

TECHNICAL REVIEW

النشرة التقنية - الشرق الأوسط

MIDDLE EAST

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Analysis

Iraq's economic recovery

Country focus

Egypt achieves its
clean energy goals

THE ROAD AHEAD

HOW THE GCC'S TRANSPORT SECTOR IS
TRUCKING INTO THE FUTURE

INSIDE

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EDITOR'S NOTE

THE GCC'S ROADS are the arteries of the region's economy, given how practically all the land cargo within the region is transported by truck. But old-school trucking is rapidly being disrupted by technological developments, en route to a safer, greener future (p16).

We are just a few months away from the opening of Expo2020, with its three subthemes – Opportunity, Mobility and Sustainability. And it will be interesting to see how long it will be before driverless trucks will soon be zipping down the UAE's sleek highways, while residents hail flying taxis.

Elsewhere in the issue, we catch up with a regional HVAC leader (p36), celebrate women in construction (p38), analyse Iraq's economic recovery (p21) and Egypt's commendable move to clean energy (p26). From all of us at TRME, here's to a brilliant, busy 2020!

*Comments? Questions? Feedback?
Reach the **Technical Review** editorial
team at trme@alaincharles.com*

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TECHNICAL REVIEW

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التشرة التقنية - الشرق الأوسط MIDDLE EAST

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Briefly

UAE opens Nuclear Technology Centre at Khalifa University

THE UAE MINISTRY of Energy and Industry has opened the Emirates Nuclear Technology Centre, at Khalifa University's Sas Al Nakhl Campus in Abu Dhabi, UAE, to support the long-term sustainability of the UAE Peaceful Nuclear Energy Programme.

A memorandum of understanding (MoU) was signed by Suhail Bin Mohammed Faraj Faris Al Mazrouei, UAE minister of Energy and Industry, and Lee Taeho, second vice-minister of Foreign Affairs, Republic of Korea, during the opening ceremony, attended by Mohamed Al Hammadi, CEO of ENEC, Christer Viktorsson, director general of the Federal Authority of Nuclear Regulation (FANR), Arif Sultan Al Hammadi, executive vice-president of Khalifa University, and senior officials from all five entities.

The Emirates Nuclear Technology Centre will engage in research projects designed and approved by ENEC and FANR, and will be conducted by students, academics and researchers from Khalifa University. The Centre's initial research projects will focus on three areas – nuclear safety and systems, nuclear materials science and chemistry, and radiation safety in the environment.

UDMC wins Ras Al Khaimah contract for desalination facility

UNION DREDGERS AND Marine Contracting (UDMC) has been awarded the offshore project works for the new desalination facility at Al Hamra in Ras Al Khaimah, UAE.

Under the contract, UDMC is expected to use its marine fleet to complete the offshore works including barges, dredgers, tug boats and a backhoe dredger, according to the company.

With a 2000mm HDPE pipeline being utilised for intake and outfall pipelines, UDMC will be using a Hiweld HDPE Welding Machine 2500mm welding diameter (HW-2500) which is one of the largest Butt Fusion Machines in the Gulf region.

The new desalination facility will make available 30 million gallons more of water every day to consumers of RAK, Umm Al Quwain, Ajman and Sharjah in the Northern Emirates.

AquaChemie ME to establish US\$40mn chemical facility in Dubai

AQUACHEMIE MIDDLE EAST plans to build a chemical terminal facility at Jebel Ali Port in Dubai.

Estimated to cost US\$40mn, the facility will serve as a strategic gateway hub to enable and facilitate vital petrochemical trade across the GCC region and beyond. The new facility will benefit the global petrochemicals market valued at US\$539.3bn in general and the UAE in particular.

AquaChemie Middle East has signed on Mott MacDonald for the design, engineering and project management of the chemical terminal, scheduled to be commissioned by mid-2021.

The new chemical terminal will leverage its prime site location at Jebel Ali Port operated by DP World, including multiple jetty pipelines, along with other crucial existing utility and building support infrastructure.

