Chamber of Commerce and Industry report has stated.

Abdul Rahman Saif Al Ghurair, chairman of Dubai Chamber, said, "Islamic economy has become increasingly relevant in the modern world, offering new hopes of revival for the fragile global economy. The Dubai Chamber research note highlights the Sukuk market as one of the most attractive areas of Islamic finance that has attracted considerable interest from the business community worldwide. In addition, the Sukuk market has remarkable growth avenues that can be effectively tapped to support the growing investment requirements in various sectors."

While the GCC and Malaysia have emerged as the main hubs for Sukuk issuance, the main issuers of the Sukuk in the global market are sovereigns, followed by corporates and government related enterprises. Countries such as Tunisia, Mauritania, Senegal and Oman are set to be key markets for Sukuks, the chamber observed in the research note.

The report, however, maintained that Sukuk issuance is not limited to Islamic countries. In 2014, a number of high profile debut sovereign issuances are expected to take place in countries such as the UK, Ireland and South Africa. It is further anticipated that sovereign issuances by the UK are likely to spur interest in Europe for



The Sukuk market has growth avenues that can be tapped to support the growing investment requirements in various sectors

sovereign Sukuks as they provide access to the growing Islamic liquidity pool, the report added.

According to PricewaterhouseCoopers (PwC), over US\$16bn of Sukuks are expected to be issued by 2014 with Dubai already emerging as a centre for this asset class. The UK, which announced its maiden sovereign Sukuk issue at the 9th WIEF in London in 2013, has already completed the issue earlier this year, PwC said.

The Sukuk bond issuance has significantly grown over the last decade. The Dubai Chamber report, citing data from Rasameel Structural Finance, shows that the issue of Sukuk bonds has registered cumulative annual growth rate of about 47 per cent over the period 2001-13.

Qatar's new US\$7.4bn port to begin operations in 2016

THE FIRST PHASE of Qatar's US\$7.4bn New Port Project is set to be operational by the end of 2016 with the initial capacity to accommodate two million containers, which will eventually be increased to six million containers once the project is completed by 2020.

The announcement was made during a ceremony held for placing the last precast concrete block of the new port's Quay Wall by Prime Minister Sheikh Abdullah bin Nasser bin Khalifa Al Thani in Mesaieed.

The premier was earlier briefed by the port committee on the concluded phases of the 26 sq km project. The prime minister also called for finishing the project within time frame in order to achieve the Qatar National Vision 2030.



A graphical representation of New Port in Qatar

The project has, so far, recorded 45mn accident-free working hours as 9,000 workers carry out the project, increasing to 18,000 during rush times, Jassim Seif Ahmed Al Sulaiti, minister of transport, said. The new Qatari port is planned to compete with the largest ones in the Middle East.



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Briefly

Oman water project secures US\$176mn Saudi Arabian funding

SAUDI ARABIA-BASED ISLAMIC Development Bank (IDB) will provide US\$176mn for a water supply project in Oman.

IDB, on its website, said that its board of executive directors have approved US\$987mn financing for new socio-economic development projects in member countries and Muslim communities in non-member countries.

IDB added that financing for Omani project has been approved for Wadi Dayqah water supply project. The scheme is one of the major projects implemented in the sultanate to ensure sustainability of water resources.

The IDB board approvals also included several major projects in member countries such as US\$226.8mn for development of Sharm-El-Sheikh International Airport and US\$198mn for the Assiut oil refinery upgrade in Egypt.

Turkish Airlines records US\$190mn net profit in Q2 2014

TURKISH AIRLINES RECORDED an operating profit of US\$234mn and net profit of US\$190mn in Q2 2014, completing the first half year with US\$152mn operating profit and US\$88mn net profit.

Compared to the same period in 2013, the sales revenue also increased by 15 per cent to US\$5.2bn, the airline said.

In the first seven months of 2014, the passenger traffic increased 15.2 per cent to 31mn. The airline also saw the number of international-to-international transfer passengers increase by 28 per cent in the same period.

The flag carrier witnessed a 17.4 per cent rise in domestic passengers and a 13.8 per cent increase in international customers.

Turkish Airlines currently has scheduled flights to 45 domestic and 218 international destinations in 260 cities and 108 countries. The fleet consists of 263 aircraft comprising of 200 narrow body, 54 wide body and nine cargo aircraft.

Turkish Airlines was named 'Europe's Best Airline Company' for the fourth consecutive year on July 2014, according to Skytrax's 2014 passenger evaluations.

Saudi Arabian contracts reach US\$22.64bn in Q2 2014

SAUDI ARABIA HAS been awarded contracts worth US\$22.64bn in Q2 2014 with the power sector and oil and gas industry accounting for 60 per cent of the value, National Commercial Bank said in its latest quarterly review of contract awards in the Saudi Arabian construction sector.

As such, the total value of awarded contracts in the first half of the year has reached US\$33.22bn.

According to the bank, there has been a significant upswing in the value of awarded contracts during that period. During the first half of 2014 power and oil and gas industries grabbed 49 per cent of the contracts. The roads sector garnered a distant third with nine per cent.

The 'NCB Construction Contracts Index' report said the construction market relies heavily on key market determinants such as demographic dynamics, labour size and the health of the Kingdom's industries.



The Q2 2014 contract values saw a 60 per cent increase from the same period last year

The report noted, "These factors continue to propel the growth of the construction sector as demand for social and physical infrastructure have and will continue to be a focal point of the government."

The *Saudi Gazette* reported that upcoming contracts are expected to include numerous mega-projects within the anchor sectors. One significant project is the terminal upgrade at King Khalid International Airport. Additionally, Saudi Aramco is receiving bids for its US\$2.93bn Khurais oil field expansion, the report added.

The Q2 2014 contract values saw a 60 per cent increase from the same period last year. As efforts to focus expenditures on construction projects continue, the value of awarded contracts in 2014 will likely parallel the magnitude of projects that were awarded over the last several years.

The concentration of oil and gas contracts in the Jizan region allowed it to capture 33 per cent of the overall share by region. Jizan was the recipient of numerous contracts as part of Saudi Aramco's development of the Jizan Refinery and Terminal project.

Numerous contracts were awarded by the Saudi Electricity Company (SEC) across the Kingdom as part of its strategic plan to increase power generation to further its reach into more households. Alfanar was the largest recipient of contracts with seven wins by SEC worth approximately US\$850mn of the total US\$1.52bn.

The roads sector was awarded US\$290mn in contracts. With the majority of these contracts given by the Ministry of Transport, the largest contract was won by Al Fahd Company worth US\$239mn to develop 12km of road work as phase two of the Abu Bakr Al Siddiq motorway up-grade project. The contract is expected to be completed by Q2 2017.

GCC set to invest US\$1 trillion into industrial sector by 2020

THE INDUSTRIAL INVESTMENTS in the GCC will hit US\$1 trillion by 2020, compared to US\$323bn at present.

According to a recent economic report, the GCC countries are looking to raise contribution



The GCC countries are working on fostering the industrial sector as part of their strategy to develop new investment opportunities other than petroleum and gas

by the industrial sector to 25 per cent of the GDP in six years from 10 per cent at present.

The region is also expected to achieve a growth rate of 4.2 per cent this year worth about US\$1.7 trillion, compared to US\$1.65 trillion in 2013.

The bi-annual report, issued by the secretariat general of the Federation of the GCC Chambers (FGCCC), said the member states look forward to a larger share of the economic sector within their GDP, especially the industrial one.

The GCC also plans to support small and medium industries, which make up to 86 per cent of the total industrial facilities in the six-member block although they do not exceed 22 per cent of the total investments in the sector, the report added.



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Briefly

Siemens inks SEC deals to build transmission network in Saudi Arabia

SIEMENS HAS SIGNED two contracts with Saudi Electricity Company (SEC) for the construction of Static Var Compensators (SVCs) at Madinah East, Hail-2 and Al Jouf-2 380kV substations.

Within the scope of these contracts, Siemens will provide SEC with SVC plus and protection systems, transformers, switchgears, civil and electro-mechanical work with a execution timeline on the project of 24 months.

SVC plus will be used for the first time in the Kingdom to enhance the performance of the SEC transmission networks of western and central regions of Saudi Arabia, according to the company.

Arja Talakar, CEO of Siemens Saudi Arabia, said, "The construction of SVC will play a vital role in the stability of the network and smooth transmission of power in Madinah, Hail and Al-Jouf regions, particularly during summer, Haj and Ramadan."

Abu Dhabi energy firm Masdar launches Samoa's first wind farm

ABU DHABI'S RENEWABLE energy company Masdar has delivered the first wind farm in the Polynesian island Samoa.

The 550kWe project is the second project completed under the UAE's US\$50mn Pacific Partnership Fund, which is managed by the Abu Dhabi Fund for Development (ADFD), news agency WAM reported.

Prime Minister of Samoa, Tuilaepa Aiono Sialele Malielegaoi, officially opened the wind farm located on the Samoan island of Upolu.

Sultan Ahmed Al Jaber, chairman of Masdar, said, "This UAE- supported project, and others like it underway across the Pacific, unlock significant economic and social benefits across the region.

"By providing local sources of renewable energy and reducing reliance on imported fuels, the UAE is helping countries like Samoa to realise their development ambitions, while also delivering valuable clean energy infrastructure," Al Jaber remarked.

The wind farm is expected to supply 1,500MWh of power per year in the island country, thus saving US\$475,000 in annual fuel costs.

International Finance Corporation ramps up investments in infrastructure and essential services across Middle East

OVER THE PAST 12 months, the finance institution the International Finance Corporation (IFC) has increased its investments in vital infrastructure across the Middle East and North Africa (MENA) region, focusing on the energy sector.

During the 2014 fiscal year, which ended on June 30, IFC committed almost US\$640mn towards infrastructure projects that will

enhance access to power and affordable transport, as well as

essential water provision in the MENA region. This followed the US\$647mn that was invested in 2013, and continued IFC's strategy of tackling development challenges with innovative infrastructure solutions, a World Bank member said.

Mouayed Makhoulf, IFC director for the Middle East and North Africa, said, "In the MENA region power is a priority, because electricity shortages are common and power demands are increasing.

"Our investments have targeted the massive potential of renewable energy in the region, while making sure that communities get the most from existing resources."

Over the past year, IFC also arranged a



In fiscal year 2014, IFC committed US\$2.2bn in total in MENA, including US\$509mn mobilised from other investors, and an advisory programme worth a total of US\$105mn spread over 96 projects

US\$221mn debt package to help the Jordan Wind Project Company develop the country's first privately-owned wind farm with a capacity of 117 MW.

IFC provided a loan of US\$25.5mn to Dubai-based water and wastewater treatment company Metito, to provide infrastructure for clean drinking water and improvements to wastewater treatment projects, across the MENA region and parts of Asia.

IFC said that it would also invest up to US\$100mn in Saudi Arabia-based firm ACWA Power, which will help the company significantly increase the amount of power it generates from renewable sources.

Iraq will see a total investment of US\$10.5mn by IFC in Nafith International, which will go towards the construction of new truck yards and ease freight traffic that has proven crucial for cross border trade.

IFC has said that it will continue to help the private sector tackle serious development challenges across the region, because it is uniquely placed to provide essential services to people.

Omani sewage projects set for investments of US\$259.6mn

OMAN'S HAYA WATER will invest an average of US\$259.6mn each year on various projects in the sultanate over the next decade, which includes the construction of the sewage network, sea fallout system and sewage treatment plants, according to a company official.

A budget of around US\$5.71bn has been allocated for the implementation of projects between 2002 and 2025, Said Rashid Al Asmi, projects general manager at Haya Water,



Sea outfall is a pipeline from a sewage treatment plant (STP) into the sea

told *Times of Oman*.

Speaking on drainage development, Al Asmi said that Haya Water builds the facilities to prevent flood and storms and has taken measures to prevent areas from being flooded with sewage when water fills up drains.

"We put the drainage system around the plant and into the wadi areas," he explained, adding that the sea outfall

system developed in particular areas plays a key role in case of any emergency.

du to expand 4G LTE network for improved connectivity

EMIRATES INTEGRATED TELECOMMUNICATIONS Company, du, has announced that it will expand its 4G LTE network by 25 per cent by the end of 2014, in a move that would enable faster connectivity and downloads.

Saleem Al Beloushi, executive vice-president, Network Development and Operations at du, said, "Our internal analysis and monitoring of data usage patterns on our network have shown healthy growth in line with global trends."

Globally, mobile data traffic in Q1 2014 exceeded the total mobile data traffic of 2011, according to Ericsson's latest Mobility Report. The same report anticipates a compound annual growth rate of around 45 per cent between 2013 and 2019, leading to a 10 times increase by the end of 2019, *Gulf News* reported.

This year, du has also introduced Voice over LTE (VoLTE) technology, an innovative addition that allows customers to browse the internet while making clear voice calls. Additionally, du has held a successful field test for LTE-A Carrier Aggregation between the 800MHz and 1800MHz bands. This technology allows for greater speed and reliability for mobile subscribers, the company said.



Increasing du's 4G LTE network will mean higher bandwidth for customers and enhanced experience when downloading

The telecommunications company plans to deploy IP Multimedia Subsystem (IMS) on its network later in 2014, further enhancing customers' experience when using du's network.

du is 39.5 per cent owned by Emirates Investment Authority, 20.08 per cent by Mubadala Development Company, 19.5 per cent by Emirates Communications and Technology and the remaining stake by public shareholders.

Briefly

Indonesian telecom firm eyes Middle East market

PT TELEKOMUNIKASI INDONESIA (Telkom), the telecommunications operator in Indonesia, aims to expand its business to Saudi Arabia as well as other Middle East countries this year, expecting to benefit from the large number of Indonesians living in and travelling to the region.

Telkom president director Arief Yahya said that the company would partner with local mobile-network operators in the region and operate as a mobile virtual network operator (MVNO) through its international subsidiary PT Telekomunikasi Indonesia International (Telin).

An MVNO provides wireless communication services without owning the network infrastructure. It partners with network operators to access network services at wholesale rates then sets retail prices independently.

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EXECUTIVES CALENDAR 2014/2015

OCTOBER 2014

12-14	Power-Gen Middle East	ABU DHABI	www.power-gen-middleeast.com
15-18	Cairo Build	CAIRO	www.cairobuildexpo.com
21-22	The MENA Mining Show	DUBAI	www.terrapinn.com

NOVEMBER 2014

3-5	Light Middle East	DUBAI	www.lightme.net
3-5	SABIC Technical Meeting	JUBAIL	www.sabic.com
10-13	Saudi Build PMV Series	RIYADH	www.saudipmv.com
17-20	The Big 5	DUBAI	www.thebig5.ae
17-20	Middle East Concrete	DUBAI	www.middleeastconcrete.com
17-20	PMV Live	DUBAI	www.pmvlive.com

DECEMBER 2014

8-10	Saudi Transtec	DAMMAM	www.sauditranstec.com
8-10	Gulf Traffic	DUBAI	www.gulftraffic.com

JANUARY 2015

19-22	World Future Energy Summit	ABU DHABI	www.worldfutureenergysummit.com
19-22	International Water Summit	ABU DHABI	www.iwsabudhabi.com

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Abu Dhabi Sustainability Week to highlight region's energy challenges

THE LARGEST GATHERING on sustainability in the Middle East is set to return to Abu Dhabi in early 2015, bringing together world leaders, policy makers, business leaders and environmental experts to discuss and debate energy and sustainability challenges.

Abu Dhabi Sustainability Week (ADSW) will take place between 18-24 January 2015 and will be anchored by the World Future Energy Summit (WFES) at Abu Dhabi National Exhibition Centre (ADNEC).

In 2014, ADSW featured more than 32,000 participants from 170 countries, and attracted more than 650 regional and international media representatives.

Along with WFES, the programme will feature a series of complementary events, conferences and exhibitions such as the International Water Summit, Abu Dhabi Renewable Energy Conference and the Zayed Future Energy Prize Award Ceremony.

In a sign of regional cooperation on sustainability policy issues, the UAE Ambassador to Bahrain, Mohammed Sultan Al-Suweidi, recently handed over an invitation to participate in ADSW from the UAE Energy Minister Suhail bin Mohammed Al-Mazrouei to Bahrain's Minister of State for Electricity and Water Affairs, Dr Abdul Hussain bin Ali Mirza.

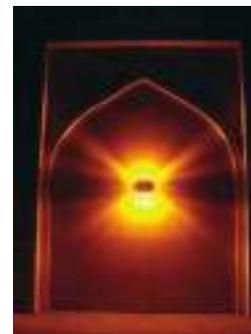
The spotlight is set to shine on Dubai

LIGHT MIDDLE EAST will return for its ninth edition in November highlighting the latest products and innovations within lighting design and technology.

Set to take place at Dubai International Convention and Exhibition Centre from 3-5 November 2014, the show will provide a platform for manufacturers, architects, designers, consultants, engineers, construction companies, hospitality industry professionals and government officials.

More than 250 companies are expected to attend the event, which is being organised by Epoc Messe Frankfurt, including LG, Osram, Artemide and Targetti.

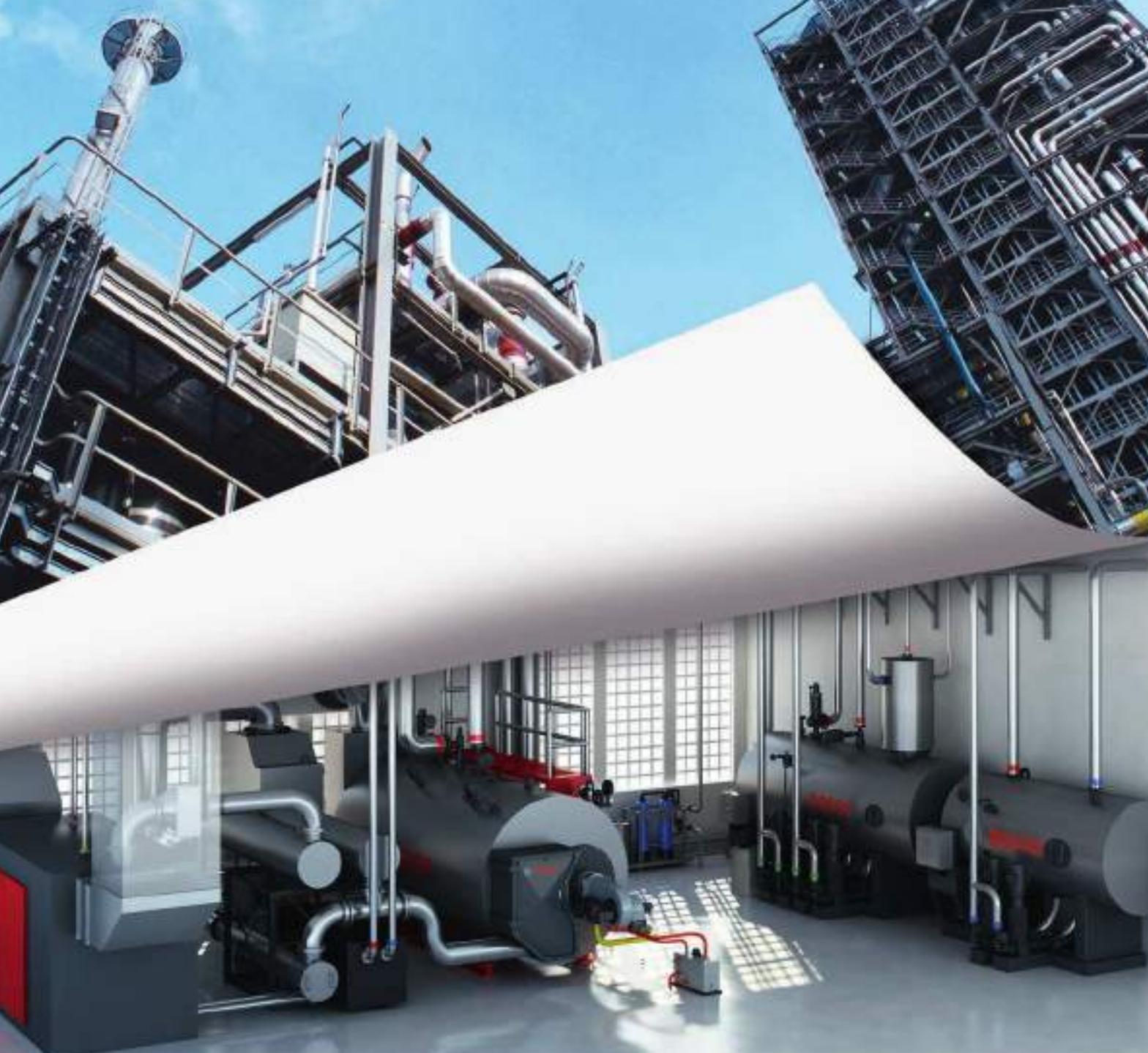
Saudi Arabia and the UAE accounted for 70 per cent of the US\$2.5bn regional lighting market value in 2013, according to Frost & Sullivan. The consultancy firm revealed that the Gulf lighting fixtures market is expected to grow between 8 to ten per cent annually between 2014-2018, creating a host of investment opportunities for global manufacturers and designers working throughout the region.