In its entirety, the new chemical terminal will comprise bulk storage tanks for liquid hydrocarbons along with day tanks, chemical processing units, automated drumming lines, tanker loading-unloading gantry with top loading arms, covered warehousing for storage of NFPA class 1B and C chemicals, separate dry goods storage area, pump house and main hose exchange station, separate road tanker entrance with weigh bridge, loading and unloading ramp for forklift operation, office block with control room, dedicated road tankers and large trailer truck fleet, and a fully-equipped firefighting unit.



Photo Credit: AquaChemie

The new chemical terminal will comprise bulk storage tanks for liquid hydrocarbons along with day tanks.

Outlining the vital benefits the new chemical terminal will provide to the UAE petrochemicals sector, V Anandkumar, co-founder and director of AquaChemie Middle East, said, "The project will serve as a catalyst to boost petrochemical trade between manufacturers in the region and end-users anywhere in the world. In addition to serving as a sales channel, the project will also allow regional petrochemical majors to market their various product lines in drums or intermediate bulk containers for distribution to the tertiary chemical industry."

Schneider Electric opens smart distribution centre in Dubai

SCHNEIDER ELECTRIC HAS opened its new Smart Distribution Centre in Dubai. It is the first Smart Distribution Centre in the region and becomes the latest addition to the company's growing worldwide network of smart operations facilities.

The Smart Distribution Centre is a model for industrial digitisation, supporting the development of the UAE's national Industry 4.0 agenda as it works towards a future based on harnessing the power of the industrial IoT and smart manufacturing. Distribution centres are fundamental to Schneider Electric's Sustainable Connected 4.0 supply chain digital transformation, where the company leverages its EcoStruxure platform and architecture across its supply chain operations to deliver end-to-end integration and visibility to improve performance.

The digitisation of Dubai's Smart Distribution centre not only shortens its delivery time to customers, but also optimises supply chain operations to provide delivery.



Photo Credit: Schneider Electric

The centre features Schneider Electric's EcoStruxure architecture and platform that makes operations efficient.

Built on Schneider Electric's EcoStruxure technologies, the Smart Distribution Centre, spanning an area of 30,000 square metres, is now open for inbound, outbound and local adaptation entities interested to experience and learn about the company's technologies delivered through its IoT-enabled, open, interoperable architecture, EcoStruxure. The new distribution centre is set to deliver a host of benefits across all layers of the company's logistical operations.

Middle East and Africa light tower market to grow at CAGR of 2.9 per cent during 2019-25

POWER BACKUP, HIGH lighting capacity, easy installation and transportation, reliable, emission less, carbon-free and greener energy and reduced electricity bills, coupled with the emergence of smart cities, will drive the Middle East and Africa light tower market growth over the coming years.

According to 6Wresearch, the Middle East and Africa (MEA) Light Tower Market is expected to grow at a CAGR of 2.9 per cent during 2019-25. The construction segment is dominating, in terms of revenues, due to rise in construction projects and increased government investment to enhance



Saudi Arabia had the largest share of the MEA light tower market, according to 6Wresearch.

Photo Credit: Atlas Copco

the country's infrastructure, would add on to the growth of the light tower market in MEA. Qiddiya entertainment city, Makkah Grand Mosque – Third Expansion, Hanergy solar park and Saudi Aramco-Total's PIB factory are a few of the upcoming construction projects in MEA.

According to Gurbani Kaur, senior research analyst, Research and Consulting, 6Wresearch, "By Light Types, LED light tower captured the highest revenue share owing to rising demand for power-efficient illuminating systems, increasing concern over reduction of non-renewable sources of power and reduced price of Light Emitting Diodes (LED) lights."

Akansa Chopra, research associate, research and consulting, 6Wresearch, said, "The oil & gas industry would acquire a major share in the MEA light tower market over the coming years, due to upcoming large scale projects such as Jizan refinery project and Fadhili gas plant. A large volume of work associated with these large scale projects would accelerate the growth of light tower in this region. The rise in mining activities would also add on to the growth of light tower market."

Wahaj, Rafaut sign deal for aviation facility

SAUDI SPECIALISED PRODUCTS Company (WAHAJ) has signed a joint cooperation agreement with the Rafaut Group of France to build local manufacturing facilities in the aviation sector, in line with the Kingdom's drive to achieve one of the objectives of Vision 2030 for localisation.

Rafaut will provide maintenance, support and repair services in addition to supporting and executing artificial intelligence in industries.

The agreement was signed on the sidelines of the Dubai Airshow 2019, in the presence of Abdulelah Bin Saud Al Thunayan, director of business development at WAHAJ and Bruno Berthet, CEO of Rafaut Group.

Thyssenkrupp equips new metro stations in Cairo, Egypt

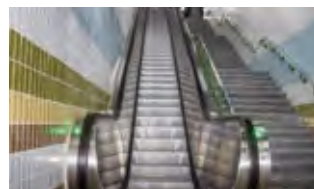
THYSSENKRUPP ELEVATOR HAS delivered 57 escalators to four new metro stations in Cairo, Egypt and is set to install 12 more.

Additionally, at Heliopolis Square Station, Thyssenkrupp has installed 17 escalators while at the new El Nozha Station, a deal for a further 12 escalator units has just been closed.

"Thyssenkrupp Elevator is really proud to be part of the Cairo metro's rapid development. Especially in a metropolis like this, an efficient transport system and increased access is crucial for countless people and also many businesses. With our mobility solutions, we deliver and secure reliability, comfort, and maximum efficiency for the people of Cairo," said Peter Walker, CEO of Thyssenkrupp Elevator.

Since 2004, the company has been servicing the subway as a sub-contractor. All in all, 116 elevators and 316 escalators in five service buildings and 36 of the existing 64 stations are maintained on-site by thyssenkrupp's staff.

In the course of Cairo's metro continuous expansion, new stations are constantly built – such as Haroun el Rashied Station, Alf Masken Station, and El Shams Club Station. In all of these new stations, Thyssenkrupp Elevator has equipped all of these new stations with its 40 escalators. Elsewhere in the Middle East region, Thyssenkrupp has recently supplied more than 1,200 elevators, escalators and moving walks to the upcoming metro stations in Riyadh and Doha and is currently servicing almost 800 units.



The company services 116 elevators and 316 escalators in 36 metro stations and five service buildings in Cairo.

Photo Credit: thyssenkrupp

Briefly

ACWA and GIC wins 900MW phase V deal of Dubai solar park

A CONSORTIUM LED by ACWA Power and Gulf Investment Corporation has been named the preferred bidder by the Dubai Electricity and Water Authority (DEWA) to build and operate the 900MW fifth phase of the Mohammed bin Rashid Al Maktoum Solar Park for using photovoltaic (PV) solar panels based on the Independent Power Producer (IPP) model. DEWA has achieved a world record by receiving the lowest bid of US\$1.6953 cents per kW/h for this phase. The project is expected to become operational in stages starting Q2 of 2021.

The current total production capacity of solar projects at the solar park is 713MW. DEWA is building three other projects with a total capacity of 1,250MW. The 900MW phase V of the solar park will increase the production capacity to 2,863MW.

Oman's Majis launches water transmission to Sohar Industrial Area

MAJIS INDUSTRIAL SERVICES has inaugurated a new water transmission network in Sohar, Oman, with a capacity of 20,000 m³/day of process water and 10,000 m³/day of potable water. The network extends 13 km from Majis' head office, supplying water to Sohar Industrial Estate.

Mohammed Al Mahrooqi, chairman of Public Authority for Water, said that customers in Sohar Industrial Area will benefit considerably from Majis' expanded operations, with access to water services that will enable them to operate at full capacity.

Briefly

Azizi Developments pre-orders 10 Tesla cybertrucks

AZIZI DEVELOPMENTS HAS placed an order for 10 of Tesla's new Cybertrucks. The developer plans to use these to enhance its customers' pre-sales experience by taking them on site visits in the innovative vehicles to its developments across Dubai's prime locations.

Farhad Azizi, CEO of Azizi Developments, commented, "We are excited about this pre-order, with it underlining our commitment to being a sustainable, environmentally conscious developer that has its customers' best interest at heart. We are looking forward to modernise our fleet with Tesla's Cybertrucks."

Tesla's recently unveiled cybertruck represent a new generation of electric mobility.

The electricity-powered SUV, which is built with an exterior shell crafted for ultimate durability and passenger protection, offers utility and adaptability. With an impressive range of up to 500 miles, the Cybertruck is the latest announcement in the EVs domain.