Light Middle East will take place in Dubai from 3-5 November 2014 (Photo: Asif Akbar)

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ON THE WEB

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

Volvo Trucks optimises sustainable transport solutions

VOLVO TRUCKS MIDDLE East has optimised the transport solutions for its regional customers in order to help boost productivity and truck efficiency. The company said that it was committed to



Volvo Trucks launched three new state-of-the-art models in January 2014 (Photo: Volvo Trucks)

supporting Volvo Truck's global goal of becoming the world leader in providing sustainable transport solutions. The Swedish premium truck manufacturer launched three new state-of-the-art models in January 2014. www.technicalreview.me/logistics

Contracts for medical facilities to reach US\$9.53bn in UAE

THE DUBAI HEALTH Authority (DHA) has stated that contracts for new medical facilities in the GCC are expected to reach US\$9.53bn by the end of 2014.

According to DHA authorities, this is a 25 per cent increase from the expenditure in 2013, and GCC nations are set to triple healthcare expenditure by 2018.

www.technicalreviewmiddleeast.com/events

Scott Safety launches new welding headtop equipment

SCOTT SAFETY HAS launched a new welding headtop that provides facial and respiratory protection for professionals in the welding industry.

The FH4 welding headtop provides advanced protection from flash burn, ultraviolet light, sparks, infrared light and extreme heat caused by a wide variety of welding applications, company officials said.

The device is compatible with Scott Safety Proflow 160 and Tornado-powered respirators, both of which are available with particulate, gas and combination filters.

www.technicalreview.me/hse



The equipment can protect from flash burns, UV light and extreme heat (Photo: Scott Safety)

Sharjah terminal records 14 per cent growth

GULFTAINER HAS ANNOUNCED a 14 per cent year-on-year growth in container volumes in the first six months of 2014 at Sharjah Container Terminal (SCT).

The growth in volume was driven, in part, by the UAE-East Africa trade route, and new projects and developments in Sharjah, the company said.

SCT signed more than 20 new consignees and organically grew its market share during the first half of the year, it added.

www.technicalreviewmiddleeast.com/logistics

Saudi Airlines integrates Microsoft business intelligence solution

MIDDLE EAST AIRLINE Saudi Airlines has implemented a business intelligence (BI) solution with Microsoft Corp to allow the airline to manage global aviation operations.



Saudi Airlines will manage its airline operations using the solution from Microsoft (Photo: Konstantin von Wedelstaedt)

Saudi Airlines officials stated they hoped to gain insight into various aspects of the business by implementing the integrated software. Once the BI project is complete, the airline plans to extend it to its subsidiaries, such as Saudi Cargo, Saudi Catering and Saudi Ground Services. www.technicalreview.me/it

Care Energy to provide solar solutions to Lebanon

GERMAN CLEAN ENERGY solutions provider Care-Energy is set to provide solar infrastructure and related products in Lebanon.

The company will deliver products like photovoltaic (PV) systems, storage, and infrastructure facilities to the Port of Beirut from Hamburg, stated officials from the company.

According to the company, supplying energy in the Middle East is expensive and challenging due to improper infrastructure. Setting up an energy supply based on an independent, decentralised system that does not require raw materials would offer significant advantages to the locals.

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UAE megaprojects set to total US\$315bn

Construction activity in the UAE is growing once more, with US\$212bn worth of construction projects already underway. And now the increase in social infrastructure spend is bringing the sector to near full capacity.

THE VALUE OF planned construction projects in the UAE is set to reach US\$315bn in 2014, according to a new report by EC Harris, *International Focus on United Arab Emirates, Summer 2014*.

“The UAE has experienced a shifting momentum of activity over the past decade with 2009 onwards proving to be difficult years for the market. The dynamic has changed from a period of negative to low inflation over the last few years to a period of moderate increase,” says EC Harris head of property and social infrastructure Christopher Seymour.

“The market is finally showing real signs of recovery and prospective growth suggesting that the construction market will remain strong this year. We are seeing tenders in the market covering the full range of projects including large-scale programmes and also smaller schemes right down to the small fit out work,” Seymour adds.

Meanwhile, the report reveals, “The UAE’s rapid growth, urbanisation and young population will continue to fuel demand across leisure, infrastructure, real estate and utilities sectors.

“However, with GCC markets, such as Qatar, Kuwait and Saudi Arabia, undergoing similar diversification and investment

Dubai Holding recently announced the Mall of the World development, a 48mn sq ft shopping project to be centrally located in the emirate



The Mall of the World project announced earlier this year will be located on the Sheikh Zayed Road in Dubai

programmes, the UAE is being placed under further pressure as it is in close competition with its neighbouring economies.”

A growing number of projects in the UAE could continue to increase construction spend in the country towards the end of 2014 and in early 2015.

Dubai is one example where the real estate market is becoming stronger and more sustainable, while Abu Dhabi’s market has remained stable through the first half of 2014. Within the past two to three years, many large-scale projects have been unveiled in Dubai, including Mohammed Bin Rashid City, DWC Golf City, the Lagoons and Deira Islands (previously known as Palm Deira). Furthermore, Sharjah, the third largest of the seven emirates, is expanding in size as a large number of people from across the Arab world have entered the emirate, which Harris notes could increase social infrastructure and infrastructure spend.

Dubai Holding recently announced the Mall of the World project, a 48mn sq ft shopping project to be centrally located in Dubai. According to the firm, construction of the project will get underway during the first quarter of 2015.

“Our ability to continue to generate solid earnings highlights both the strength of our financial position and the success of our strategy that is focused on investing in sectors vital to Dubai’s economic development,” says Dubai Holding chairman Mohammad Abdulla Al Gergawi.

“We are confident that our financial position will strengthen further once construction starts in the strategic projects we announced recently.”

Damac Properties, one of the largest luxury property development companies in the Middle East, has announced that it will be launching a brand new community. AKOYA 2 will be constructed in an area measuring 55mn sq ft and is said to be “impressive in its design, while affordable at the same time”. The community will be located along Umm Suqeim Road in Dubai, offering easy access to the rest of the city. Conveniently located in Dubailand, Phase 1 of AKOYA 2 named Oxygen includes 3 to 6 BR townhouses starting from US\$680mn. The new development will be in close proximity to the Arabian Ranches, Universal Studios and the Reem Community, and a short car ride from the centre of the city. ■

SERIES 2014



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Kuwaiti infrastructure is set to undergo massive development over the next few years

Kuwait renews its infrastructure ambitions

After years of expectation and attempts to kick start major construction projects in Kuwait, its infrastructure market is now set to pick up speed.

THE KUWAITI INFRASTRUCTURE market – defined to include projects in the transport, power, water, and marine sectors – is expected to grow massively over the next few years. Awarded contracts are estimated to be worth US\$7.35bn by 2015, which is a rise of more than 50 per cent on the US\$4.76bn worth of contracts awarded in 2012, according to the management consultants and market researchers Ventures Middle East.

Progress in this sector has, however, been slower than intended in the past. In 2010, Kuwait launched its initial investment plan, which identified privatisation and infrastructure as essential to the successful development of the country's economy. Under the Kuwait Development Plan (KDP), officials claimed that US\$104bn was required to be channelled into developing the country's infrastructure, which included projects to build further transport facilities, upgrade railway services and expand ports.

This KDP reflects the fact that the Kuwaiti government recognises the dangers its economy faces by relying whole-heartedly on its oil sector. It demonstrates how the country's officials appreciate that if the country is to establish a strong economy and be able call itself a true regional powerhouse within the next few decades, in line with the Kuwait Vision 2035, it has to build up its infrastructure.

Despite this, the initial KDP expired earlier this year and has not necessarily been deemed an overall success. The government had

reportedly spent just 57 per cent of the allocated budget as of January 2014, and many of the major projects were not achieved, primarily because they were put on hold following plans by the Ministry of Communications to review large privatisation plans.

It was announced in August 2014, however, that a new five-year development plan has provided renewed energy to the country's infrastructure development, set to run from 2015-2020. According to a recent report by Ventures Middle East, the Kuwaiti government has ring-fenced large sums of money for the aims of the new KDP, with an annual budget of US\$3.5bn for 2014. Reports also claim that public private partnerships (PPP) are seen as the key to the success of the revived KDP.

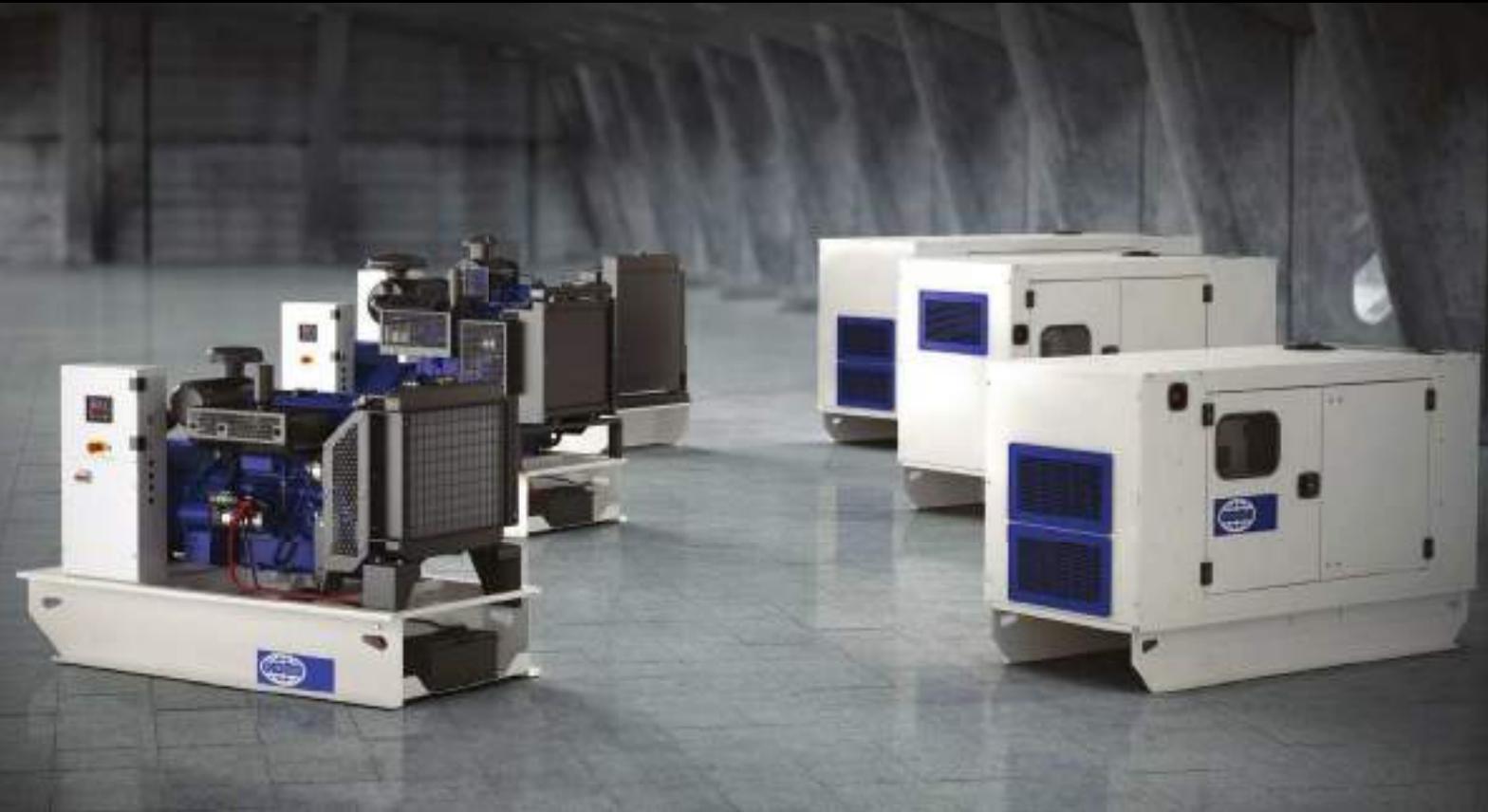
Transport expansion

One of the major infrastructure projects under the KDP is the US\$6bn expansion of Kuwait International Airport (KIA). The programme includes a large redevelopment of KIA to significantly increase passenger numbers. The redevelopment will focus primarily on improvements to the buildings, fire stations, rescue centre and service roads, as well as on the construction of a second terminal. The new terminal is expected to be located south of the current one and completed by September 2016. Construction of the new terminal is reported to be worth US\$3.3bn and be able to

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initially handle 13mn passengers annually, with plans to increase that to at least 25mn in the future.

Looking elsewhere in Kuwait's transport sector, another large-scale infrastructure project is the Kuwait metro service, which is estimated by Ventures Middle East to have a project cost of US\$7bn and was carried over from the initial development plan. With the layout recently finalised by the Ministry of Communications, the Kuwait metro system will consist of 61 stations distributed along three railroads covering all the governorates of Kuwait. Construction is expected to begin in 2017 and the system to be operational by 2020.

Furthermore, reports claim that Kuwait is also set to channel US\$10bn into the Kuwait National Rail Road System — a project to create an integrated rail network with an estimated length of 511km of double track.

Marine aspirations

From sky to land to the sea, the KDP also incorporates construction developments to Kuwait's marine infrastructure, primarily through its US\$1.2bn Mubarak al Kabir (MAK) Boubyan Island project. The investment programme will see Boubyan, Kuwait's largest island, turned into an economy-boosting commercial sea port.



Kuwait International Airport is set to undergo a US\$6bn expansion as part of the Kuwait Development Plan

With these project and the country's overall booming infrastructure sector in mind, 22-24 September 2014 sees the return of The Big 5 Kuwait. As the country's largest building and construction exhibition, this will follow its successful debut last year, which saw more than 5,000 industry professionals in attendance. According to a recent study quoted by the exhibition organisers, construction contracts in Kuwait are set to be worth US\$17.5bn by the end of 2014.

"The demand for fresh technology and new building material is steadily rising in Kuwait, driven by robust performance of

the construction and infrastructure sector," says The Big 5 group event director Andy White.

"The total cost of infrastructure and construction projects in 2014 will touch US\$23.2bn," he adds.

According to industry professionals, the ever-growing rate of construction and infrastructure development projects in Kuwait will go further than simply affecting those people and businesses directly involved.

As the demand for higher service levels grow parallel to the investment being made, the construction projects will also drive the expansion of the facilities management sector, which has been lacking in the Arab state. As more buildings and infrastructure is erected, the need for ensuring the functionality of the built environment will also increase. Evidence of the growing attention being paid to this sector is evident in the fact a Facility Management Congress will be held at the International Fair in Kuwait City during the first day of The Big 5 Kuwait.

Mike Dalton, chairman of the British Institute of Facilities Management, says, "In recent years, a heightened awareness of the facilities management sector has been evident, like the growth in large iconic buildings and the need to keep them well maintained."

Furthermore, Bassam N Hamady, the resident engineer at Sabah Al-Salem University City, explains, "Facilities management is badly needed in Kuwait for many reasons; there is a lack of awareness on the subject, [it is] not in practice and [it is] poorly used in many facilities or where there are adverse weather conditions."

Additionally, with all the construction projects planned or currently underway, as well as the expected expansion of the facilities management sector, more jobs will be available across a range of occupations and industries. Taking into consideration the major role the government is playing in this growth, primarily through new PPPs and funding, it is likely that many of these new job opportunities will be filled by local talent in line with the government's drive to employ more native Kuwaiti nationals.

"The public sector is moving forward with the Kuwaitization process especially in the administration sectors, which means that more Kuwaitis will be managing facility management contracts," says Hamady.

Kuwait has big plans and expectations for the national economy over the next five year. If the investments are realised and the infrastructure projects are achieved, this should significantly boost Kuwait's role and reputation in the Gulf and alter its economy. Looking back at recent years, however, the question is whether or not the aims will actually be successfully implemented as stipulated in the KDP.

Either way, it is clear that Kuwait is determined to make changes and, most importantly, to diversifying its oil-reliant economy. ■

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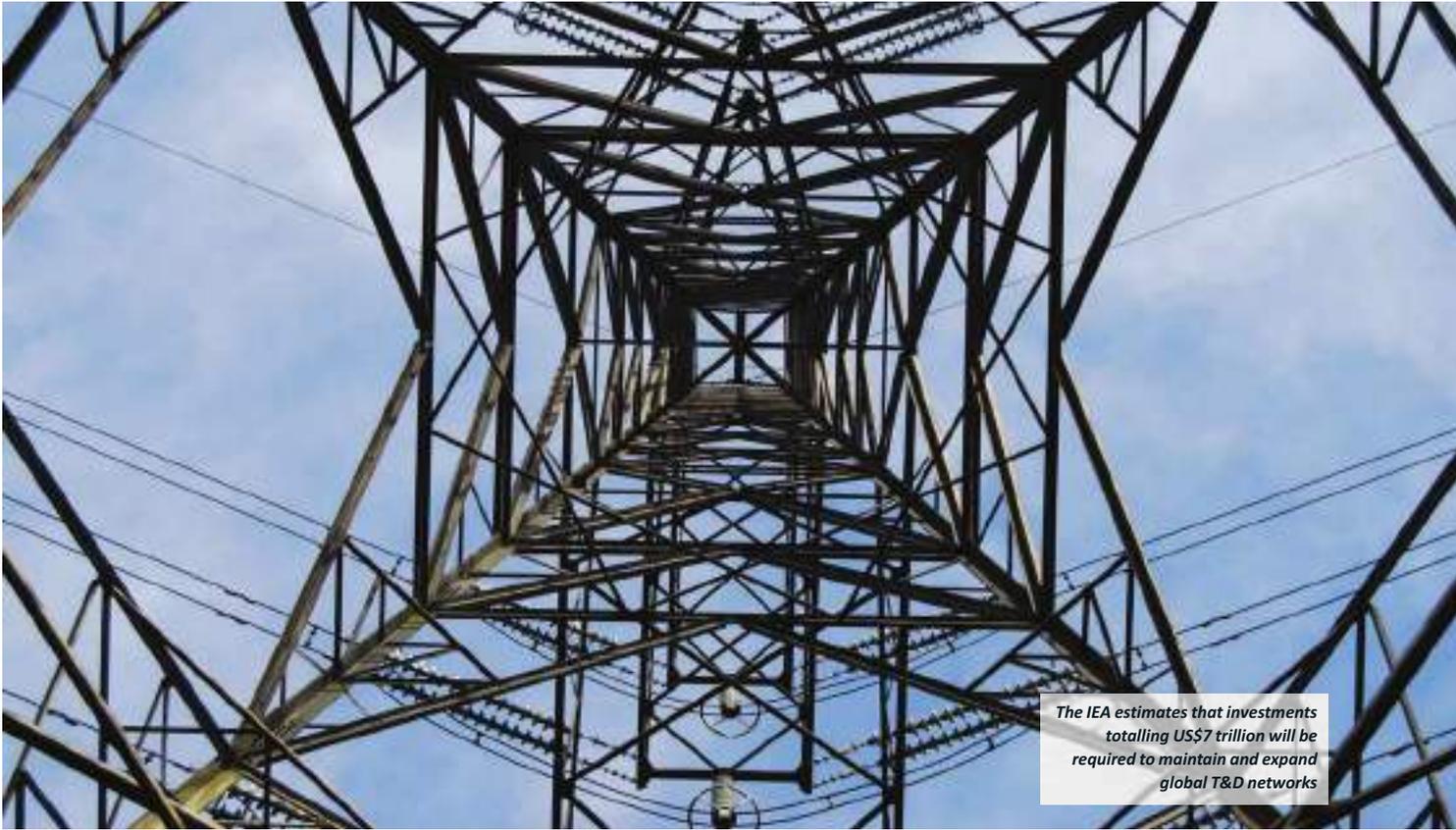
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The IEA estimates that investments totalling US\$7 trillion will be required to maintain and expand global T&D networks

Powering ahead in the electrical sector

Common issues concerning electricity supplies affect all MENA states and, as vital transmission links continue to grow, **Technical Review ME** takes a look at the sector from both global and regional perspectives, revealing the trends that are influencing the electrical and electronics sectors.