ENEC highlights nuclear energy and Barakah plant progress at public forum

MORE THAN 300 residents, students and stakeholders attended a public forum organised by the Emirates Nuclear Energy Corporation (ENEC) at the Baynounah Educational Complex in Madinat Zayed, Abu Dhabi.

The forum highlighted the strategic nature and national significance of the UAE Peaceful Nuclear Energy Programme. It would provide safe, clean, reliable and efficient electricity for up to 25 per cent of the nation.

Engineers provided updates on the progress being made at the Barakah Nuclear Energy plant, where preparations are underway to safely commence Unit 1 fuel load in early 2020, pending regulatory approval.

The Unit 1 of the Barakah Nuclear Energy plant will join around 450 operable peaceful nuclear energy reactors around the world. Nuclear energy safely provides roughly 10 per cent of the world's electricity, while emitting virtually no greenhouse gases and is the world's second largest source of low-carbon energy.

AI, telematics, big data are creating opportunities for autonomy in CVs, finds Frost & Sullivan

COMMERCIAL VEHICLE ORIGINAL equipment manufacturers (CV OEMs) and Tier-1 suppliers are expected to increase investments in disruptive technologies with demonstrated ability to decrease supply chain complexity and increase efficiency. Transportation, the core of supply chain logistics, is undergoing a transformation with the help of technologies such as Artificial Intelligence (AI), Internet of Things (IoT) and telematics, data analytics, and blockchain.

The growing need to bring these technologies to the market quickly to grab the first-mover advantage is resulting in a series of collaborations and M&As with technology providers.

"The rapidly rising use of telematics and IoT in CVs is generating vast data sets, which need to be utilized effectively through Big Data analytics," said Vineeth Purushotham, research analyst, Mobility. "Meanwhile, this convergence of technologies is prompting OEMs to develop innovative business models such as digital freight brokerage services and truck-as-a-service. There will also be greater OEM focus on truck leasing, financing, used truck sales, and tractor-trailer integration."

Frost & Sullivan's "Global Supply Chain Logistics Trends and Challenges and Their Implications on CVs, 2018–2025" report analyses the trends and challenges in the supply chain logistics industry and their implications on CVs. It presents the vital mega trends that will influence the global freight transportation industry as well as the new business models. It examines the major technology



Photo Credit: Adobe Stock

The transportation sector is being transformed by a raft of disruptive technologies.

companies and start-ups entering and investing in the industry and studies the implications of crucial technological disruptions on stakeholders.

"Urban restrictions and emission regulations across the globe are enabling last-mile delivery innovations that will increase the uptake of electric CVs," noted Purushotham. "Medium- and heavy-duty CV OEMs such as Volvo, Scania, and Daimler are investing heavily in innovations in electric/fuel cell powertrains. Light CV manufacturers, on the other hand, are collaborating and partnering with technology companies and logistics providers on urban delivery innovations."

Digitisation of the supply chain is helping OEMs tackle issues of complexity and increased service requirements.

UAE to build more than 23,000 new housing units by 2025

UNDER A MAJOR housing development programme, the UAE government has announced plans to build more than 17,873 new residential units across the country at an investment of US\$4.7bn over the next five years, said a report.

Additionally, a total of 5,134 houses will be built in residential neighbourhoods, *Trade Arabia* reported, citing Abdullah bin Mohammed Belhaif Al Nuaimi, minister of infrastructure development and chairman of the Sheikh Zayed Housing Programme.

According to the report, the programme is implementing a package of housing projects around the country this year, which includes over 11,000 individual homes and another 2,936 units as part of four housing neighbourhoods under construction. These units will be delivered in 2020 and 2021, respectively, Al Nuaimi said.

The programme aims to meet sustainability



The programme aims to construct 13,200 individual housing units in 2020.

Photo Credit: Adobe Stock

standards related to residential neighbourhoods, through reducing water consumption by 40 per cent and electricity consumption by 20 per cent.

Under the scheme, the total number of residential units under construction this year has risen to 13,946, revealed the minister. "The programme aims to construct 13,200 individual housing units in 2020," he added.

Al Nuaimi pointed out that the main goal of the programme was to fulfil the housing needs of UAE citizens.