“The world needs US\$48 trillion in investment to meet its energy needs to 2035”

LARGE-SCALE INVESTMENT is the main theme of this special-issue industry round-up, but half way through the period between successive editions of the Middle East Electricity exhibition it would be remiss not to outline what’s going on at the consumer end, too.

“Volumes up, margins down” remains the flavour of retail electrical trade as China continues to make its manufacturing presence felt across the globe. Photovoltaic panel sales say it all between the lines and columns of the latest *International Trade Statistics* from the World Trade Organisation (WTO), a useful 2013 round-up that can be read online at www.wto.org.

The report sums up all the main electrical and electronics sectors including telecoms and other ICT equipment.

As with mobile phones, which continue to offer more power and applications each and every year, smart handhelds are now available at below the US\$100 mark in China. The price of construction-grade PV panels has tumbled as output has been ramped up and feed-in tariff subsidies have shrunk. Watch out for the same thing as automotive battery technology and super-capacitors improve under the influence of innovators like Tesla.

Of course, the main sector driving the capital end of all the electricals businesses

is power generation, transmission and distribution. On this subject, the International Energy Agency (IEA) has recently issued a special global report on capital investment¹. This focuses heavily on the escalating need for funds by the power industries worldwide – from fuel source to final meter – as demand soars and old plant simply wears out. This affects the Arab world heavily as consumption in this region is increasing twice as fast as almost anywhere else.

“The world needs US\$48 trillion in investment to meet its energy needs to 2035,” the report states. More than one-third of this will be required within the power sector alone, including US\$10 trillion for basic generation.

Average annual spend on efficiency measures, such as installing smart meters, needs to rise from US\$130bn today to more than US\$550bn. None of this will be possible without credible policy frameworks from government bodies and stable access to long-term sources of finance, hopefully from the private sector, amongst others.

New investment in renewable sources, and in power T&D, the IEA says, will be particularly important; investments in these now account for around 30 per cent of annual capital flows. Investment in conventional thermal generation, including in new gas-fuelled stations in the Gulf, will swallow up much of the rest.

The report notes, “In the electricity sector, administrative signals or regulated rates of return have become ... the most important drivers for investment.”

And of the cumulative global investment bill of US\$48 trillion, of which the Middle East component summed up here forms just a small part, around US\$40 trillion will be in energy supply alone, with the rest in efficiency measures. Of the required investment in global supply, US\$7 trillion will be needed to maintain and expand the T&D networks that reach the customers who actually settle the accounts.

More than half of the energy supply investment will be required “just to keep production at today’s levels”, e.g. to replace ageing generation and distribution plant, the IEA says.



A BP report reveals that despite stagnant global economic growth global primary energy consumption accelerated in 2013 (Photo: rawku5)



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Much abbreviated, the regional summary figures that the agency presented earlier this year can be viewed in the table to right.

While market conditions are significantly tighter in North Africa, rapid progress continues to be made on benefiting from the third and final link-up phase of the Gulf Power Grid, which now connects all six GCC countries via the region's brand-new 400kV 'super-grid'. Oman in the east has been connected to the ground-breaking power-sharing scheme since 2011.

A second Power Trade Forum was held in Dubai last year. Following this successful commercial-issues meeting, the KSA-based GCC Interconnection Authority (GCCIA) announced that the whole scheme was now "beyond the stage of stability and reliability", (i.e. delivering cross-border emergency supplies only), according to chief executive Eng Adnan Al-Mohaisen.

This implies that the breakthrough joining up of the four-plus-two subsidiary networks ensures that member countries no longer have to put up with significant economic losses caused by blackouts and brownouts, which, in turn, means huge savings in both investment and opportunity costs for businesses in all six states. These savings are claimed to have amounted to US\$180mn last year alone, with more to come as the system beds in.

GCCIA and utility officials are now working on specific means to reduce supply costs further by optimising the generation and distribution pattern right across the region, exchanging energy, including supplies from renewable – and soon nuclear – sources as a direct result of national

Middle East (excl. North Africa)

	Average annual investments/Power generation, T&D*			Cumulative investments*	
	Historical 2000-2013	'New Policies' 2014-2025	scenario1 2026-2035	NPs ¹ 2014-2035	450s ²
Generation	16	46	60	573	690
Transmission	2	5	6	60	57
Distribution	5	14	16	165	133
Total energy supply	107	268	327	3,229	2,762
Total energy efficiency	-	10	23	169	365

All figures in US\$bn

¹ based on likely common-sense emissions measures being adopted

² ambitious '450ppm' CO2 scenario

differences in the costs of generation and demand for power, at different times, and from different suppliers using varied fuels and generation technologies.

Since 2010, a full GCC-wide energy market management system has effectively been in operation to ensure optimisation of supply in this way.

Growth continues to be fastest outside the OECD world, particularly in the Gulf

The location of the International Renewable Energy Agency (IRENA) in nearby Abu Dhabi has helped this process along. The two institutions held a successful joint workshop in January.

Events such as Middle East Electricity have also boosted the regional power sector

and the most recent show, held in February 2014, attracted a recorded attendance of 50,000-plus and 1,250 exhibitors from nearly 60 countries. The event is now co-located with the Solar Middle East trade show further highlighting this fast-growing sector within the regional power industry. Both shows will return in March 2015. Meanwhile, the annual Saudi Energy exhibition and conference is an associated get-together for power professionals in Bahrain and Saudi Arabia.

And finally, according to BP's latest *Statistical Review of World Energy*² global consumption of electricity generated by all means grew by 2.5 per cent last year, a slight increase on 2012, but below the decade's 3.3 point upward trend.

"Global primary energy consumption accelerated in 2013, despite stagnant global economic growth," the oil major says.

Of course, actual 'demand' for power, much of it unmet, is almost certainly significantly higher. Growth continues to be fastest outside the OECD world, particularly in the Gulf. China predictably heads the trend – this fast developing country is now the world's largest player in the electricity market – and the one which is most dependent on atmosphere-threatening coal.

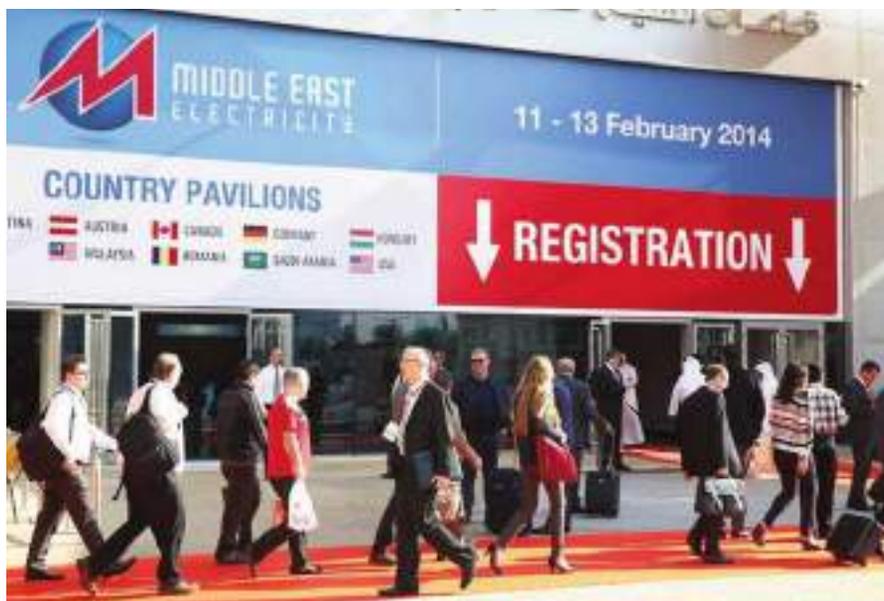
Total power demand, measured in conventional terawatt hours and highlighted in the table below, has grown as follows around the world over the last two decades says BP's all-forms energy team. It is notable how the Middle East region (which excludes North Africa in this survey) heads the aggregated regional growth trend.

	1993	2003	2013
Middle East	297	542	1,013
North America	4,013	4,873	5,181
Europe/Eurasia	4,380	4,927	5,324
World total	12,486	16,787	23,127

In terms of national market dimensions the KSA easily heads the GCC consumption league, distantly followed by Kuwait, the UAE and Qatar. ■

¹ *World Energy Investment Outlook*, June 2014, www.iea.org

² June 2014, www.bp.com/statisticalreview



Middle East Electricity attracted more than 50,000 visitors in February 2014



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Temperature and lifestyle are two major reasons behind high energy usages in the Middle East

Using power to change the future

Changing the way we think about energy usage is key to reducing costs and emissions across the Middle East, writes Altaaqa Global's marketing manager Robert Bagatsing and strategic accounts director Majid Zahid.

WE HAVE A say in what the future will hold for us and that proactively, as opposed to reactively, will offer us our desired results. Each and every day we, our relatives, our companies and even our governments are confronted with the compulsion to make decisions and, selecting one or the other, to move forward. At times, the decision of the greater elements of society sets off a domino effect, the repercussion trickling down to the nucleus. There may also be instances when the effects of the choices made by citizens escalate to the powers that be. In most cases, the relationship between the components of a society may not be linear – there may be a constant push-and-pull, imposition-and-retaliation or, at best, demand-and-submission.

Let us contextualise the current discussion and look to the present energy situation in the Middle East, by examining it through the prism of 'choices', and study how a marginal shift in behaviour could lead to encompassing and durative effects.

Power at home

In the Middle East the temperature during the summer often hits as high as 50°C and turning on the air conditioning (AC) is a foregone conclusion; otherwise living conditions would be almost unbearable. We believe, however, that consumers have a choice in deciding which AC unit to buy, or in considering the long-term

lifecycle cost of an electric product instead of its first face-value cost. We could also argue that they also have a choice in how to take advantage of the power subsidy that they get from their governments, and on ascertaining how much electricity is essentially needed in their daily lives.

Studies cite that in Saudi Arabia utility users use nine times more electricity than the citizens of four of the largest Arab countries. An individual in Saudi Arabia consumes around 8,200kWh compared to an average 951kWh by an individual from Egypt, Algeria, Sudan or Morocco. Energy consumption per individual in Saudi Arabia was observed to have risen by three per cent in 2011 and by nine per cent in 2012. In the entire energy mix, the housing sector was estimated to be responsible for consuming 50 per cent of the country's total energy production.

Though not absolute, energy industry experts ascribe a large part the high electricity consumption to the poor energy efficiency of AC systems that the citizens of the region bring home. Heating, ventilation, and air conditioning (HVAC) systems consume approximately 51 per cent of all electricity production in the region, and this can reach up to 70 per cent during the summer months. A considerable number of AC systems on offer are observed to have low-energy efficiency ratios (EERs) despite the presence and promotion of energy efficiency standards in Middle Eastern



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countries. In most cases, air conditioners with low EERs are the cheapest, attracting buyers to give premium to the price they see on the tag rather than to the number of stars rating the performance of the unit.

What most users are not aware of is that, although units with higher EER are more expensive, they run more efficiently, reducing both monthly power consumption and electricity bills. More technologically advanced units also operate longer without the need for repair or servicing, thereby cutting on maintenance costs.

Power in the country

Industry experts have observed that the upward trend in the regional power demand is due to the fact that most Middle Eastern development is based on energy-intensive industries, such as construction, manufacturing, water desalination and oil and gas. The region's economic conditions are also highly attractive to expatriates and foreign businesses, which causes the Middle East's population to spike. Due to the region's unique climate, residents live energy-intensive lifestyles in their homes, offices and means of transport.



Hiring temporary power generation plants could offer a number of advantage to utility companies

The energy situation in the region is predicted to take more challenging turns. In Saudi Arabia, for example, authorities are predicting that by 2020, the demand for electricity in the Kingdom would have increased by 30,000 MW. The World Energy Council supports this forecast and adds that the power consumption in the Middle East and North Africa could rise by as much as 80-114 per cent by 2050.

According to industry studies, there may be real dangers looming in light of the observed depletion of the Middle East's fossil fuel reserves, largely due to the continuous growth of the regional power demand and the use of domestically-produced resources. When fossil fuel resources can no longer support the electricity requirement, power supply may become unstable and interruptions may occur, resulting in a myriad of negative impacts to the region's economy, business and people. A power interruption affecting critical facilities, such as hospitals, airports, telecommunication towers, data centres, and oil and gas installations, has the potential

to make an entire country or region come to a standstill, and in light of regional integration among Middle Eastern countries, consequences are sure to spill over into national borders.

Market projections also suggest that the persistence of the current energy requirement patterns in the region may render Middle Eastern countries vulnerable to economic and social instability. Looking at Saudi Arabia as an example, the unrestrained domestic fuel consumption in the Kingdom may hamper its ability to export oil within a decade. Considering that more than 80 per cent of the country's government spending is dependent on oil, a downtrend in the Kingdom's oil export activities may affect its capacity to provide for its residents' needs in future.

On the other hand, a limited supply to other countries could lead to soaring prices of oil and other petroleum products, which will consequently distress all the industries that depend on it for production and operation.

Predicaments and choices

At present, the governments of the Middle East have initiated tapping alternative sources of energy, such as the solar power, but designing, constructing, commissioning, testing and employing these technologies may take time and millions, if not billions, of US dollars in initial investment. Authorities have also launched conformity assessment schemes and energy efficiency and conservation programmes aimed at modifying the attitude and the behaviour of end-users towards energy consumption. Shifting the existing paradigm, however, may take decades, if not generations, and without curbing the present energy requirement, the region's existing power resources may not be able to sustain it until the foreseeable future.

Empowered choice

While the long-term solutions are underway, countries in the Middle East may take a proactive approach in dealing with the region's energy situation by hiring the services of rental power companies.

Hiring temporary power generation plants to bridge the supply and the demand of electricity yields many advantages, particularly when there is a predicted delay in the completion of permanent electricity facilities or when a considerable amount of power is immediately needed. Interim power generators are essential, particularly in times when the electrical grid is unstable or when power distribution networks are unavailable. The technology is also vital in mitigating the effects of planned or unplanned facility shut down or of load shedding.

Temporary power plants also have tested and recognised benefits in times of emergencies, natural calamities, weather disturbances or intense seasonal demand. Disasters, weather shifts, and peak power requirements put unpredicted pressure on the region's energy reserves, and addressing these ad hoc cases could mean tapping into power resources already allocated for other functions. Utilising interim power generators in times like these not only instantly resolves the deficiency in supply, but also precludes untoward and long-term effects that reorganisation of energy resources may have to a wide array of industries.

Interim power generation facilities are sustainable, efficient and cost-effective solutions to a gamut of energy-related challenges. They respond to the questions of immediacy, viability and affordability. They are highly practical, especially for short- and medium-term hire, as building permanent facilities for provisional usage may not be the most economical and workable choice. Temporary power plants offer utmost flexibility, scalability and modularity to fit in any situation, for any requirement, and to every budget. ■

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Stimulating sustainability within construction

Masood Raza, general manager of Jumbo Engineering LLC (JEL), shares his thoughts on the implementation of green building standards within new-build and retrofitted construction projects in the UAE.

THE UAE'S ROLE at the forefront of sustainable innovations within the field of construction has led to a number of ground-breaking building projects that are helping transform the way architects and construction firms approach projects within the country.

While considerations such as cost and delivery time remain at the forefront of the minds of those delivering such projects, concerns about the economics of construction are beginning to give way to arguments concerning sustainability, argues Jumbo Engineering LLC (JEL) general manager Masood Raza.

"The UAE has taken great strides to implement green building parameters that are in sync with international standards and regulations," says Raza. He points towards sustainability models such as the Estidama Pearl Rating System in Abu Dhabi and the Emirates Authority for Standardisation and Meteorology (ESMA), who governs green standards conformity throughout the country.

"The UAE has also forged partnerships with international organisations such as the US Green Building Council, who awards the LEED certification, the green standard that is widely accepted as the best in the world," says Raza.

"While the nation has a long way to go to catch up with the advancements made in green standards in Europe and North America, there is clearly a firm and progressive movement towards implementing measures that will help UAE achieve its sustainability goals," he adds.

The rapid transformation of the construction industry, along with signs of maturity among developers, has, Raza argues, been taking shape hand-in-hand with a move towards sustainable construction practices that can help reduce long-term ownership and operational costs.

JEL has been increasingly contracted for its expertise in implementing energy efficient technologies and systems, Raza notes.

"With the government rolling out stricter

quality and sustainability benchmarks, we expect to see more developers utilise value engineering inputs earlier on in the construction process to achieve reduction in costs and wastage of resources," he explains.

"With many of the international green standards bodies represented in the UAE, the country is uniquely poised to initiate knowledge-sharing forums that will benefit the entire region.

"At JEL, we also work with and educate consultant bodies to provide unique solutions, such as low-power fresh air solutions and IR reflective coatings," Raza adds.

JEL is currently installing low-power consuming Air2o Hybrid Fresh air units (170,000 cmh) at the Royce Plastics facility in Dubai Techno Park. The units are a combination of indirect evaporative cooling and chilled water coils, which save more than 30 per cent of recurring power cost.

"Given that it is a new technology and fairly unknown in this region, it was difficult to convince the client to buy in to the results we promised," Raza points out. "The solution, however, was perfect and met the client's most important requirements, which were to increase efficiencies and reduce costs."

Enforcing standards

While Raza admits difficulties remain in convincing property developers and landlords to opt for 'greener' solutions, he calls for government intervention to ensure standards and regulations are met.

"There is a bottle neck for retrofitting green solutions in existing properties," he says. "The way it stands currently, it seems as if enforcement of government regulation is the only way forward. For new properties, however, the government can offer incentives for compliance, and also make certain norms mandatory for municipal approvals."

Raza calls for greater awareness of the benefits offered by green building standards, especially to end-users, stating, "In the UAE's drive to become a world-class nation, core



Jumbo Engineering general manager Masood Raza

industries such as construction and infrastructure development need to be able to reach a level of conformity that is participative rather than enforced.

"At JEL, we take special care to ensure that we deliver to the client's requirements and, at the same time, share the savings with the owner in a transparent manner. Some of our best practices include alternating large capacity air-cooled chilled water plants with water-cooled centrifugal chiller plants, as well as installing cost-saving LED lighting fixtures.

"In one instance, we successfully redesigned a building's air-conditioning capacity to provide an operational average monthly cost saving of AED30,000 (US\$8,168). JEL has also been contracted to provide MEP services to DEWA's sustainable office building at Al Quoz in Dubai, a project that has been widely acclaimed by the government for its green standards capabilities."

JEL's HVAC division is ISO 9001:2000 certified, and has been contracted to work on government and large corporations projects in the UAE.

"Our experience in delivering critical projects such as the DEWA facilities, warehouses for Abu Dhabi Ports Company, and other such installations in free zones across the nation have helped us create strong synergies with green standards authorities," Raza concludes. ■

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Dubai envisages a 'greener' future

Dubai has implemented a 10-year plan to enhance the city's utilities' infrastructure, which includes promoting the use of electronic vehicles to reduce pollution and relocating more than 4,000 trees for a 'green' mega project.

DUBAI ELECTRICITY AND Water Authority (DEWA) has revealed that it is working to enhance its generating and distribution capacity by increasing the use of advanced 'smart' technologies and introducing a network of electric vehicle charging stations, in a bid to boost the use of electric vehicles and make Dubai a 'greener' city to live in.

According to DEWA, 100 charging stations will be set up for electric cars across Dubai in the next two years. Dubai Silicon Oasis will be the first community to roll out electric car charging stations, according to Saeed Mohammed Al Tayer, MD and CEO of DEWA.

"We signed a memorandum of understanding with [the project's developer]. They will be setting up the stations in the smart city. We are going to have more memorandum signing ceremonies with other developers soon," says Al Tayer.

The move to reduce environmental pollution across the city was highlighted in the Smart Dubai plan with three key initiatives set out by DEWA. Firstly, the plan outlines that more home and building owners will be encouraged to install solar panels for domestic use and export surplus electricity back to the grid. Secondly, DEWA has revealed that it has set-up 70,000 smart metres so far and an extra 200,000 metres are set to be installed during the next phase. The third initiative will see the roll out of electric-powered vehicles. DEWA said it has joined forces with the transport sector including car manufacturers, airports, shopping malls, petrol stations and local transport authorities.