DP World Sokhna to complete US\$520mn port expansion project soon

DP WORLD SOKHNA has announced that it is nearing completion of a major expansion project that will bring its total investment in Egypt to US\$1.6bn. Basin 2 will be operational by the second quarter of 2020 and nearly double the capacity at the port to 1.75 million TEUs per year.

Built at a cost of US\$520mn and complementing two operational basins, the expansion into Basin 2 includes a 1.3-km-long quay with 400 metres in use in phase 1, and a 350,000 sq m container yard.

The expansion comes as the UAE and Egypt agreed to support a US\$20bn joint strategic platform to invest in a range of vital sectors and assets, with ports and economic zones being an



Photo Credit: DP World

DP World Sokhna celebrated its 10-year anniversary on November 19.

integral driver for global competitiveness and economic prosperity.

Basin 1 is already operational with a capacity of 945,000 TEUs. Basin 3 is a liquid bulk station spanning 400 sq m which is a major gateway for Egypt's energy imports.

Suhail Al Banna, CEO and managing director of DP World Middle East and Africa, said, "Through our end-to-end commercial strategy, we have expanded our role to support port operations in industrial, economic, and logistic zones by facilitating the most efficient movement of cargo and access to global consumption centres, while adopting the latest innovative technologies."

Ajay Singh, CEO of DP World Sokhna, said, "We continue to mobilise our expertise and resources to develop infrastructure that caters to our customers' needs, from point of origin to consumption."

The facilities of the port have played a significant role in adding value to its customers' operations by enhancing productivity, speed and cargo cost reduction while attracting leading global shipping lines and beneficial cargo owners, said a statement of the company.

DEWA extends free EV charging till end-2021

AS THE CURRENT free charging incentive for electric vehicles will expire by the end of this year, Dubai Electricity and Water Authority (DEWA) has announced an extension until the 31 December 2021. This extension applies to non-commercial users, who register for the EV Green Charger Initiative.

The extension allows non-commercial users to charge their vehicles for free at only DEWA public charging stations and does not include home charging stations. Commercial registered users such as government, semi-government, and private organisations will be charged the tariff of 29 fils per kilowatt hour, effective from the 1 January 2020.

KEC signs deal to set up Khazaen Dry Port

KHAZAEEN ECONOMIC CITY (KEC) has signed a US\$10mn agreement with a number of logistics companies to operate and manage a new dry port in KEC, at Al Batinah South governorate. The signing ceremony was attended by Ahmed bin Mohammed Al Futaisi, minister of Transport.

The terms of the agreement include the right for Marafi, Khimji Ramdas and Al Madina Logistics Services (SAOC) to lease a total of 250,000 sq m of land and develop 100,000 sq m as a first stage and work to finance, construct and then operate the dry port with an initial cost of US\$10mn.

The agreement was signed, on behalf of Khazaen, by Khalid Awadh Al Balushi, CEO of Khazaen Economic City and by Ahmed Mohammed Al Abri, CEO of Marafi, on behalf of the three companies; Marafi, Khimji Ramdas and Al Madina Logistics Services (SAOC)

Al Futaisi said, "The signing of the agreement aims to establish the first integrated land port in the Sultanate in partnership with the public and private sectors at Khazan Economic City. The new dry port is an important step towards linking Oman's seaports to the commercial, industrial and economic areas in the Sultanate as a direct result of the continuous growth of shipping and maritime traffic across our ports."

The project is expected to contribute to increasing the competitiveness of the city and enhance the process of attracting local and international business owners to establish their projects.



The project aims to increase the competitiveness of the city.

Photo Credit: KEC

Briefly

Bahrain king inaugurates Alba Line 6 expansion project

HIS MAJESTY KING Hamad bin Isa Al Khalifa has inaugurated Aluminium Bahrain's (Alba) brownfield Line 6 Expansion Project, making Bahrain the home of the world's largest aluminium smelter outside China.

Alba's production for 2018 stood at plus-1 million mt. The project is set to boost the smelter's annual production by 540,000 mt this year, bringing its total production capacity to 1.5 million mt per year, according to a report in *Trade Arabia*.