"We seek to achieve that by focusing our efforts on setting up an excellent energy infrastructure that meets the emirate's development needs," says Al Tayer.

Expo 2020 Dubai is also set to contribute to Dubai's efforts in becoming a 'greener' city. The project will highlight the development of renewable energy in the city. Al Tayer explains it "will be a unique opportunity for us to show the world our excellence in the public utilities and infrastructure sectors ... and to help make our country a leading international economic hub."

Expo 2020 Dubai is set to welcome 25mn visitors, with 70 per cent of those from abroad, and will explore new innovations in the transport and logistics sectors.

Furthermore to Dubai's move in becoming a greener city, Dubai-based Damac Properties plans to build a new project in Dubailand, featuring what it called the "greenest living spaces" in the emirate.

Expo 2020 Dubai is set to welcome 25mn visitors, with 70 per cent of those from abroad



DEWA will install 100 charging stations for electric cars across Dubai in the next two years

Covering more than 55mn sq ft, the development will offer parklands, green open spaces and private gardens.

"Akoya Oxygen is being developed along the ethos of 'escape the city' and will be a lush green environment with an upscale resort feel," the company states.

Luxury residential homes will be situated near retail and hospitality projects including a five-star hotel and a wellness centre, it adds.

"Akoya Oxygen is set to be the first community of its kind in Dubai. It is being designed to be a masterpiece that isn't just architecturally accomplished, but also lives in harmony with the environment," says Ziad El Chaar, managing director of Damac Properties.

"We will be relocating more than 4,000 trees into the development to ensure cleaner air and naturally cooler temperature. This will be in addition to many water features throughout the community.

"When we created Akoya Oxygen, we had a clear vision that is being translated into every component of the project. From low emission residences, to our utilising of recycled materials, all this will contribute in transforming Akoya Oxygen into the first green luxury residential address in Dubai."

The new project is expected to be as environmentally friendly as possible, with 'keeping green' being a focus of the new community. As well as using energy efficient materials in the construction of the project, the homes will also be built to meet environmental standards. El Chaar also adds that the road network will be designed in a way to minimise pollution.

"After the success of Akoya by Damac, Akoya Oxygen came as a logical continuity to this brand and an important step forward in further building on the success in terms of quality, innovation and our association with international brands," states El Chaar. ■

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Building a solid foundation

The advancement in concrete technology is helping the region's contractors meet new sustainability and durability requirements, writes Ihab Bassiouni, country manager - UAE at Grey Matters.

DESPITE THE AVAILABILITY of so many building materials in the construction industry, concrete remains one of the top options, because it is still among the most economical, durable and strong building materials available. Moreover, concrete technology is advancing, enabling it to cope with the region's new sustainability initiatives and requirements of the industry.

The Middle East, specifically the Gulf region, is considered to have one of the world's most severe environments. Therefore, it is essential we use the most up-to-date concrete technology, which we have done for more than a decade. Although there have been no recent major innovations in concrete technology, some of those that did not immediately make an impression are now widely applied, such as Self-Consolidating Concrete (SCC). Nowadays it is a must to consider SCC for a wider use in the region's large-scale construction projects. SCC enables different means of construction and new designs.

In the past 10 years, designers have specified concrete with supplementary cementitious materials, such as GGBFS, PFA and Silica Fume, to resist the harsh environmental conditions. This has contributed to the noticeable enhanced durability of structures and, ultimately, their service lives. It is time, however, for concrete designers to adopt performance specifications rather than adhere to prescriptive specifications. Performance-based specifications give the concrete producer the opportunity to take advantage of unique material combinations and technologies along with the flexibility of mix optimisation, leading to a more durable product with lower life cycle costs.

As the GCC region is close to seismically-active hotspots in Iran and Turkey, earthquake-resistant concrete solutions have gained ground.



Buildings need to be able to resist the region's harsh environmental conditions

Dubai has increased its seismic classification from zone 2A to 2B for buildings taller than 10 floors as well as schools and hospitals to withstand earthquakes between 5.5 and 5.9 on the Richter scale. This has been reflected in an increase in concrete strength requirements.

Most of the ready-mixed concrete producers in the region operate the latest and most advanced batching plants and concrete delivery vehicles in the world. The demand on new concrete mixing, delivery and placing equipment has grown this year, with many ready mix suppliers upgrading their existing fleet. Moreover, some local authorities, such as the Dubai Municipality, have recently introduced



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new regulations to control the quality of ready mix concrete facilities and ensure they can produce quality concrete.

'Green' concrete technologies

With the growing trend toward sustainability in the region, many 'green' concrete technologies have been made available to contractors. These include use of sustainable materials like GGBFS and PFA in concrete mixtures; new innovative techniques in manufacturing cements; and use of recycled materials. Performance-based specifications should be the cornerstone of the role that sustainability will increasingly play in the market. Also, more emphasis should be put on using sustainable concrete plants in the production of concrete. Importantly, too, we need to change the mindset of developers and contractors, persuading them that sustainability benefits the ultimate usage of the structure and so fights the myth of high cost attributed to the implementation of sustainability within projects.

The International Concrete Technology Forum, to be held in Dubai within the Middle East Concrete Exhibition, (as part of The Big 5), on 18-19 November this year, will cover topics about the latest green concrete technologies.

Considerable variations in qualifications exist between ready-mixed concrete producers and also within countries in the region. This is due mainly to the varying minimum qualification requirements set by certain authorities if they exist at all. Recently, however, there has been a noticeable trend toward improving the skills and qualifications of technical staff at ready mix companies, mainly through continuing education. Unfortunately, too, many engineers from consulting and contracting firms in the region lack the basic knowledge in concrete technology, and this affects the quality and progress of the job. We recommend that engineers at all levels should be aware of basic concrete technical information.

“As the GCC region is close to seismically-active hotspots in Iran and Turkey, earthquake-resistant concrete solutions have gained ground”

With the growing trend toward sustainability, many 'green' concrete technologies are now being used (Photo: Piotr Ciuchta)



Organisations like the American Concrete Institute (ACI) and the National Ready Mixed Concrete Association (NRMCA) provide information on concrete technology through publications, webinars, conferences and training courses that are accessible online or through local agencies.

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Floored by new developments in the GCC

With construction projects estimated to cost over US\$4.3 trillion in the GCC, the flooring market is set to get a new lease of life.

THE CONSTRUCTION SECTOR in the GCC is likely to spend US\$4.3 trillion on projects over the next 10 years, according to a report by Frost & Sullivan, which states that the line-up of planned projects will lead to an increase in the demand for flooring solutions. Flooring solutions are primarily focused in commercial offices, data centres and elite residential spaces, the report adds.

Some of the highly-anticipated projects in the Middle East include Expo 2020, the FIFA World Cup in Qatar and Dubai's Mall of the World. To supplement the booming construction sector, industry experts and market leaders have reported a marked increase in the demand for flooring solutions. Concrete floor slabs, raised-access floor systems, resin floor coating and even luxury coatings for opulent interiors are gaining popularity.

In addition to existing solutions, new technologies are making a foray into the market through events such as Index and the Middle Eastern Coatings Show (MECS). DMG, organiser of the annual design trade show Index, noted that in 2014 the total revenue for sales generated by 700 exhibitors increased by 34 per cent on 2013's figures, adding that growth of 140



Eco-friendly flooring solutions are gaining popularity in the Middle East

per cent was registered by the 120 exhibitors at Workspace at INDEX. MEC is scheduled to take place from 10 to 12 March 2015 in Dubai and will host a number of international brands and manufacturers including Perstorp, Decorazioni Rivedi and Zehntner.

The need for innovative flooring and coating solutions has attracted a wide range of manufacturers to the region.

German construction and interior projects manufacturer Avant Holding stated that it is on track to capture a 30 per cent share of the Middle East flooring market over the next three years with its innovative flooring solutions.

Antonio Varghese, CEO of Avant Holding,

says that the company has a line of fully sustainable interior solutions and can offer replacements for wooden flooring.

"When it comes to infra-development, the UAE is taking the lead in sustainable and eco-friendly solutions, while embracing advanced technologies," says Varghese. "We understand it is highly important to use materials that are eco-friendly in the construction industry."

New and cutting-edge technologies are also procured by construction majors in the Middle East. Italian tinting equipment manufacturer Corob has entry-level dispensers and new manual gyroscopic mixers. It also offers a broad range of high-quality tinting systems, including mixers, shakers, do-it-yourself (DIY) paint vending units and optimal in-plant engineering solution Tinting During Filling (TDF).

Japanese technology company Konica Minolta, meanwhile, offers advanced colour management solutions, including the software Colibri, which covers product design, colour matching, quality control and global sourcing.

The growth of the construction sector is having an impact on several sectors, including the flooring industry, which is set for a facelift in the Gulf region. ■

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Glass industry continues to shimmer in the Gulf

THE DEMAND FOR flat glass products across the GCC has continued to soar as project developers embrace the latest in glass technology to protect building occupants from hot and humid conditions outside and conserve energy from air conditioning systems inside.

A Bowmedia report from 2013 forecasted a 7.1 per cent rise per year in international demand for flat glass through to 2016 to reach 9.2bn sqm, with the global market value of fabricated flat glass to reach US\$90bn in 2016. The rising price of glass throughout the Middle East has also surged due to growing demand.

"We expect prices to go up by another seven to 10 per cent in 2014 due to an increase in the cost of raw materials and surging demand across GCC and international markets," says Abdulaziz Bin Yagub Al Serkal, general manager of Dubai Investments (DI).

The glass sector has witnessed a number of deals in recent months, with Saudi Arabia particularly active following Qalaa Holdings



The global market value of fabricated flat glass has been forecast to hit US\$90bn in 2016 (Photo: Peter Hellebrand)

and Jeddah-based Construction Products Holding Company (CPC) recent US\$180mn purchase of Egyptian float glass manufacturer Sphinx Glass.

Meanwhile, in July, Japan's Asahi Glass Company and its consolidated subsidiary AGC Glass Europe signed a letter of intent with Saudi Arabian glass manufacturer Obeikan Glass Company to establish a solar control glass coating joint venture. The processing line for temperable solar control glass coating will be built in Yanbu, Saudi Arabia, where Obeikan currently operates

the largest float glass plant in the Gulf region, with operations scheduled to start in early 2016.

The industry's growth is also being reflected in the success of events such as the biannual Gulf Glass exhibition, which will next take place in Dubai in September 2015, after the 2013 show attracted more than 2,300 visitors over three days.

One of the most exciting developments within the regional glass industry has been the announcement in late 2013 by DI, the largest investment company listed on the Dubai Financial Market, of the launch of the "first-of-its-kind", coloured solar glass, which generates energy on its own. Emirates Insolaire, part of DI's wholly-owned subsidiary Glass LLC, will produce the solar glass at the Emirates Glass manufacturing facility in the UAE, which has been modified to adapt the new technology.

With the region at the forefront of glass innovation, and with a host of new deals in the pipeline, growth in the glass sector looks set to continue for the foreseeable future.

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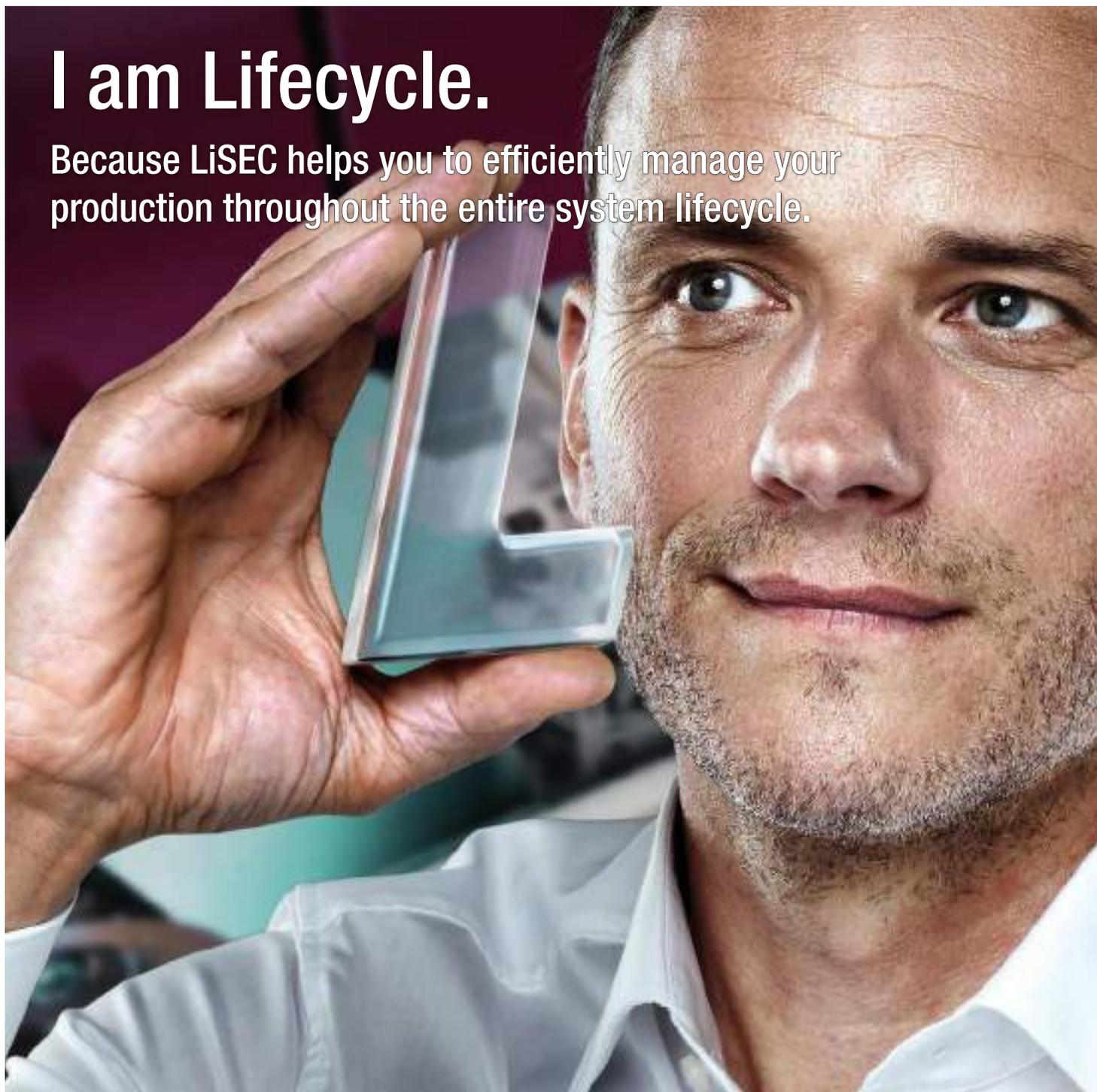
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SABIC's Technical Meeting set to return in November

THE 11TH ROUND of SABIC Technical Meeting (STM), under the patronage of Saudi Arabian Basic Industries Corporation (SABIC), will be held 3-5 November 2014 at the Multi Event Center in Jubail Industrial City, Saudi Arabia.

Organised by Al-Harithy Group's ACE Creative, STM is a specialised meeting where SABIC officials and researchers gather every other year to exchange technical knowledge and get acquainted with state-of-the-art technologies.

This year's exhibition is touted to be the largest exhibition in the Kingdom and one of the largest in the Middle East, with the theme 'Commitment to Reliability & Sustainability'. SABIC has invited companies from all over the world to present their latest products, services and technologies to SABIC decision makers and top professionals.

The three-day event includes a wide range of technical programmes like keynote speeches, workshops and paper sessions by experts from Saudi Arabia and other parts of the world.

An exhibition, also part of STM-11, has been drawing a growing number of participants over the years, the organisers said. The last



STM-10 had 310 exhibitors and 30,000 visitors. (Image source: ACE Creative)

exhibitor event attracted 310 participants from 23 countries.

STM has been attracting leading corporations such as GE, ABB, Siemens, Emerson, Schneider, Shell, Yokogawa, Emerson, Johnson Matthey, Honeywell, Hisaka, Endress & Hauser, 3M, BASF Corporation, HOERBIGER, GEA Group, V Line Group and many others who have participated consecutively in the last three events.

The sectors for STM-11 include petroleum, mineral resources and chemicals, industry and electricity, infrastructure and development, environment, agriculture and water, communications and electronics, education and training, health and safety, operations and maintenance, and transportation and shipping.

The STM has seen a notable growth in the number of speakers, visitors and exhibitors that has led to a demand for an increase in the exhibition space from 12,000 sqm to 20,000 sqm.

SABIC operates in 40 countries as the world's second largest diversified chemicals company.

LiSEC's base series to make its debut at glasstec 2014

Machine construction company LiSEC will be introducing a new product gamma at the glasstec 2014 trade show in Düsseldorf, Germany, to be held 21-24 October. The series — 'base' — includes lines and stand-alone machines for emerging markets, i.e. small to medium-sized companies and growing flat-glass processing businesses in high-growth markets.

Othmar Sailer, CEO of LiSEC Group, said, "LiSEC is very successful in the high-end segment. We now want to offer our technology and experience in other segments."

Besides two production lines (an insulating glass line and a cutting line), the base series from LiSEC also includes stand-alone systems like break-out tables, washing machines, assembly presses, bending machines, automatic butyl application machines, i.e. everything that is required to cut flat glass and process it into insulating glass.

Sailer added that products in the base gamma provide LiSEC quality at an affordable price. "Our goal is to grow with the customer and make our user know-how available to a larger market. The most critical aspect for us is that our customers are satisfied, and that includes all segments."

According to LiSEC, the machines in the



A cutting line of type 'base CUT' including loader and break-out table costs in the region of US\$157,300

base series distinguish themselves through their heavy duty design and easy operation and have been designed for easy installation. The entire series keeps in line with the core concept of economy. The spare parts are low-cost and service and maintenance work can usually be completed in-house.

According to the CEO, LiSEC is consciously introducing this product line under the LiSEC brand, because if it has the brand name written on it, a high price-performance ratio throughout the product's life cycle is guaranteed.

Sailer said, "These new base products are no exception. In terms of quality and performance, we're uncompromising; the additional claim 'engineered by LiSEC' makes this point clear."

Another important feature of the base product series is the fact that products and machines only feature basic functions in terms of automation. The machines cannot be upgraded. They possess their own performance features and the number of options available has been consciously limited.

Christian Krenn, management of sales at LiSEC for base, said, "The amortisation rate of these machines is very short, and depending on the situation we also offer attractive financing conditions. This will enable many growing companies to use the highest quality machines for the production of high-quality glass products from a very early stage, which will also enable them to achieve the maximum level of customer satisfaction."

The image features a pair of red-handled scissors cutting through a white ruler. The ruler is marked with numbers from 31 to 45. The background is a vibrant red with a soft-focus rose. In the top right corner, the OKI logo is displayed in red on a white background. In the top left corner, there is a QR code.

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The total length of the GCC Railway will be an estimated 2,177 km

Getting on the right track

An exclusive look at the current state of progress of the ongoing development of the Gulf Cooperation Council (GCC) Railway project, examining the drivers and the challenges behind current developments, the technology, the major actors and problems stakeholders face. Nicholas Newman reports.

FOOTBALL FANS ACROSS the Middle East have been asking whether it would be possible to take a train from the region's major cities, such as Kuwait City, Riyadh or Abu Dhabi, to see the World Cup in Qatar in 2022. The GCC planned regional rail network will link all six countries and has been scheduled for completion in 2018, but, according to Srinath Manda, programme manager – transportation & logistics practice, Middle East, North Africa and South Asia, for Frost and Sullivan, the project is still in the design stage for the overall route linking Kuwait to Muscat.

Each individual GCC member is currently planning or scheduling the execution of their individual country railway networks, which will form part of the GCC-wide rail network. Two member states, Saudi Arabia and the UAE, have started construction, but the Gulf Railway Authority, essential for the establishment of uniform standards and specifications such as track gauge, signalling systems and power source necessary for seamless cross-border traffic of freight and people, is not yet operational. (For a summary of the state of the project see Table 1).

Table 1: State of the GCC Rail Project – August 2014

GCC	Saudi Railway Organisation and Etihad Rail have announced the formation of a number of joint committees to help standardise protocols on the network.
Oman	Has announced three consultancy agreements relating to design of the route and has started the tendering process between Muscat and the border with the UAE.
Saudi Arabia	Has completed around 200 km of track and is completing the designs for the rest of its section of track.
UAE	Has completed the first phase of 266 km and trains are due to start commercial operations at the end of this year.

Sources: Saudi Railway Co, Etihad Rail, International Railway Journal, Roland Berger Strategy

The GCC Railway has been envisaged as a 1,940 km-long route, largely running in parallel to the east coast, from Kuwait in the north to Oman in the south. The railway will link Kuwait City in the north, Dammam in Saudi Arabia, Manama in Bahrain, Doha in Qatar, Abu Dhabi and Al Ain in the UAE and Muscat in Oman, carrying both passengers and freight, and costing at least US\$19bn to construct.

It is expected, air-conditioned diesel-powered passenger trains will run mostly during the day at speeds of up to 200kph, while mostly at night, container and bulk freight trains will run at 80-120kph, according to the Gulf Petrochemicals and Chemicals Association (GPCA) report, *Gulf Rail Connection: Realizing GCC Unity 2013*. Of the member states, only Saudi Arabia has any experience of operating a railway line. Its 695 km section of the GCC rail project forms a part of its ambitious US\$97bn master plan to connect all of its major industrial and population centres by 2040.

The GCC Railway will have an estimated total length of 2,177 km, including about 180 km of rail track of connecting lines to traffic-generating facilities and other transport facilities, such as ports, airports and industrial parks. (Each participating country's designated track length together with the operating company is outlined in Table 2).

Table 2: GCC Rail Project – share of member states

	Operating Company	Rail track length (km)	Percentage of network
Kuwait	Kuwait National Rail Road	145	6.7
Saudi Arabia	Saudi Railway Co	695	31.9
Bahrain	Bahrain's Ministry of Transport	64	2.9
Qatar	Qatar Rail	283	13.0
United Arab Emirates	Etihad Rail	684	31.4
Oman	Oman Railway Company	306	14.1
Total		2,177	100.0

Source: Gulf Petrochemicals and Chemicals Association 2013

Route benefits

The GCC-wide rail network will drive regional economic growth by creating a fast, environmentally-friendly and relatively cheap means of transporting goods and people throughout the region as noted by Dr Abdulwahab Al-Sadoun, GPCA secretary general in April 2014.

"An integrated railway network is an important catalyst in driving increased economic integration between GCC countries as it fosters the region's development agenda." Etihad Rail has already designated two trains to move 22,000 tonnes of sulphur a day enabling the UAE to become one of the world's biggest sulphur exporters and simultaneously helping it to diversify from its primary export, oil.

Similarly, Helmut Scholze, the Dubai-based principal of Roland Berger Strategy Consultants, said, "The new rail connections are

"The new rail connections are likely to turn Oman into a key freight gateway for the Gulf region and beyond"

- Helmut Scholze, principal of Roland Berger Strategy Consultants

likely to turn Oman into a key freight gateway for the Gulf region and beyond, due to the development of its new ports and its favourable geostrategic positioning for shipping routes."

There are also significant environmental and cost benefits. Trains use 60-80 per cent less energy and are 30 per cent cheaper than road transport reports MEED Insight's *MENA Rail and Metro Projects 2014*. Additionally, this train network should significantly relieve car and truck road congestion along highways, within urban areas and at border crossings, as all GCC states enter an ambitious phase of rapid economic development requiring huge quantities of goods and materials to be transported. Railways would be a demonstrably more effective means of transportation since a single freight train can carry more than 400 lorry loads, which is equivalent to a line of 1,000 cars, according to Etihad Rail. Last, but not least, there should be a security benefit since the new rail network, together with Saudi Arabian plans to build a line to Red Sea port of Jeddah, will help bypass any disruption in the Straits of Hormuz.

An estimate by the Saudi Rail Company of the impact of the GCC rail project on passenger traffic forecasts a net increase in passenger travel attributable to the train and a significant reduction in passenger numbers travelling by car, bus and plane as Table 3 below shows.

Table 3: Impact of completed GCC Rail Project on traffic by mode (Unit: 1,000 passengers)

	Train	Car	Bus	Plane	Total
Before the Operation of Gulf railway network	0	28.820	1.106	13.034	42.960
In the beginning of the Operation of Gulf railway network	3.308	27.425	989	11.670	43.392

Source: Saudi Railway Company 2014



Saudi Arabia and the UAE have already started construction of their domestic rail network, but much work still remains if a region-wide rail network is to exist in the GCC

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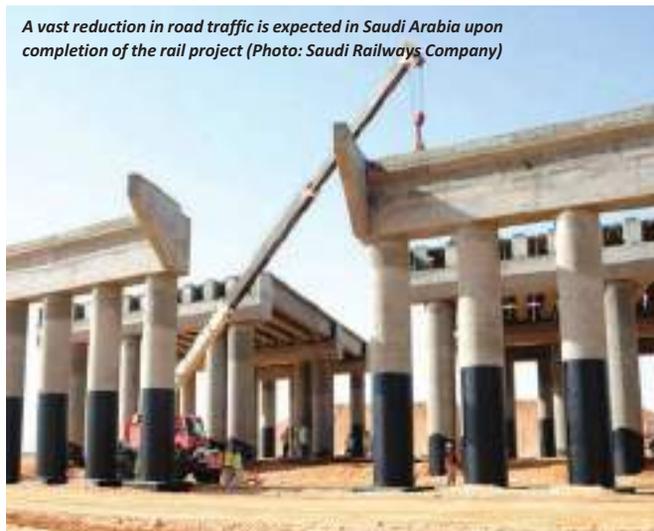
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Construction on rail networks in Saudi Arabia and the UAE are already well under way (Photo: Saudi Railways Company)



A vast reduction in road traffic is expected in Saudi Arabia upon completion of the rail project (Photo: Saudi Railways Company)



Engines and infrastructure

It is likely that all partner railways will initially employ diesel-electric locomotives owing to the current ultra-low price of diesel in the region, the unreliability of electric power supply networks and the wish to operate double stack container freight trains along the existing SRO Riyadh-Damman port corridor, which links Saudi Arabia's largest port with its capital city. Saudi Railways Organisation (SRO) and the UAE's Etihad Railways have announced orders for SD70ACS locomotives at a cost of at least US\$2mn each from the US firm Electro-Motive Diesel (EMD), EMD reported in June 2014. These locomotives are powered by EMD 710-T1 engines, are equipped for the European Train Control System (ETCS) and feature pulse filtration systems and movable sand ploughs, ideal for operating in harsh desert conditions.

Project problems

Building the GCC rail project requires overcoming geological and fiscal challenges, as well as coordinating among six countries. One of the biggest challenges faced by train operators is the region's desert conditions of shifting sand dunes and extreme temperatures.

To cope with shifting sands, engineers from Etihad Rail are looking at Chinese soil stabilisation plant techniques, which can turn sand dunes to clay over 20 to 30 years and Saudi Arabia's locomotives are being equipped with sand-sucking locomotives that push sand

particles away from the engine. This capital-intensive project may need significant support from governments. It is unlikely that passenger services will make a profit, leaving them dependent upon government subsidies or cross subsidies from the profits earned from freight transportation, Scholze notes. Governments are looking at private-public partnerships and project bonds.

The hitherto domination of pipelines to transport oil and gas diminishes returns from investments in rail, notes a 2013 Frost & Sullivan report, *Strategic Insight on the Development of Rail Projects in the Middle East and North Africa*. In consequence, project planners are considering allowing private sector companies to operate trains as is customary in Europe. Already, the Saudi Railway Organisation, the country's regulator, has invited expressions of interest for a concession to maintain and operate its North-South Railway. An alternative is to raise a loan. Nevertheless, perhaps the key challenge faced by the GCC countries "is the lack of coherence between needs, expectations, country-level plans, and expected schedules of implementation for every country individually", says Srinath Manda.

As for the more distant future, there are ambitious plans to extend the rail system into Yemen in the South and Iraq and Jordan in the north, and, ultimately, to connect into the railway networks that link Central Asia with Europe and China. Now, however, appears not the time considering the current security situation. ■



The length of the UAE's Etihad Rail network will reach 684 km (Photo: Etihad Rail)



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Data security: what lies ahead?

Marwan Zalloum, distributor of iStorage secure storage products in Kuwait and managing partner of Panorama Consulting and Business Solutions, explores the data security solutions of the future and their anticipated application in the Middle East.

THE DIVERSE ECONOMIC structure of the Middle East is well-documented, in particular the high dependence of Gulf and North African economies on oil and gas and the exponential growth of Dubai and other Middle Eastern cities' economies via the services industry. The ongoing growth of these economies is now becoming increasingly reliant on the successful implementation of robust data security solutions that guard against global cybersecurity threats and the highly damaging data loss of business-critical information.

Numerous information security breaches and compromises have taken place in the Middle East over the past few years, which have targeted governments, petrochemical and financial institutions. Recently, the Central Bank of the UAE asked a number of banks operating in the country to block the usage of a significant number of debit cards on the suspicion of potential data compromise. A greater emphasis on information security is now emerging, with many organisations investing in enterprise security programs and the latest security solutions.

Greater levels of data security governance anticipated

Earlier this year in Dubai, analyst house Gartner forecast that IT infrastructure spending, comprising storage, server, and enterprise networking equipment in the Middle East and Africa, would reach US\$3.47bn by the end of 2014, a 4.1 per cent increase from 2013. Security and mobility were both referenced as primary drivers for infrastructure spend in the Gulf region.

The threat of being compromised is leading to Middle Eastern governments and enterprises becoming increasingly aware of the need to have clear security governance models in place. Such a realisation requires both the application of international standards, as well as the enforcement of enabling technologies that can assure the proper application of data control by offering both protection and peace of mind.

Some governments have already applied international security standards and have Information Secure Awareness (ISA) committees in place, as well as local customised versions of ISO 27001, for example, the Abu Dhabi Government (ADSIC V2) Security Standard. This standard states that "sensitive information systems should be sited in dedicated (isolated) physical computing environment, demarcated from other computing environments. The level of access control to this area should be restricted to only those personnel with a verified need for access".

Increasingly, organisations are accepting the need to securely exchange, store and access data within their environment without compromising security standards or leaking information. There has been an increased uptake in data leakage prevention



Firms across the region have been heightening their integrated security solutions in order to protect essential data

solutions, with many governments and organisations in the Middle East adopting ISO 27001 certification as part of their overall enterprise security strategy. This provides the assurance that information is not being leaked accidentally by enabling authorised end-point control on employees' devices as well as equipping them with high encryption devices to transfer their corporate data safely.

A growing emphasis on data security in the Middle East

The Middle East has traditionally been a region that prides itself on its progressive attitude towards new technology. With a historically strong interest in the latest technologies and new approaches, the region has become synonymous with the early adoption of technology.

Against this backdrop, the demand for ultra-secure portable storage devices is growing and this is being driven by a cultural preference to keep data secure. Encrypted USB flash drives for personal use are now sought after, and it is anticipated that the number of professionals and organisations prioritising the adoption of rigorous security processes will increase.

Data mobility is arguably the most important security factor that needs to be addressed in the Middle East, with the commonplace use of unsecure USBs for the transference of data and with growing levels of adoption of private cloud usage by firms. The application of integrated security solutions looks set to become increasingly important to ensure that firms are compliant and meeting rigorous international ISO 27001 standards.

In the face of growing international cybersecurity concerns, organisations that endeavour to minimise data leakage through the accidental loss of sensitive information are set to benefit from highly-secure, encrypted devices through the ability to directly control who has access to data and how this is shared. ■

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Cummins acts to reduce emissions

Engine and generator manufacturer Cummins has adopted a comprehensive plan to reduce its environmental footprint by setting measurable targets on its energy and water usage.

CUMMINS HAS BEEN at the forefront of delivering innovation, and customer and shareholder value, by focusing on sustainable products and business practices. The company attempts to do this through what it says is “living its values and focusing on people, products and practices”.

Cummins focuses on leveraging its people to strengthen the communities in which we live, reducing emissions with innovative products and setting goals to protect natural resources by focusing on best practices and process improvements. “Demanding that everything we do leads to a cleaner, healthier, safer environment” has been a cornerstone of the company’s mission statement for more than a decade.

In 2014, for the seventh consecutive year, Cummins was named one of the world’s most ethical companies by Ethisphere Institute, marking its continued commitment to ethical leadership, compliance practices, and corporate responsibility.

Achieving sustainability through its people

After nearly two years of study, Cummins recently adopted a comprehensive plan to reduce the company’s environmental footprint. The plan addresses everything from manufacturing operations to the operation of the engines and generators it produces. The company has been working hard to reduce its environmental footprint for many years, with a special focus over the last decade on waste, water, and energy.

Cummins claims to manufacture the cleanest engines and generators within the industry and has been engaged with communities on environmental issues through programmes such as Environmental Challenge. Environmental Challenge is a Cummins Corporate Responsibility initiative wherein more than 200 Community



Cummins has adopted a comprehensive plan to reduce its environmental footprint

Involvement Teams from around the world compete to have their projects chosen as one of the 15 best environmental efforts of the year. In 2013, through hundreds of projects, more than 11,000 employees invested more than 60,000 hours to reduce 19,000 tons of greenhouse gas (GHG), more than four times the reduction achieved in the previous year’s effort.

Demanding a cleaner environment

An overwhelming majority of Cummins’ environmental footprint is created by the end use of its products. Cummins has created a plan that commits the company to working collaboratively with a number of stakeholders to make a positive environmental impact, while delivering economic value to its customers.

“With millions of engines and generators in service, and customers in 190 countries and territories, there’s no question in my mind that Cummins has the global reach to make a positive impact on the environment,” said chairman and chief executive officer Tom Linebarger.

The work behind the Cummins Connect series of generators is an example of greater design efficiency and sustainability. Technical advances in engine speeds combined with the use of turbochargers and other developments enabled engineers to use the same basic engine platform to

design 12 different variations of the standby generators, producing 20kW to 60kW of power.

The concept ‘Super Truck’ is another example of sustainability achieved through innovation. In February 2014, the President of the United States praised the concept ‘Super Truck’ developed by Cummins and the Peterbilt Motors Company, which during testing under real world conditions, achieved a 75 per cent increase in fuel efficiency as compared to a typical truck on the road today. In 2013, Cummins introduced more than 70 new products or product updates around the world, many improving emissions and fuel efficiency or both.

Setting examples through practices and processes

Around the world, Cummins has been leading by example when it comes to emission standards by helping regulatory bodies to challenge the norms, standards, and art of the possible. Cummins helped develop the first GHG emission regulations for commercial trucks in the USA and was the first company to have an engine certified to meet those regulations, which went into effect in 2014. Cummins focuses its practices on three main areas – compliance, pollution prevention, and resource conservation. ■



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FG Wilson launches F model range

FG Wilson has strengthened its position as a leading global manufacturer of diesel and gas generator sets with the launch of its new F model range.

THE 32–125KVA RANGE of generator sets from FG Wilson complements the manufacturer's existing product ranges and has been designed to provide a more diverse and competitive product offering across multiple customer segments such as domestic, retail and industrial.

The launch of the new product range comes at a time when FG Wilson's Asia Power Systems (APS) facility in Tianjin, China, celebrates five years in operation after being established in 2009 in order to meet growing production requirements.

Highlighting FG Wilson's policy of continued investment in its world-class manufacturing facilities across the globe, the APS plant in China is one of the main source plants for the recently-opened Product Distribution Centre (PDC), located at Zeebrugge, Belgium.

The facility has also achieved a series of acclaimed industry accreditations recently - including LEED Gold (Leadership in Energy and Environmental Design), MQ 12005 Gold, ISO 9001 and ISO 14001 certifications.

With manufacturing plants located in the UK, Brazil, China, India and the USA, FG Wilson's 'One Global Standard' guarantee has acted to ensure that every one of its generator sets has been designed to the same



Workers assembling generator sets from the 32–125kVA range

global standard, with the 'One Global Standard' principle applied to the new F model range.

An exclusive feature of the new range is the introduction of the FG Wilson engines to the generator set core design. Coupled with robust components, the F models deliver a high-quality, ready-to-run product that meets industry standards for the value-utility market.

FG Wilson general manager Stephen McKinty said, "This product range delivers, as always, performance, serviceability and durability with a FG Wilson engine and a simplified choice of options,"

He added, "This will allow us to compete in new markets and broaden our customer base. Such new product introductions are part of Caterpillar's strategic plans to position FG Wilson as the volume brand within its Electric



FG Wilson has more than 370 authorised dealers in more than 150 countries

Power Division for all diesel and gas generator sets from 6.8–750kVA.

"Our ability to continually evolve our products to meet the ever-changing needs of customers, in a market that is more competitive than ever, has been key to FG Wilson retaining its global leadership position in power generation," he added.

Available in non-emissions compliant variants, suitable for non-regulated markets and non-mobile applications within Europe, the 32–125kVA range is now available to order.

FG Wilson, a global brand with 48 years of industry-leading experience in the supply of diesel and gas generator sets from 6.8–2,500kVA, has more than 370 authorised dealers in more than 150 countries provide global expertise, with local advice and support. ■

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Plant produces 20,000th Bobcat telehandler

A T40180 model became the landmark 20,000th Bobcat telehandler to be manufactured at Doosan's Pontchâteau plant in France.

DOOSAN'S PONTCHÂTEAU PLANT, located in the French town of Loire Atlantique, has manufactured its 20,000th Bobcat telehandler. The plant produces all Bobcat telehandlers for the world market, with telehandler design, development, production and sales organisations all based at the plant.

Telehandler products manager Xavier Larroque and Pontchâteau plant manager Laurent Gicquel joined the site's 200-strong workforce at an official ceremony to mark the landmark. Larroque and Gicquel then presented the keys of the 20,000th machine to roll off the production line – a Bobcat T40180 model – to the machine's purchaser, the Manuco dealership.

The ceremony gave Bobcat the opportunity to highlight the role of Pontchâteau plant in the company's successes.

Gicquel remarked, "We foresee growth of around 15 per cent in sales and 17 per cent in turnover this year compared to 2013. This growth is largely due to good results from the agricultural sector, which represents some 49 per cent of Bobcat telehandler sales. The remaining 51 per cent of our



(Left to right) Laurent Gicquel, Mickael Coutard and Michel Coutard of Manuco, Benoit Pion, Bobcat District Manager, Northern France and Xavier Larroque



The 20,000th Bobcat telehandler to come off the Pontchâteau production line

sales come from the rental and construction sectors and general industry."

To underline the optimism felt by Bobcat management, various investments have been planned for the Pontchâteau site in 2014 to boost production and take advantage of the strong demand for Bobcat's French-made telehandlers.

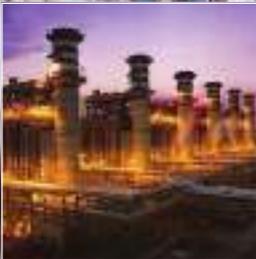
Larroque noted, "80 per cent of our production is exported. Apart from France, we have a strong presence in Eastern Europe, Germany and the Middle East."

The Pontchâteau site currently produces 12 different Bobcat telehandler models,

with lifting heights from five to 18 metres; a new generation of machines is, however, being introduced continuing the trend set by the TL360 and TL470 models with Stage IIIB engines and the top-of-the-range T40140 and T40180 construction industry models launched last year.

Since Bobcat acquired Pontchâteau from Sambron, the plant has gone on to celebrate its 50th anniversary in 2013 and is a model of industrial evolution, driven by what the company termed "a passion for its products and continuous investment in its workforce". ■

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GCC infrastructure spend set to leap

Increased infrastructure spend throughout the GCC region will give a timely boost to construction firms ahead of the return of Middle East Concrete and PMV Live in November 2014.

INFRASTRUCTURE PROJECT AWARDS across the GCC, fuelled by expenditure on rail projects, have been forecast to exceed US\$86bn in 2014, representing an increase of 77.8 per cent on 2013 figures.

Figures released by construction intelligence firm Ventures Onsite have shown a dramatic increase in contract awards across the region in every country except Saudi Arabia. According to Ventures, infrastructure projects make up 16 per cent of the total construction value of all GCC projects.

The report revealed that Qatar was set to award projects worth a total of US\$26.2bn in 2014, compared with just US\$9.4bn in 2013, while Kuwait has been estimated to award contracts in the region of US\$3.45bn in 2014, close to 10 times the amount it awarded in 2013.