The Line 6 Expansion Project involves the construction of a sixth pot line using EGA's proprietary DX+ Ultra Technology, a 1,792MW Power Station (Power Station 5) utilising the world's first H-class General Electric (GE) 9HA Gas Turbine (GT) and other industrial services. Bechtel is the EPCM contractor for the Line 6 Expansion Project smelter.

Red Sea awards roads construction contract to Binyah

SAUDI ARABIA'S THE Red Sea Development Company (TRSDC) has awarded a contract to the Kingdom's Binyah for the construction of the coastal and inland connecting road links at the destination.

The contract was awarded to design and build 77km of roads, including a 10km highway, a 13km airport access road, interconnecting roads within the destination and an access road to the bridge connecting the main hub island.

The construction is due for completion by the end of Q3 2020.

ON THE WEB

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

Korea-UAE launches Joint R&D Technical Centre

KHALIFA UNIVERSITY OF Science and Technology and Korea Basic Science Institute (KBSI) have jointly launched the Korea-UAE Joint R&D Technical Centre (KUTC) to promote scientific exchange between the two countries.

The KUTC will initially cover areas including advanced materials especially in energy, oil and gas and catalysts, as well as characterisation of semiconductor materials and devices, in addition to materials for biomedical and energy applications. www.technicalreviewmiddleeast.com/manufacturing/innovations/korea-uae-joint-r-d-technical-centre-launched-in-abu-dhabi



Research activities at KUTC will be led by a steering committee.

Photo Credit: APSCO Worldwide

ESMA presents six regulations to increase safety in construction sector

THE EMIRATES AUTHORITY for Standardisation and Metrology (ESMA), during its participation in the Big 5 exhibition, in Dubai, showcased six national projects that enhance safety requirements in the construction sector. The regulations included UAE regulations to support safety requirements in doors, windows and stairs, elevators, paints and varnishes, and environmental labelling. Abdulla Al Maeeni, ESMA director-general, said that the authority focuses on ensuring these regulations are consistent with technological developments and innovations in the world of construction, such as 3D printing. www.technicalreviewmiddleeast.com/hse/esma-presents-six-regulations-to-increase-safety-in-construction-sector ESMA

GCC smart homes market to reach US\$3.4bn by 2025

THE GCC SMART HOME market is expected to be more than US\$3.4bn by the end of 2025, according to a report by ResearchAndMarkets. GCC countries smart home market has seen substantial year-on-year growth in the number of smart homes and is expected to further grow in the upcoming years.

www.technicalreviewmiddleeast.com/it/communication/gcc-smart-homes-market-to-reach-us-3-4bn-by-2025



Urban dwellers are showing their inclination towards home automation.

Photo Credit: Adobe Stock

Saudi Arabia resumes high speed rail services

TEST RUNS have been completed at the New King Abdulaziz International Airport station under the Haramain High Speed Rail Project, Saudi Railways authorities have announced.

Rayan Al Harbi, director-general of operations and maintenance of Haramain Speed Railway, said that the new line is set to cater to travellers between the stations of Madinah, King Abdullah Economic City (KAEC) in Rabigh and the New King Abdulaziz International Airport station. The operations began on 11 December.

With more than an area of 12,000 sq m, King Abdulaziz International Airport station has two terminals for business and VIP class.

www.technicalreviewmiddleeast.com/logistics/rail/saudi-arabia-high-speed-rail-services-to-resume-soon

Etihad Cargo to develop Abu Dhabi Airport as cargo hub

ABU DHABI AIRPORTS and Etihad Cargo, the cargo and logistics services arm of the Etihad Aviation Group, have announced a major project to enhance the Abu Dhabi International Airport into a global air cargo centre. They will implement a multi-phased cargo infrastructure development strategy.

www.technicalreviewmiddleeast.com/logistics/aviation/abu-dhabi-airports-etihad-cargo-to-develop-abu-dhabi-airport-as-cargo-hub



The upgrade of Southside Etihad cargo facilities is expected to be completed in phases by the end of the third quarter in 2020.

Photo Credit: Adobe Stock

Injazat and Lamprell to digitise renewables and energy sector in MENA

INJAZAT AND LAMPRELL have signed an MoU to create and market innovative digital solutions focused on the oil and gas and renewables markets. Lamprell and Injazat are working on a portfolio of technology-enabled digital ventures to create new value for their target customers, primarily in the MENA region.

Christopher McDonald, CEO of Lamprell, said, "It's critical that we stay ahead of the curve and push the boundaries from conventional thinking to ensure the Group is positioned well for the future."

Khaled AlMelhi, CEO of Injazat, said, "Through our collaboration with Lamprell we aim to create innovative digital solutions to solve the most pressing problems faced by the region's energy and renewables industry." www.technicalreviewmiddleeast.com/power-a-water/renewables/injazat-and-lamprell-to-digitise-renewables-and-energy-sector-in-mena

EXECUTIVES CALENDAR 2020

JANUARY 2020

13-16	World Future Energy Summit	ABU DHABI	www.worldfutureenergysummit.com
13-16	Water Expo & Forum	ABU DHABI	www.worldfutureenergysummit.com
13-16	Saudi Plastics & Petrochem	RIYADH	www.recepo.com/events/saudi-plastic-petrochem/
19-21	Intersec	DUBAI	www.intersec.ae.messefrankfurt.com

FEBRUARY 2020

2-4	Kuwait Health, Safety & Environment Forum	KUWAIT	www.hse-forum.com
4-6	Saudi Transport And Logistic Services	RIYADH	www.recepo.com/events/saudi-transport-and-logistic-services/
11-12	Smart City Expo	DUBAI	www.smartcitiesexpoworldforum.com

MARCH 2020

3-5	Middle East Electricity	DUBAI	www.middleeast-energy.com
4-7	Kuwait Building Show	KUWAIT	www.kuwaitbuildingshow.com
8-11	The Big 5 Saudi	JEDDAH	www.thebig5saudi.com

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

Renewable power rises to top of Middle East's energy agenda

THE MIDDLE EAST'S energy and utilities sector is undergoing a transformation, with the shift towards renewable energy.

A number of milestones in the push for clean energy across the region were reached in 2019, including the commissioning of the world's largest single-site photovoltaic (PV) solar plant, the 1.17GW Sweihan independent power project (IPP) in Abu Dhabi. Shortly after the commissioning of the Sweihan plant in March, neighbouring Dubai reached financial close for a US\$4.3bn concentrated solar power (CSP) project.

The drive to integrate alternative energy resources into utilities networks is set to accelerate in 2020 as governments seek to meet the rising demand for power. Rapid population growth combined with ambitious industrial and economic expansion programmes is resulting in growing need for power, with demand for electricity in the Middle East forecasted to triple by 2050. Energy and utilities estimates that installed power generation capacity will be required to increase 35 per cent by 2025 to meet rising demand.

Growing opportunities

According to data from the International Renewable Energy Agency (IRENA), 167GW of renewable energy capacity was installed globally in 2017, accounting for 61 per cent of additional power capacity installed. This was more than double the capacity of new fossil fuel plants, which amounted to 27 per cent.

Energy & Utilities estimates that US\$100bn worth of clean energy projects are currently in the project pipeline, with total investment in clean energy to exceed US\$300bn by 2050 if the region's utilities are to meet their ambitious targets.

Saudi Arabia's target to install 58.7GW of renewable energy by 2030 will offer opportunities for regional and international investors



Photo Credit: MEE

More than \$100bn worth of clean energy projects are already in the pipeline.

and energy firms. The UAE will remain a focal point of the clean energy transition, having set a target of 50 per cent of its energy to be produced by carbon-free sources by 2050. Following the submission of bids in November for the planned 2GW Dhafra solar IPP in Abu Dhabi, the emirate is already working on plans for its next major solar project, PV 3, which is planned 1.5GW-2GW.

The push to integrate renewables into the region's energy sector will form a vital part of the event Middle East Energy (MEE), the new name for Middle East Electricity. Clean energy will have its own dedicated track at the event, which runs at the Dubai World Trade Centre from March 3-5 2020.



Photo Credit: Alain Charles Publishing

The forum featured an array of high-level local and international speakers, and saw delegates absorbing some insightful presentations.

Dubai HSE Forum: Human capital in focus

The fifth edition of the industry-leading event reiterated the significance of investing in employees.

MORE THAN 100 leading health and safety practitioners, government representatives, regulators and solutions providers convened at the Habtoor Grand Resort, Autograph Collection Dubai, of the Dubai Health, Safety & Environment Forum 2019 (24-25 November 2019).