Contracts totalling more than US\$15bn will be awarded in the UAE in 2014, representing more than five times the amount awarded in 2013, while infrastructure awards in Oman will grow by US\$5.5bn on 2013 figures with a total value of US\$7.4bn in 2014. In Bahrain, meanwhile, a huge jump in infrastructure contracts is expected, with the figure rising from US\$382mn in 2013 to US\$3.4bn in 2014.

The figures were released by Ventures Onsite, the intelligence partner for Middle East Concrete and PMV Live exhibitions, which will run alongside The Big 5 international building and construction show set to take place in Dubai in November 2014.

Table 1: Estimated value of awarded infrastructure projects (US\$m) in GCC countries 2014, compared with 2013

Year	Qatar	KSA	UAE	Bahrain	Oman	Kuwait
2013	9,426	33,609	2,939	78	1,922	382
2014	26,258	29,387	15,184	4,360	7,375	3,451

While Saudi Arabia's forecasted awards remain the highest in the region at US\$29.34bn for 2014, it has decreased year on year from last year's total awards of US\$33.6bn, which included the US\$22.5bn Riyadh Metro project. Ventures has estimated that the rail sector is worth in the region of US\$200bn, with the six member countries aiming to construct an integrated GCC-wide network by 2018.

Infrastructure will be a key focus for seminar sessions at this year's Middle East Concrete and PMV Live exhibitions. During the first day of the events there will be a panel session entitled 'Market update and future forecast of the Middle East's infrastructure sector', which will look at the key issues the region has to overcome.

Panellist Paul Groves, head of tunnelling and ground engineering with Atkins, will also present a case study on a metro project. Atkins is among the leading rail sector consultancies in the Middle East and has recently set up a centre of rail excellence. The UK-based firm has



Ventures has estimated that the rail sector is worth in the region of US\$200bn (Photo: Saudi Railways Company)

been involved in a number of major rail and metro projects in the UAE, Saudi Arabia and Qatar, having first developed its team to provide multi-disciplinary design and management of the civil works on Dubai Metro seven years ago.

Atkins director of planning and infrastructure Dr Ghassan Ziadat said, "Existing roads are already over capacity, to the point where congestion is having an impact on the local economy and quality of life for residents."

Feras Shadid, a rail assurance and asset management consultant who will also be a panellist at the infrastructure seminar on the first day of the exhibitions, said that it was not simply about cutting congestion and improving freight transport links, noting that the railway network would create new jobs and bring environmental benefits to the region.

Table 2: Total value of GCC infrastructure projects (in various stages) by country, August 2014

Country	Qatar	KSA	UAE	Bahrain	Oman	Kuwait
Value in US\$m	103,022	163,022	95,121	14,270	32,121	32,871

"Rail networks create a more sustainable society that is not dependent on one mode of transport for passengers and goods," said Shadid. "Also the environmental advantages of using railways have been documented extensively, and the rail projects will create a range of employment opportunities including high-tech engineering positions."

PMV Live and Middle East Concrete will take place at the Dubai World Trade Centre from 17-20 November 2014. ■

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Building business in Kuwait

With Big 5 Kuwait set to get underway at Kuwait International Fair on 22-24 September 2014, we speak to group event director Andy White about his plans and hopes for the show, as it return for its second edition.

Technical Review ME: How can The Big 5 Kuwait benefit those attending this year's event?

Andy White: This year's edition of The Big 5 Kuwait will offer several free education features such as The Big 5 Kuwait FM Congress, which will offer an informative insight into Kuwait's facilities management sector and will include case studies on Sabah Al Salem University (Kuwait University City), Jaber Al Ahmed Al Sabah Hospital, Misherf Pumping Station and many more. Additionally, a Round Table Zone will offer an interactive platform for visitors and industry experts to debate on topics related to Kuwait's construction sector. The show is also launching a new Interiors Product Zone where visitors will be able to source products including bathrooms, kitchens and sanitaryware, marble, ceramic and stone, building services, and landscaping products and services.



Andy White, group event director, The Big 5



The Big 5 Kuwait will return following its first edition in 2013

Technical Review ME: What projects in Kuwait have you been most impressed by and what role will they play in boosting the country's economy?

Andy White: Many key projects are currently in progress in Kuwait, with two of the most impressive being the Kuwait Metro project and the Kuwait International Airport development projects. The Kuwait Metro will span more than 160 km with its three lines and 69 stations, while the Kuwait International Airport redevelopment project will see the construction of a new terminal complex, renovation of airport buildings, and enhancement of other facilities, such as fire stations, rescue centres and service roads.

Technical Review ME: What can we expect in terms of the profile of exhibitors and visitors to this year's exhibitors?

Andy White: We are looking forward to the participation of around 300 exhibitors from more than 20 countries, including Kuwait, Italy and Germany. Our visitors will include architects, engineers, project managers, consultants, contractors and those involved in the procurement process. Last year we had seven out of the top 10 'clients-by-

work-under-construction' attend, including the Kuwait Oil Company, the Kuwait Ministry of Public Works and the Kuwait Public Authority for Housing Welfare.

Technical Review ME: What can delegates and participants expect from attending the Round Table Zone and FM Congress at this year's event?

Andy White: The Round Table Zone will offer an interactive platform, as industry experts debate on relevant topics related to Kuwait's construction sector such as 'What building standards and regulation in the region should be applicable to the Kuwait construction market' and 'What factors need to be considered when planning and scheduling construction projects'. The participants will get networking opportunities while getting an in-depth analysis about challenges and opportunities in a 45-minute debate followed by a Q&A session.

During the show, the supporting FM congress will be held under three key themes – 'Market Outlook on the Region's Facilities Market', 'Increasing Building Performance through FM' and 'Innovations and Technologies for FM', along with several case studies. ■



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Plastics, petrochemicals, printing and packaging industries gather in Saudi Arabia

Dhahran Exhibition Center in the Saudi Arabian city of Dammam will host the launch event of 4P Arabia from 16-18 September 2014 for plastic, petrochemical, print and packaging sectors.

The combined three-day exhibition and conference, sponsored by Saudi Aramco and the Royal Commission for Jubail and Yanbu, will aid networking for these sectors in the Kingdom.

Split into two events, Plastics & Petrochem Arabia features an exhibition and a conference, while Print & Packaging Arabia will debut in the region.

More than 35 senior speakers, including director of Chemicals Growth Projects department at Saudi Aramco, director of Value Parks department at Sadara Chemical Company and executive director at the Higher Institute for Plastics Fabrication will attend Plastics & Petrochem Arabia conference this year.

Featuring international organisations in

plastics and petrochemicals, including Saudi Aramco, Royal Commission for Jubail & Yanbu, FAAB Industries, Hel Ltd, Chemanol, Middle East Plastic Industries & RePall Plastic Pallets, for the first time in the Eastern Province of Saudi Arabia, the Printing & Packaging sector will exhibit inside the exhibition, focusing on innovations and new technologies.

Worth US\$800mn and US\$5.33bn respectively, the Kingdom's printing and packaging sectors have substantially benefitted from rising population levels, the organisers said.

International suppliers of the latest print and packaging solutions include ALSanad Trading Est – Muller Martini, Ampacet Europe SA, El-Ajou – Canon, Graphis Pre-Press, GS Packaging, Labo Print SA, Lanca Equipment Maintenance, OKI Europe Ltd – Al Eqteessad Holding Co & Sunpack Brand Packaging Est.

Alain Marhic, managing director of BME



Spanning over 10,000 sq m of exhibition space and co-located with Plastics & Petrochem Arabia, Print & Packaging Arabia will gather all the key industry players of the two sectors under one roof

Global and co-organiser of the exhibition said, "It is the first time the Eastern Province will see a show dedicated to these industries, where so many businesses require new ideas, fresh suppliers and sustainable technologies to serve their business needs."

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Balkrishna Industries Limited holds tire seminar in Qatar

BALKRISHNA INDUSTRIES LIMITED (BKT), manufacturers of 'off-highway' tires, and Almuftah Tyres and Lubricants Division conducted a technical seminar in June 2014 at the Radisson Blu Hotel in Doha, Qatar.

Chaired by Ibrahim Almuftah, managing director of the Almuftah Group, and Anshul Samant, senior export manager of BKT, the seminar was attended by senior delegates and clients in Qatar.

BKT showcased their OTR radial range under the sub-brand of EARTHMAX. These are premium earth moving tires, which deliver high performance with superior value.

BKT's OTR radial programme has focused on future growth and new sizes will be developed in ultra-large OTR segment, which will further enhance their massive product range, the company said. The association in Qatar with Almuftah is strategic and the focus is on upcoming major activities in the construction segment.

Mostafa Afyouni, assistant workshop manager, said, "BKT tires are an excellent quality brand with a competitive price and it covers the whole range of OTR tires. This seminar gave us a closer look on BKT tires range, especially on the Radial OTR."

According to the company, over the years, BKT has emerged as a global leader in the 'off-highway' tire segment. BKT is reportedly the largest exporter of tires from India, exporting to 130 countries around the world. The vision is to achieve 10 per cent of the world market share in off-highway by 2015 and US\$2bn in sales revenue by 2020.

Terming itself as a 'one stop shop' for 'off-highway' tire requirements, BKT has a vast range of more than 2,300 SKUs. Every year, BKT



BKT now plans to schedule regular market visits with Almuftah to facilitate better customer service

introduces over 150 new SKUs to its range.

The company said that its new state-of-the-art plant at Bhuj is a massive investment of over US\$500mn. The new facility is spread over 300 acres, which will include a huge testing track for their range of tires.

BKT now plans to schedule regular market visits with Almuftah to facilitate better customer service. The radial OTR range has already generated great interest with the end users. The performance has led to increased product demand from Qatari market.

Case IH launches new websites for Middle East and Africa

THE UPGRADED VERSION of the Case IH websites offers an easy-to-navigate interface and has improved content for Middle East and Africa.

The new Case IH websites for Africa and the Middle East went live in July 2014, offering comprehensive information about the brand's full range of products and services available to farmers in these regions. The new overhauled website presents a fresh, user-friendly interface.

The variety of materials on the site is offered in different formats, exploiting the possibilities offered by the digital medium. For instance, brochures on all the products can be browsed with Flip Viewer as well as being available for downloading. Direct links to the YouTube channels Case IH Africa and Case IH Middle East make it easy to access videos on the latest Case IH news and products in the region.

The Media Centre section only contains material specific to Africa and the Middle East. The 'About Case IH' section has also been expanded with informative material, which includes a page dedicated to plant tours of the brand's manufacturing sites, an informative history of Case IH and the brand's vision.

Customers of Case IH can purchase branded merchandising and work wear in the 'FanShop', the online store.

In the 'Contact Us' section visitors to the site can be put directly in touch with Case IH's Customer Care team, who will promptly take care of replying to queries or resolving any issues raised.

The URL of the two websites are as follows:

Case IH Middle East: www.caseih.com/middleeast

Case IH Africa: www.caseih.com/africa

Atlas Copco and Gesan join hands to expand Predictable Power offerings

ATLAS COPCO AND industrial generator brand Gesan have announced a collaboration to provide 'Predictable Power' solutions to a wider range of industries, such as construction, rental, mining, oil and gas, healthcare, data centres, telecom, manufacturing, government, and transportation. The company will offer industry-specific products through a network of expert dealers.



Gesan is a dedicated Atlas Copco product line since 2011, according to company sources

Ben van Hove, vice-president, Marketing Portable Power with Atlas Copco Portable Energy, said, "Atlas Copco is a strong, global brand and Gesan has a reputation for delivering quality industrial power solutions."

The Gesan line generators will have their own design in line with the Atlas Copco product branding. Unit names will follow the Atlas Copco naming standards, with all existing Gesan products to be renamed by the end of 2014, the company said.

With this alliance, Atlas Copco will operate a dual market approach. The generators for industries such as oil and gas, construction, mining, and rental will continue to be sold through the Atlas Copco customer centres. Atlas Copco Gesan solutions will be distributed via a dealer network that will cover segments such as healthcare, data centres, telecom, manufacturing, government, and transportation.



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Emerson Process Management enhances device to optimise O2 levels in flue gas

EMERSON PROCESS MANAGEMENT has enhanced the Rosemount Analytical 6888 In Site flue gas O2 analyser with new diagnostics, which help maintain optimum levels of oxygen in flue gas.

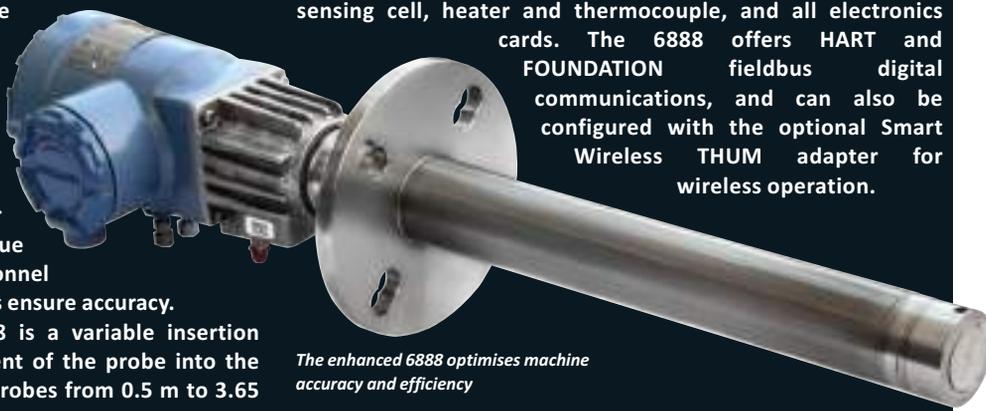
Optimising O2 levels in flue gas helps maintain combustion efficiency of large boilers and industrial furnaces at an ideal level. The 6888 enhancements decrease machine maintenance and improve measurement accuracy, stated officials from Emerson.

According to the company, the 6888 incorporates a “calibration recommended” diagnostic with gas-switching solenoids embedded within the probe electronics, making automatic calibration easier than ever, and maintaining the best accuracy possible. The embedded diagnostic reduces the cost of providing and installing a separate solenoid box, and also reduces the effort to wire and pipe between the probe and electronics, decreasing man-hour requirements. Additionally, the calibration recommended diagnostic removes the need to conduct calibrations on a schedule, eliminating many validations. The new analyser also includes a ‘plugged diffuser/filter’ diagnostic for applications that have fly ash or other particulate entrained in the flue gases, which further reduces personnel time and maintenance as well as helps ensure accuracy.

Another new feature of the 6888 is a variable insertion option, which permits ideal placement of the probe into the flue gas duct. With standard length probes from 0.5 m to 3.65

m in horizontal or vertical installation, the probe can be adjusted at any time online to characterise stratification across large ducts.

Doug Simmer, combustion analyser worldwide product manager for Emerson Process Management, said, “The new 6888 has raised the bar on flue gas analyser operation while maintaining exceptional economy for our customers. In today’s industrial applications, where budgets are tight and personnel time limited, the 6888 provides essential analysis of combustion efficiency, while significantly reducing maintenance time and the cost of unnecessary calibrations – all in an affordable analyser with great accuracy. This improved accuracy not only provides better combustion efficiency, but can also minimise the production of greenhouse gases such as CO2, and of thermal NOx.” Easy to use and integrate, the 6888 is fully field-repairable. All active components can be replaced, including the diffuser and filter, sensing cell, heater and thermocouple, and all electronics cards. The 6888 offers HART and FOUNDATION fieldbus digital communications, and can also be configured with the optional Smart Wireless THUM adapter for wireless operation.



The enhanced 6888 optimises machine accuracy and efficiency

Yokogawa launches energy performance analytics software

YOKOGAWA ELECTRIC CORPORATION has launched the Energy Performance Analytics (EP-Analytics) software tool that uses energy performance indicators (EnPI) to track energy being consumed in a plant

The tool identifies gaps between EnPI targets and actual performance, and helps identify countermeasures to improve energy performance.

The EP-Analytics software is powered by the Visual MESA™ energy management and optimisation solution, stated officials from Yokogawa. The EP-Analytics plant energy performance visualisation software is based on Yokogawa’s know-how in production processes and operations.

Kim Hock Teo, head of the solutions service business headquarters’ advanced solutions business division, said, “Energy regulations are becoming stringent and this is driving up energy costs. It is clear that our customers are looking for ways to make more effective use of sensors and controllers to improve their energy performance.”

The device has a rigorous calculation engine, which uses first principle modeling to precisely calculate how much energy is being consumed by turbines, boilers, and other plant systems and equipment. It also calculates the mass balance of the steam and other forms of energy that are supplied to the production processes, and thus can quantify energy losses and other imbalances in the overall system.



The new software helps track energy usage and save costs

EP-Analytics software supports ISO50001 methodologies such as the plan-do-check-act (PDCA) cycle as well as activities such as management reviews. The British Standards Institution (BSI) has assessed the EP-Analytics software scope and functionality with regard to the key requirements of the ISO50001:2011E standard. BSI confirms that it is faithfully represented in a Yokogawa report elaborating the functionalities of EP-Analytics that it can be used to reliably visualise data and achieve conformity with ISO50001:2011E.

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Section One: International and regional suppliers of Gensets

Section Two: Contact details of Middle East agents & subsidiaries listed by country, page 81

Section One: Suppliers of Equipment and Services

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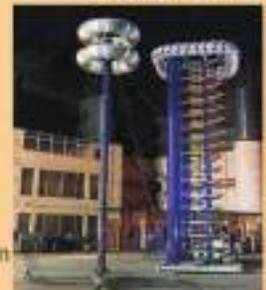
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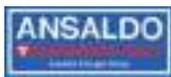
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Mahindra Group, US 16.5 bn dollar empire, tractor & multi-utility vehicles major in India forayed into the field of power generation in 2002. Today, Mahindra engines with the brand name Mahindra Powerol are powering over 270,000 diesel generating sets in India & in global markets ranging from 5KVA to 500KVA.

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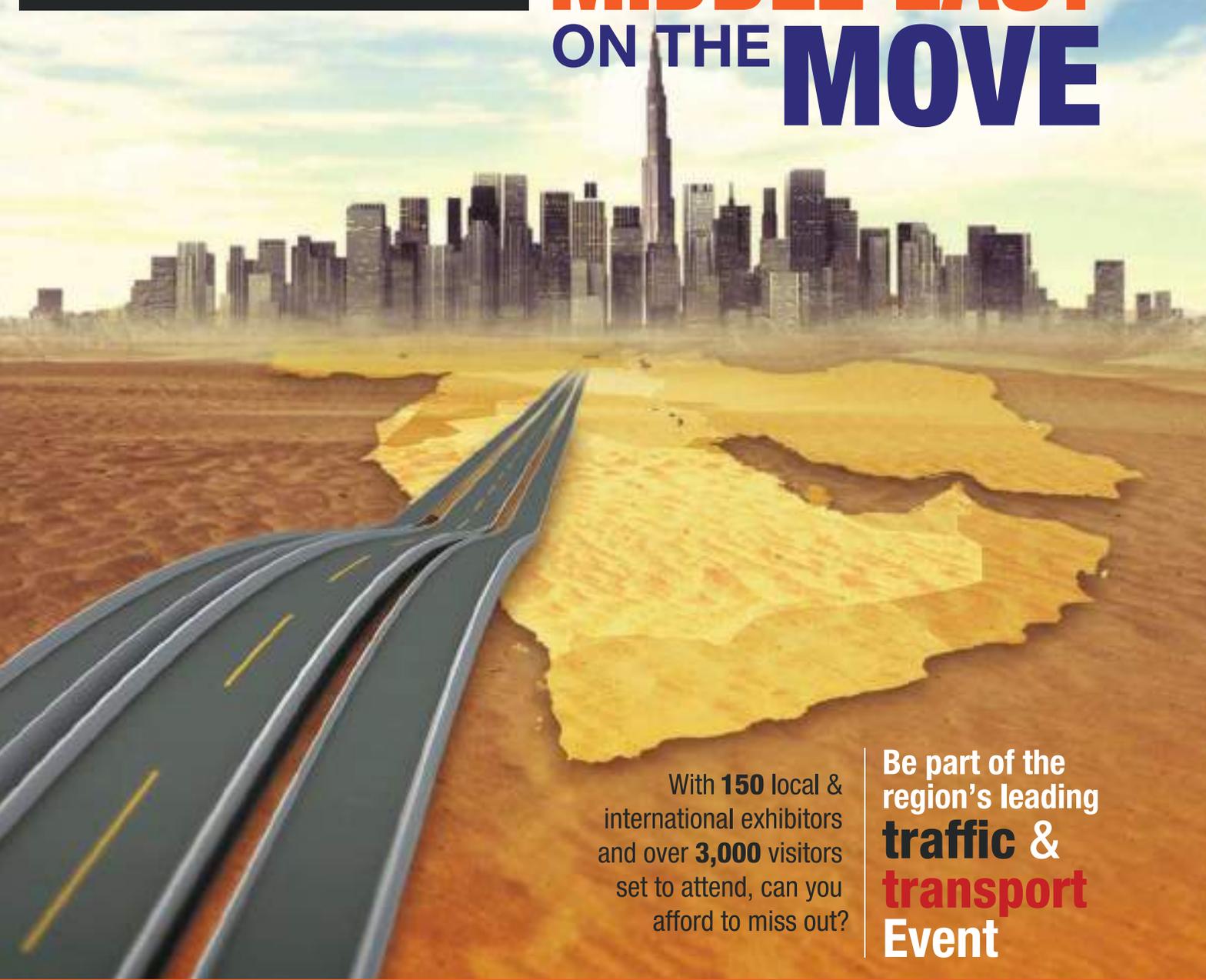
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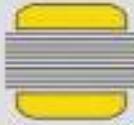
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EXHIBITOR LISTINGS



COMPANY NAME	STAND NUMBER	COUNTRY	COMPANY NAME	STAND NUMBER	COUNTRY
Abloy Oy	6 F56	Kuwait	CYBER CERAMICS	6 G48	India
ACICO Industries Co.	6 A64	Kuwait	Cyber International General Trading Co.	6 D10	Kuwait
ACO Group	6 D36	UAE	Dahan	6 E51	Kuwait
Ahlia Chemicals Company, Kuwait	6 A50	Kuwait	DC MACCHINE SRL	6 C36	Italy
Ajal International Contracting for Decoration & Building Co.w.L.L	6 A57	Kuwait	Decision (Ningbo) Import & Export Trading Co.,Ltd	6 E31	China
Al muzini Solidarity Company	6 E11	Saudi Arabia	DEKA BOYA ITH. IHR. SAN VE TIC. LTD. STI	6 C27	Turkey
Al Sager Industries	6 D61	Kuwait	DELTON CERAMIC PVT.LTD.	6 G47	India
Al Tawbad - Polarkon Metal	6 E57	Kuwait	Diversity Group for General Trading & Contracting	6 C71	Kuwait
Al-Arabiya Electrical Company	6 B61	Kuwait	Dolphin Manufacturing LLC	6 C31	UAE
ALFA FAÇADE SYSTEMS PVT. LTD.	6 H53	India	Echo Precast Engineering NV	6 C37	Belgium
Alghanim Equipment Co.	6 A02	Kuwait	Ecopro Fibre Cement Boards	6 C01	Kuwait
Alhasawi Industrial Group	6 A40	Kuwait	Emirates Building Systems Co. LLC	6 D02	UAE
Al-Qatami Insulation Material Factory - Works & Building Co.	6 H59	Kuwait	Emirates Steel Industries	6 A41	UAE
Al-Sultan & Khalaf Trading Co.	OS 300	Kuwait	Encyclomedia S.A.L	6 H22	Lebanon
Al-Sultan & Khalaf Trading Co.	6 B51	Kuwait	Environment Preservation Industrial Company	6 A38	Kuwait
Ana / Star	6 D30	Kuwait	Epo Gulf Specialities	6 E61	Kuwait
Anhui Jinke Rubber & Plastic Products Co., Ltd.	6 H27	China	ESQUIRE MACHINES PVT. LTD.	6 F44	India
Arab Construction World (ACW) Magazine	6 G23	Lebanon	Fares Al Dabbous & Sons Trading Co WLL	6 A71	Kuwait
Arab International Industrial Company	6 C65	Kuwait	Fask Kuwait General Trading & Contracting Co.	6 A52	Kuwait
Arab Suppliers	6 A10	UAE	Fischer Innovative Solutions	6 E10	UAE
Arabi Company	6 C51	Kuwait	Forum Interiors Co.	6 D31	Kuwait
ARNON PLASTIC INDUSTRIES CO. LTD	6 A28	Saudi Arabia	Foshan Lianxing Deli	6 H30	China
ARROW IMPEX CORPORATION	6 G40	India	Decoation Material Co.,Ltd		
Asgar Ali Yousuf Trading Co. LLC	6 A04	UAE	Framecad	6 D13	UAE
ASSAN PANEL SANAYI VE TICARET A.S.	6 A22	Turkey	FRAMUSA GARDEN FURNITURE	6 C40	Spain
Attieh Steel	6 B71	Kuwait	France Metal	6 E27	Egypt
B&H Designs	6 E34	United States	FRUMECAR	6 B47	Spain
Bader Al Mulla & Brothers Co WLL	6 D51	Kuwait	G.TECH SPLICING PVT. LTD.	6 H45	India
Blue Ocean Middle East FZCO	6 B11	UAE	Gale Pacific - Australia	6 C17	UAE
Brightstone	6 C67	Kuwait	GDPA Fasteners, India	6 F17	India
Bubiyah Aggregate Co.	6 E61	Kuwait	German Pipes Centre	6 D60	Kuwait
Bubiyah Ready Mix Co. W.L.L.	6 E67	Kuwait	Giesse Gulf Group	6 B31	UAE
CADE: Sport facilities and equipment	6 C46	Spain	Giisco Industrial. Machinery Trading Company	6 A48	Kuwait
Canadian Clear Waters FZC	6 A06	UAE	GLAZETECH - Mich.Vakirzis & Co	6 A46	Greece
Capital Business	6 H24	UAE	GOLDNET FENCING SYSTEM CO.,LTD	6 F30	China
Chabros International Group	6 C41	UAE	GRTC Solar	6 H60	Kuwait
CHEIL GRINDING WHEEL IND.CO.,LTD.	6 E42	Korea	Gruppo Stamplast SRL	6 A37	Italy
CLASSIC MARBLE (HAYAT GROUP)	6 E47	India	Gulf Resources General Trading and Contracting Co.	6 D62	Kuwait
Climate Control Middle East	6 G25	UAE	HEELCERA / CAPSON TILES PVT.LTD	6 G43	India
Combined Construction Co. for G.T.	6 F66	Kuwait	Henan Yongwei Security Co., Ltd.	6 E35	China
Conares	6 A56	UAE	High Quality for General Trading & Contracting company	6 E60	Kuwait
Confederation of Indian Industry	Hall 6	India	Hotline Trading LLC	6 B05	UAE
COOLEX	6 E41	Kuwait			
Cooltra Shade, Wherever there is shade	6 E44	Korea			
COSMOS CONSTRUCTION MACHINERIES & EQUIPMENTS (P) LTD.	6 F42	India			



EXHIBITOR LISTINGS

COMPANY NAME	STAND NUMBER	COUNTRY	COMPANY NAME	STAND NUMBER	COUNTRY
Inshaa Holding Company	6 E61	Kuwait	Rajhi Steel	6 A61	Saudi Arabia
Instant Access	6 A34	Kuwait	RAMCO INDUSTRIES LIMITED	6 H57	India
Instant Access	OS 100	Kuwait	Region of Murcia, Spain	6 B41, 6 C40, 6 C46, 6 B47	Spain
International Insulation Co.	6 D66	Kuwait	REIS TEKSTIL MAD.INS.KAGIT SAN.TIC.A.S.6 A27		Turkey
ISCON CERAMIC PVT. LTD.	6 F47	India	Reynaers Aluminium	6 B02	Bahrain
IVACIS Holding Company	6 E14	Kuwait	RMG POLYVINYL INDIA LIMITED	6 H49	India
J K Cement Works (Fujairah) FZC	6 F11	UAE	S.A.GLASS PVT. LTD.	6 H55	India
Jiangsu Huahai Steel Structure Co.,Ltd.	6 G37	China	Sanmen Lion Manhole Cover	6 H36	China
JIANGSU SKYRUN CORPORATION	6 H36	China	SANMEN LION MANHOLE COVER CO.,LTD.6 H34		China
JiangXi GuoLian Ceramic CO.,LTD	6 F32	China	Saudi Bitumen Industries Co. LTD. - SABIT6 E17		Saudi Arabia
Jostone	6 D41	Jordan	Schnell SPA	6 A26	Italy
Jubaili Bros s.a.l	6 E21	Kuwait	SF Technology and Cartel Manufacturing Co.6 C35		Kuwait
Kalingastone	6 C47	India	SHANDONG LUJIANG INTERNATIONAL	6 G31	China
KAMIL BHAI ISMAIL JI	6 H46	India	TRADE CO.,LTD		
KIMMCO INSULATION	6 C57	Kuwait	Sharjah Airport International	6 D11	UAE
KONECRANES ME FZE	6 A02	UAE	Free Zone (Saif Zone)		
(Alghanim Equipment Co.)			SIMBEL CERAMIC PVT. LTD.	6 F41	India
Kuwait Green Building Council	Concourse 100	Kuwait	SOBER CERAMICS	6 H37	India
Kuwait Towers Factory	6 F66	Kuwait	SOBER CERAMICS (GLOSSY TILES)	6 H39	India
Lagan Bitumen Ltd	6 D35	Ireland	SOYLU TURIZM VE TIC. LTD. STI.	6 B27	Turkey
LANDMARK TILES PVT. LTD.	6 E45	India	SPENTIKA CERAMIC PVT. LTD.	6 E43	India
Leca Co.	6 E02	Iran	SRI VENKATESH GRANITES PVT. LTD.	6 G45	India
LENZ CERAMIC PVT. LTD.	6 F45	India	SRSL INTERNATIONAL PVT. LTD.	6 H43	India
LIVON CERAMIC	6 F43	India	TA Group	6 E36	Lebanon
LP Art & Oud	6 F16	UAE	Tecfire Middle East FZE	6 B01	UAE
MAGIC CERAMIC	6 H40	India	Technical Review Middle East	6 G21	UAE
MAJOR CERAMIC	6 H42	India	Techno Plastic Industry LLC, Oman.	6 D37	Oman
MEPCO	6 D56	Kuwait	tecnocom	6 C37	Italy
MERT MADEN A.S.	6 C26	Turkey	TEKINLER SU ARMATURLERI IMALAT	6 C20	Turkey
Metalex General Trading & Contracting Co.6 E70		Kuwait	GIDA VE ITRIYAT SAN. TIC. LTD. STI		
Middle East Plant & Equipment	6 H20	UAE	Tekla	6 D16	UAE
MTC METAL DIS TICARET LTD.STI.	6 B21	Turkey	The Regency Hotel - Kuwait	Concourse 110	Kuwait
Musaed Supply Center	6 C61	Kuwait	Three Flags Co.	6 C11	Kuwait
Nabil Aba Hussain Trading Co.	6 F51	Kuwait	Tianjin Elecmotor Co.,Ltd	6 E33	China
NAFFCO FZCO	6 A11	UAE	TRITURADOS ROMERAL	6 B41	Spain
NATURELMAR MADENCILIK	6 A21	Turkey	Uniflo - Al Shihhe Industry Co. (L.L.C.)	6 D17	UAE
SANAYI VE TICARET A.S			URC INFOTEC PRIVATE LIMITED	6 H44	India
NBTC	6 G70	Kuwait	USAKLIGIL INS. TEL ORME	6 B26	Turkey
NOBEL WALL TILES	6 H51	India	CIT SAN VE TIC LTD STI		
OCTIVA CERAMIC	6 G41	India	Ventures Onsite	6 H23	UAE
ONUR MARBLE CO.	6 C21	Turkey	Western Systems	6 A46	Kuwait
Oppein Home GROUP INC	6 F36	China	(Arch Est Trad & Contracting)		
Oscam	6 B36	Italy	Wuxi Huake Machine Equipment Co.,Ltd	6 H35	China
POQUTEC CO., LTD.	6 E46	Korea	Xuzhou construction machinery group	6 F37	China
Prime - Focus Air Conditioning	6 E16	UAE	Xuzhou construction machinery group	OS 700	China
Industries LLC Dubai			Yonggao Co.,Ltd	6 E37	China
Progress Group	6 C37	Germany	ZED VITRIFIED	6 H41	India
PROGRESS MASCHINEN & AUTOMATION AG	6 C37	Italy			

المقترح أن يأتي التوازن من أجل تحقيق هدف ٢٠٣٠ من طاقة الرياح. ومن الهدف ٢٢ ألف ميغاواط، تطمح الجزائر إلى تخصيص ١٠ آلاف ميغاواط للتصدير. ونظراً لأن ٩٧ في المائة من إيراداتها من العملة الأجنبية تأتي من النفط والغاز، في المائة من توليد الكهرباء الذي يعتمد على الغاز، فإن التنوع من خلال تطوير الطاقة الشمسية بشكل كبير يأتي على قائمة أولويات الدولة. ويشهد الاستهلاك المحلي دعماً كبيراً. ويقدر صندوق النقد الدولي إجمالي تكلفة الدعم الضمني على منتجات النفط والغاز الطبيعي بنحو ٢٢,٢ مليار دولار أمريكي، أو ١٠,٧ في المائة من إجمالي الناتج المحلي. وقد حذر الصندوق في يناير/كانون الثاني من أن سرعة تأثير عمليات التطوير بالجزائر في قطاع الهيدروكربون سوف تزداد سوءاً وذلك نظراً لأن انخفاض إنتاج الهيدروكربون والاستهلاك المحلي الهائل ينتج عنه خفض أرقام التصدير. وأشار الصندوق أيضاً إلى أن المطالب الاجتماعية تظل مرتفعة على الرغم من المستويات المرتفعة من الإنفاق الاجتماعي الذي تقوم به الحكومة. علماً بأن المساهمة الأكبر من الطاقة المتجددة في مزيج الطاقة لا تقتصر فائدتها فقط على تحرير المزيد من الغاز المخصص محلياً للتصدير، ولكنها أيضاً تساعد في خلق المزيد من فرص العمل في الدولة، فقطاع الهيدروكربون لا يقوم بتوظيف غير ٢ في المائة من القوة العاملة، بينما تقترب نسبة البطالة بين الشباب من ٢٥ في المائة. ولكن اعتباراً من ٢٠١٢، كان لدى الجزائر ٢٧٨ ميغاواط فقط من الطاقة المتجددة المركبة، وذلك وفقاً للجنة الاقتصادية للأمم المتحدة بأفريقيا (UNECA)*، ومعظم تلك الطاقة جاء من إنشاء مصانع الطاقة الكهرومائية في فترة الخمسينيات والستينيات. ولدى الدولة أحد أول المصانع التي تعمل بنظام الدورة المركبة والمعززة بالطاقة الشمسية، وهو مصنع حاسي الرمل بسعة ١٥٠ ميغاواط، والذي تم تشغيله في يوليو/تموز ٢٠١١. بسعة ٢٠ ميغاواط من الطاقة الشمسية. وفي العام الماضي قامت سونلغاز بمنح مشروعات الطاقة الشمسية بسعة تصل إلى ٤٠٠ ميغاواط، بما في ذلك ٢٢٢ ميغاواط من مشروعات الفولتية الضوئية (PV) إلى اتحاد من الشركات الفرعية ضم Yingli Green Energy Holding الصينية و Sinohydro Corp. و Hydrochina Corp.

وللمساعدة في الإسراع في تحقيق أهدافها الخاصة بالطاقة الشمسية، قامت الجزائر في أبريل/نيسان بإطلاق سياسة تعريفية التغذية (FIT) الطموح لمشروعات الفولتية الضوئية (PV) على نطاق واسع. وقد ساعد ذلك - بلا شك - في زيادة جذب الدولة لاستثمارات الطاقة الشمسية من جانب شركات أجنبية. ومن ناحية أخرى، تعاني الجزائر من أحد أكبر بيئات الأعمال صعوبة في الشرق الأوسط وشمال أفريقيا. وذكر صندوق النقد الدولي أن الإصلاحات واسعة النطاق مطلوبة لتحسين مناخ الأعمال بالدولة وجذب الاستثمارات الأجنبية. فبيئة الأمان غير المستقرة بالجزائر تحد من رغبة المستثمرين للمخاطرة.

وأما تونس، فهي تهدف إلى المساهمة بالطاقة المتجددة بنسبة ٣٠ في المائة من توليد الكهرباء بحلول ٢٠٣٠. ولكن بغض النظر عن محطات الطاقة المائية بسعة ٦٦ ميغاواط التي تم تشغيلها في الخمسينيات والستينيات، أصبح استخدام الدولة للطاقة المتجددة، اعتباراً من ٢٠١٢، في حدود ١٥٥ ميغاواط من طاقة الرياح و٤ ميغاواط من الطاقة الشمسية، وذلك حسبما ذكر تقرير اللجنة الاقتصادية للأمم المتحدة بأفريقيا (UNECA)*.

ومن الجلي أن سبب الاندفاع نحو المساهمة الأكبر لمصادر الطاقة المتجددة واضح تماماً. فأكثر من ٩٠ في المائة من توليد الكهرباء في تونس يعتمد على الغاز، أما البقية العظمى فهي من الطاقة التي يعتمد تشغيلها على البترول. غير أن الدولة تعد من الدول قليلة الإنتاج نسبياً للهيدروكربون. وقد أدى الطلب المتزايد على الطاقة وزيادة الواردات، فضلاً عن الدعم، إلى تأثيرات سلبية على نفقات استهلاك الطاقة. وفي إطار جهودها لتقليل العجز في الميزانية، والذي كان يساوي في العام الماضي ٨,٣ في المائة من إجمالي الناتج المحلي، قامت حكومة تونس بتقليل الدعم على الوقود على أن يكون ساري المفعول بداية من أول يوليو/تموز، حيث تم رفع أسعار البنزين بنسبة ٦,٣ في المائة. أما استخدام ليبيا لمصادر الطاقة المتجددة في الوقت الحالي، فهو استخدام هامشي. فتوليد الكهرباء يعتمد بالكامل إما على البترول أو الغاز. ولكن يعمل الجهاز التنفيذي للطاقة المتجددة في ليبيا، الذي تأسس عام ٢٠٠٧، على استغلال إمكانات الطاقة الشمسية وطاقة الرياح بالدولة. ويهدف إلى أن تصل نسبة مساهمة الطاقة المتجددة إلى ٣ في المائة من إجمالي مزيج الطاقة لديها بحلول ٢٠١٥، و١٠ في المائة بحلول ٢٠٢٠. وتشير بعض التقارير الحديثة إلى أنه قد تم رفع هدف ٢٠٢٠ بنسبة ١٠ في المائة إضافية. ولا شك أن الحرب الأهلية عام ٢٠١١، والعنف المستمر ونقص الاستثمارات، كل ذلك يشكل عقبات هائلة أمام جهود ليبيا من أجل تحقيق طموحاتها في مجال الطاقة المتجددة.

● وثيقة إطار العمل في ديسمبر ٢٠١٢ مكتب اللجنة الاقتصادية للأمم المتحدة الخاصة بأفريقيا (UNECA) لشمال أفريقيا بعنوان «سياسة التعاون الإقليمي لتطوير الطاقة المتجددة بشمال أفريقيا» وقد جاءت بالبيانات نقلًا عن الاتحاد العربي للطاقة المتجددة ودول فردية.

لمصانع الطاقة المتجددة أقل بكثير من أي طاقة جديدة تعتمد على الوقود الأحفوري. وبوضوح نجد أن توليد الطاقة الشمسية وطاقة الرياح يوفر ميزات بيئية. وقد قامت المغرب بتصميم مشروعاتها لتندرج أسفل معايير آلية التنمية النظيفة التابعة للأمم المتحدة. وقد يساعد ذلك أيضاً في توفير التمويل لمشروعات الطاقة المتجددة نظراً لخفضها لانبعاثات ثاني أكسيد الكربون.

ووفقاً لما ذكرته اللجنة الاقتصادية للأمم المتحدة الخاصة بأفريقيا (UNECA)*، فإن مصر تعتبر حالياً هي القائد في المنطقة فيما يتعلق بسعة الطاقة المتجددة المركبة، مع إنتاجها ٢٨٠٠ ميغاواط من الطاقة المائية ونحو ٥٥٠ ميغاواط من طاقة الرياح. إلا أن معظم السعة من الطاقة الكهرومائية للدولة تم بالفعل استغلالها. وتهدف وزارة الكهرباء والطاقة إلى مساهمة مصادر الطاقة المتجددة بنسبة ٢٠ في المائة من توليد الطاقة للدولة بحلول ٢٠٢٠، حيث تأتي ١٢ في المائة من تلك المخطط لها من مزارع الرياح الجديدة بإجمالي ٧٢٠٠ ميغاواط. وتمثل مصادر الطاقة المتجددة الأخرى النسبة المتبقية وهي ٨ في المائة. وفي ظل خطتها الخاصة بالطاقة الشمسية، التي تم إطلاقها في صيف ٢٠١٢، تحتاج مصر إلى إنتاج ٣٥٠٠ ميغاواط من الطاقة الشمسية بحلول ٢٠٢٧. ومن الواضح أن رغبة مصر في الحصول على الطاقة المتجددة نابعة من النقص الشديد في الطاقة الذي تعاني منه. فقد أصبح انقطاع الطاقة الكهربائية أمراً شائعاً حتى في القاهرة العاصمة. ويعتمد توليد كهرباء المدينة بشكل كبير على الغاز الطبيعي، مع تشغيل أكثر من ٩٠ في المائة من مصانع الطاقة بالغاز. ولا يقتصر الأمر على كفاح سعة الطاقة المركبة من أجل مواكبة الطلب، ولكن النقص في الغاز اللازم لتزويد المصانع بالوقود قد جعل الأمر أيضاً يزداد سوءاً في السنوات الأخيرة إزاء إنتاج الغاز المحلي الأخذ في الهبوط. وفي مطلع هذا العام، أعلنت مصر عن خطط لاستثمار ١ مليار دولار أمريكي من أجل إنشاء العديد من المشروعات في مجال الطاقة الشمسية. غير أن التفاصيل الخاصة بالمبادرة لا تزال قليلة. ووفقاً للهيئة المصرية العامة للاستعلامات، تهدف المبادرة ليس فقط إلى المساعدة في زيادة مشاركة المصادر المتجددة في مزيج الطاقة، ولكن أيضاً لخلق المزيد من فرص العمل، وبخاصة للشباب.

إلا أن الدعم الهائل الذي تقدمه الحكومة على الوقود (الغاز والكهرباء) والذي يُلهم ٢٠ في المائة من ميزانية الدولة، يواصل عرقلة جذب الطاقة المتجددة للقطاع الخاص بالدولة. ومع عجز الموازنة المتضخم على الدوام، تتخذ الحكومة الجديدة، تحت رئاسة عبد الفتاح السيسي، خطوات لإصلاح برنامج الدعم. وقد بدأت أسعار الكهرباء في الارتفاع في يونيو/حزيران في ظل خطة لرفع الدعم عن الطاقة خلال خمس سنوات. وفي الأول من يوليو/تموز تم خفض الدعم على الوقود. ويبقى أن نرى مدى نجاح تلك الجهود.

وقد أعلنت مصر مؤخراً عن اختيار «السويدي إلكترونيك» للفوز بمنافسة بناء وتشغيل ٦ محطات توليد كهرباء من طاقة الرياح بقدرة ١٠٠ ميغاواط على ساحل البحر الأحمر. وسوف تكون هي أول شركة قطاع خاص يتم السماح لها ببيع الكهرباء بشكل مستقل في مصر. إلا أنه في وقت كتابة التقرير، لم يكن قد تم بعد توقيع عقد نهائي، وحتى الآن لم يتم تحديد تاريخ الانتهاء المتوقع للمشروع. ومثل العديد من العوامل التي تمثل عبئاً على الاقتصاد، تتوقف خطط الطاقة المتجددة لدى مصر على الاستقرار السياسي في البلاد التي شهدت أربعة تغييرات للحكومة خلال أربع سنوات. أما الجزائر، فهي تستهدف خطة طموحاً بالحصول على سعة إنتاج الطاقة المركبة التي تصل إلى ٢٢ ألف ميغاواط من المصادر المتجددة بحلول ٢٠٣٠. ووفقاً لبرنامج الطاقات المتجددة والفعالية الطاقوية بالبلاد، الذي تم إقراره في ٢٠١١ والذي تزعمته شركة الكهرباء والغاز المملوكة للحكومة الجزائرية سونلغاز، فإنه يهدف إلى مساهمة الطاقة الشمسية بنسبة ٣٧ في المائة من إنتاج الكهرباء بالجزائر بحلول ٢٠٢٠، بسعة ٨٠٠ ميغاواط بحلول ٢٠٢٠. ومن



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زيادة النشاط الخاص بالطاقة المتجددة

شهدت الأعوام القليلة الماضية تصدور موضوع الطاقة المتجددة لقوائم الأعمال السياسية في دول شمال أفريقيا، حيث تبحث حكوماتها عن بدائل لقطاعات الطاقة التي يسيطر عليها الوقود الأحفوري. والمحرك الأساسي وراء أهداف المصادر المتجددة الطموح التي تنتهجها المنطقة هو الطلب المتزايد بسرعة على الطاقة. فالدول المستوردة للوقود، مثل المغرب وتونس، في حاجة إلى خفض اعتمادها على واردات الوقود الأحفوري لتعزيز تأمين الطاقة. وفي الوقت نفسه، تكافح الدول المصدرة للهيدروكربون، مثل ليبيا والجزائر، من أجل زيادة مصادر الطاقة المتجددة لأن الطلب المحلي المتزايد بسرعة يلتهم. بشكل دائم. النصيب الأكبر من إنتاج الوقود الأحفوري لديها، مما يؤدي إلى الحد من إيرادات التصدير التي تزداد الحاجة إليها، مع زيادة العبء على النمو الاقتصادي.

فالمغرب لديها أكثر برامج الطاقة المتجددة طموحا في شمال أفريقيا، وتستهدف الحصول على ٤٢ في المائة (ما يساوي نحو ٦ آلاف ميغاواط) من إجمالي مزيج الطاقة لديها من المصادر المتجددة بحلول ٢٠٢٠. وقد قامت بالتخطيط لمشروعات طاقة الرياح والطاقة الشمسية التي تتوقع أي دولة أخرى في المنطقة. فهي تستهدف الحصول على ألفي ميغاواط من كل من الطاقة الشمسية وطاقة الرياح بنهاية العقد الحالي. كما أن لديها حافزا قويا لتوسيع سعتها في مصادر الطاقة المتجددة بشكل سريع. فاحتياطي وإنتاج المغرب من مصادر الوقود التقليدية ضئيل، فوارداتها تصل إلى أكثر من ٩٦ في المائة من احتياجاتها للوقود الأحفوري، مما يجعلها أكبر دولة مستوردة للطاقة في شمال أفريقيا. وقد سجلت واردات الوقود والطاقة ما يزيد عن الربع من إجمالي الواردات في ٢٠١٣، حيث بلغت قيمة فاتورة واردات الطاقة ١٣ مليار دولار أمريكي، مقارنة بما يقرب من ١١,٨ مليار دولار أمريكي في ٢٠١٢. كما أن دعم الطاقة المباشر يمثل عبئا إضافيا. فقد بلغت قيمته الإجمالية نحو ٦,٣ مليار دولار أمريكي في ٢٠١٢. وفي ٢٠١٣، أدت مسيرة من أجل إصلاح الأوضاع المالية العامة إلى بدء المغرب في التثويب الجزئي لأسعار الطاقة وفقا لمستويات السوق الدولية. وأعلنت، في شهر يناير/كانون الثاني من هذا العام، أنه لم يعد البنزين والوقود من بين المنتجات التي تخضع للدعم من جانب الحكومة. وكذلك بدأت الدولة في خفض دعمها للديزل بشكل كبير. غير أن الطلب على الطاقة في المغرب يزداد بشكل كبير بنسبة ٦,٥ في المائة تقريبا في العام. ووفقا لتقرير اللجنة الاقتصادية للأمم المتحدة بأفريقيا (UNECA) لعام ٢٠١٢، كان إجمالي سعة الطاقة المتجددة المركبة نحو ٢٠٤٥ ميغاواط، تشمل في معظمها الطاقة الكهرومائية (١٧٧٠ ميغاواط) والجزء المتبقي من الطاقة يأتي من طاقة الرياح (٢٥٥ ميغاواط) والطاقة الشمسية (٢٠ ميغاواط). ويمتلك هذه المصادر بالكامل تقريبا المكتب الوطني للكهرباء والماء ONEE.

وفي الوقت الحالي، تمضي الحكومة قدما بخطة الطاقة الشمسية الطموح بقيمة ٩ مليارات دولار أمريكي. وهذه الخطة تستهدف توليد ألفي ميغاواط من الطاقة الشمسية بحلول ٢٠٢٠ في خمس مواقع تستفيد من تقنيتين هما الطاقة الشمسية المركزة (CSP) والفولتية الضوئية (PV). أما فيما يتعلق بطاقة الرياح، كما ذكر أيضا، فإن هدف المغرب هو الوصول إلى ألفي ميغاواط بحلول ٢٠٢٠. وفي أبريل/نيسان من هذا العام، بدأ موقع بجوار طرفاية، وهو أحدث مزرعة رياح بالدولة والأكبر في قارة أفريقيا، في توليد أول طاقة كهرباء له. ومن المتوقع أن يتم تشغيله بالكامل بحلول شهر أكتوبر/تشرين الأول. ويصل إنتاجه إلى ٣٠٠ ميغاواط من الكهرباء. كذلك يقوم المكتب الوطني للكهرباء والماء ONEE بدفع المرحلة الثانية من برنامج طاقة الرياح للمغرب إلى الأمام. وهي تشمل خمسة مشروعات إضافية لمزرعة الرياح في خمس مواقع بإجمالي سعة ٨٥٠ ميغاواط. ومن المستهدف تنفيذ المشروعات في الفترة ما بين ٢٠١٦ و ٢٠٢٠.

ومما لا شك فيه أن إنشاء مصانع الطاقة المتجددة يحتاج تكلفة مالية مرتفعة، ولكن من غير المرجح أن يشكل التمويل عائقا أمام المغرب يحول دون تحقيقها لخطتها الطموح. وبمجرد إنشاء تلك المصانع، فسوف تكون التكلفة التشغيلية

بدء تشغيل ترام دبي بحلول نوفمبر هذا العام

ذكر مسؤولون في هيئة الطرق والمواصلات أنه سيتم الانتهاء قريبا من المرحلة الأخيرة من العمل في ترام دبي، ومن المقرر بدء عمليات الترام بحلول شهر نوفمبر/تشرين الثاني ٢٠١٤. وذكر المسؤولون أنه قد تم إنشاء آخر التحويصلات المرورية المخطط لها على شارع جميرا بيتش ريزيدنس في دبي مارينا. وأضاف المسؤولون أن التحويلة تمتد لمسافة واحد كيلومتر، وسيتم تنفيذها خلال شهر واحد على الأقل. وقالت ميثاء بن عدي، المدير التنفيذي لمؤسسة المرور والطرق: «ستحتاج أعمال التحويلة إلى إغلاق حارتين على اتجاها الشارع، وتحويل المرور بشكل مؤقت إلى شارع الخدمة. وسوف يجري العمل على مدار الساعة بوجود فريق من المتاولين والاستشاريين حتى يتم الانتهاء من كافة الأعمال الخاصة بشبكة الترام. وستكون التحويلة المرورية، الجاري تنفيذها، على التقاطعات الثلاثة لشارع جميرا بيتش ريزيدنس». وسوف تمتد المرحلة الأولى من ترام دبي إلى مسافة ١٠,٦ كم وسوف تتكامل مع مترو دبي باعتبارها نمطاً جديداً من النقل العام. وسيصل الترام إلى مناطق الصفوح وقرية دبي للمعرفة، ومدينة الإعلام، ودبي مارينا، وجميرا بيتش ريزيدنس. ومن المتوقع أن يستخدم الترام حوالي ٢٧ ألف راكب في المرحلة الأولى. ويُحتمل أن يصل هذا العدد إلى ٦٦ ألفاً بحلول ٢٠٢٠. وسوف تكون هذه هي شبكة الترام الأولى من نوعها المزودة بجهاز زجاجي بطول المنصة، وأبواب آلية الفتح والإغلاق، وسوف تعمل في ١١ محطة. ومن المخطط إنشاء ست محطات إضافية في المرحلة الثانية.

هفكرة إجال الاعمال

سبتمبر/أيلول	٢٤.٢٢	معرض بيح فايف الكويت	الكويت
أكتوبر/تشرين الأول	١٤.١٢	مؤتمر ومعرض الكهرباء والماء	أبوظبي
نوفمبر/تشرين الثاني	٢٣.٢٠	معرض مشروع العراق	إربيل
ديسمبر/كانون الأول	١٣.١٠	معرض البناء السعودي وآلات البناء الثقيلة	الرياض
يناير/كانون الثاني	١٣.١١	معرض وندوة صناعة التعدين والمعادن في السعودية	الرياض
فبراير/شباط	٢٠.١٧	معرض بيح فايف	دبي

أكثر من ٨٦ مليار دولار لمشروعات البنية التحتية في الخليج



مشروعات البنية التحتية تمثل ١٦ في المائة من إجمالي قيمة المشروعات الإنشائية في منطقة مجلس التعاون الخليجي

هي مشروعات السكك الحديدية؛ مثل مشروع مترو الرياض. وحسبما ذكرت Ventures Onsite، تقدر منح قطاع السكك الحديدية بقيمة ٢٠٠ مليار دولار أمريكي، حيث تهدف الدول الست إلى الحصول على شبكة موحدة عبر منطقة مجلس التعاون الخليجي بحلول ٢٠١٨.

ذكر تقرير أن قيمة المنح لمشروعات البنية التحتية، عبر دول مجلس التعاون الخليجي، سوف تتجاوز ٨٦ مليار دولار أمريكي في ٢٠١٤، بزيادة ٧٧,٨ في المائة عن ٢٠١٣. وتبين الأرقام الجديدة، التي أصدرتها Ventures Onsite، زيادة في عمليات منح العقود عبر المنطقة في جميع الدول باستثناء المملكة العربية السعودية.

وذكر التقرير أن قطر سوف تمنح ٢٦,٢ مليار دولار أمريكي قيمة مشروعات، مقارنةً بمبلغ ٩,٤ مليار دولار أمريكي في العام الماضي. بينما تتوقع الكويت منح ٣,٤٥ مليار دولار أمريكي، وهو ما يمثل ١٠ أضعاف القيمة في العام ٢٠١٣. أما في الإمارات العربية المتحدة، فسوف يتم منح ١٥,١٨ مليار دولار أمريكي قيمة مشروعات، وهو ما يمثل ٥ أضعاف قيمة العقود التي تم منحها في ٢٠١٣. وهذا ومن المتوقع في عمان أن تصل قيمة منح البنية التحتية إلى ٧,٤ مليار دولار أمريكي، بزيادة ٥,٥ مليار دولار أمريكي عن ٢٠١٣.

وفي الوقت نفسه، من المتوقع أن تمنح البحرين، التي قامت بمنح ٣٨٢ مليون دولار أمريكي في العام الماضي، ٣,٤ مليار دولار أمريكي للمشروعات. وعلى الرغم من أن توقعات منح المملكة العربية السعودية تساوي ٢٩,٣٤ مليار دولار أمريكي، وهي القيمة الأعلى في المنطقة، فإنها تمثل انخفاضاً عن العام الماضي. وأشار التقرير إلى أنه قد بلغ إجمالي قيمة المنح في العام الماضي ٣٣,٦ مليار دولار أمريكي، بما في ذلك ٢٢,٥ مليار دولار أمريكي في مشروع مترو الرياض.

ووفقاً للتقرير، تمثل مشروعات البنية التحتية ١٦ في المائة من إجمالي قيمة الإنشاءات بمشروعات دول مجلس التعاون الخليجي. والمستفيد الأساسي من ذلك

مصر وروسيا تعترضان إنشاء منطقة تجارة حرة



إمكانية إنشاء محور صناعي في مصر كانت جزءاً من المحادثات بين البلدين

العالم. وأعلنت الهيئة المصرية العامة للسلع التموينية أن مصر قامت، في عام ٢٠١٤، باستيراد ٣,٣ مليون طن من القمح من روسيا. وفي المقابل، من المحتمل أن تقوم مصر بزيادة شحنات منتجاتها الزراعية إلى روسيا؛ مثل البطاطس والبصل والثوم والبرتقال. وبالإضافة إلى ذلك، بحث الرئيسان إمكانية إنشاء مركز لوجستي مصري على ساحل البحر الأسود في روسيا، ومركز صناعي في مصر، كجزء من مشروع تطوير قناة السويس.

أشارت كل من مصر وروسيا إلى إمكانية إنشاء منطقة تجارة حرة في مصر ومنطقة صناعية في روسيا. ووفقاً لقناة روسيا اليوم التلفزيونية الروسية، اجتمع رئيس جمهورية مصر العربية، عبد الفتاح السيسي، مع نظيره الروسي، فلاديمير بوتين، في موسكو حيث بحث الرئيسان التجارة الثنائية واستراتيجيات الاستثمار بين البلدين.

وقال رشاد عبده، رئيس المنتدى المصري للدراسات الاقتصادية، إن منطقة التجارة الحرة المزمع إقامتها لن تقتصر فقط على تبادل المنتجات المعفية من الرسوم ولكنها، علاوة على ذلك، ستعمل - أيضاً - على تعزيز ودعم الاستثمارات بين البلدين. وقال الرئيس السيسي: نأمل أن تقوم روسيا بتأسيس منطقة صناعية روسية، بالتزامن مع إطلاق مشروع قناة السويس الجديدة، والذي من المقرر الانتهاء منه خلال عام.

وذكرت الهيئة المصرية العامة للاستعلامات أن الاستثمارات الروسية في مصر قد بلغت قيمتها ٦٢,٦٥ مليون دولار أمريكي في يناير/كانون الثاني ٢٠١٣، حيث تقوم ٣٨٣ شركة روسية بالاستثمار في مصر. وفي الوقت نفسه، بلغت قيمة الاستثمارات المصرية في روسيا ١٣,٧ مليون دولار أمريكي في ديسمبر/كانون الأول ٢٠١٢. علماً بأن القمح يعد من أكبر الصادرات الروسية إلى مصر.

وقد أضاف بوتين بأن روسيا سوف تقوم بزيادة الصادرات من القمح إلى مصر بنحو خمسة ملايين طن على الأقل. فنظراً لحالة عدم الاستقرار السياسي، تواجه مصر نقصاً في القمح منذ ثلاثة أعوام. وقد أصبحت مصر الآن أكبر مستورد في

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القسم العربي

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- أكثر من ٨٦ مليار دولار لمشروعات البنية التحتية في الخليج
- مصر وروسيا تعترضان إنشاء منطقة تجارة حرة
- بدء تشغيل ترام دبي بحلول نوفمبر هذا العام

تحليلات

- زيادة النشاط الخاص بالطاقة المتجددة



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لمحات عن بعض البلدان: الكويت.

المياه والطاقة: معرض الطاقة الإقليمية، المولدات الكهربائية.

مواد البناء: الزجاج، الأرضيات، تقنية الخرسانة.

تكنولوجيا المعلومات: تخزين البيانات.

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شركة الزاهد للتراكتورز
ZAHID TRACTOR

CAT

النشرة التقنية

USA: \$18.50, United Kingdom: £10

في خدمة شركات المنطقة منذ ١٩٨٤

الشرق الأوسط

زيادة الاستثمار في مشاريع الطاقة المتجددة

يزداد كفاح دول شمال أفريقيا للحصول على الطاقة المتجددة لتقليل اعتمادها على الوقود الأحفوري المطلوب لتوليد الطاقة. لكن فيما تبشر طاقتنا الشمس والرياح باحتمالات هائلة، هل باستطاعة هذه الدول التغلب على ما يعترضها من عقبات لكي تحقق ما تصبو إليه في مجال الطاقات المتجددة؟

أخبار - صفحة ٥/٤ :

• أكثر من ٨٦ مليار دولار لمشروعات البنية التحتية في الخليج

• مصر وروسيا تعترضان إنشاء منطقة تجارة حرة

• بدء تشغيل ترام دبي بحلول نوفمبر هذا العام

تحليلات - صفحة ٦ :

• زيادة النشاط الخاص بالطاقة المتجددة