The forum featured an array of high-level local and international speakers, and saw delegates absorbing some insightful presentations as well as participating in animated debates and panel discussions. The latest safety and protection solutions were showcased on the sidelines of the event, while lively networking sessions allowed plenty of opportunities to establish and strengthen business relationships.

The first speaker on the first day of the Forum, Faaeza Al Katheeri, geoscience manager, ADNOC – Al Dhafra Petroleum, spoke about effective leadership in achieving 100 per cent HSE, highlighting interesting case studies of how HSE culture

at organisations is a top down process, fostered by collaboration and open communication.

Dr Mona Shawki, specialist of occupational medicine, Ministry of Health & Prevention, highlighted the global challenges to occupational health and safety – currently, more than 374 million people are injured or made ill every year through work-related accidents. She also spoke about the strategies devised by the Ministry to improve safety and health coverage for workers.

Cherian Varghese, founder and CEO, VIN Technology Systems, pointed out that in 2017, vehicle-related facilities were the leading cause of deaths at construction sites. He highlighted the benefits of collision avoidance systems, such as the elimination of blind spots and proximity warning.

Salman Dawood Abdulla, executive vice president – HSSEQ, Emirates Global Aluminium, delved into the human aspects of HSE - how leadership and a motivated workforce can help enhance industrial safety,

over and above equipment and safety management systems. He highlighted the critical role of leaders at all levels of an organisation in infusing a positive culture, and how this can enhance worker safety.

Dr Mohammed Aref, QHSE expert, Ministry of Human Resources & Emiratisation, explored this human factor deeper in his talk. “Humans are the weakest link in the sophisticated and complex systems that protect us from catastrophic process safety events,” he explained. “The next step change in process safety is likely to come from a growing awareness of how to analyse human behaviour and design management systems to minimise its risk.”

Another professionally enriching and informative session on BCSP certifications for safety professionals followed. “The need for safety exists at all levels of an organisation; thus BCSP certifications help to promote safety competence at all levels,” said Subba Rao Palagummi, ambassador, Board of Certified Safety Professionals, USA.

The audience got to hear from Dr Taufiq Omeish, senior HSE manager, Dubai Electricity & Water Authority, on how Dubai's utilities provider maintains the highest levels of compliance to international HSE standards.

Will Cadwaladr and Samantha Ellaby, associates, Clyde & Co, made a practical demonstration of the criminal investigation process, which may follow a workplace injury or fatality, exploring best practice and common pitfalls during the police and public prosecutor interviews.

A lively panel discussion on current HSE issues facing the workforce and safety professionals saw great participation from the audience and the panellists: Dr Ola Ahmed Mira, specialist physician, Association for Neuro-Linguistic Programming (NLP), Dr Ghanim Kashwani, post-doctoral associate, New York University, Abu Dhabi, Joyveer Dutt, regional manager QHSE, Al Futtaim Engineering, Emmanuel Uwalaka, regional administrator, Occupational Safety & Health Association and Dr. Adrian Costigan, managing director, A-Safe Middle East.

One aspect of the Dubai HSE Forum that made it content-rich, inclusive and informative was the inclusion of academia to provide a different perspective to the industry event. Dr. Ghanim Kashwani, post doctoral associate at New York University, Abu Dhabi, discussed the impact of Industry 4.0 on safety mindsets in the construction industry.

The Forum also showcased the latest products and technologies in the sector. Ian Hume, sales director MEAIR, JLG Industries presented access solutions offered by his company to drive safety. Daryl Wake, business development representative - Middle East for Universal Site Monitoring, an Australian manufacturer of location-sensing devices, presented the company's multi-featured monitoring equipment. Syed Farrukh Ali, senior territory manager, and Mohammed Jamad, key account manager at Ansell presented the company's range of protection solutions.

Focus on human capital

On the second day of the Forum, speakers reiterated across different sessions, the significance of investing in employees. According to multiple speakers, investing in employee safety and well being is the road to a better business.

In the first presentation of the day, Joyveer Dutt, regional manager QHSE, Al Futtaim Engineering stressed the significance of understanding that gains should not only be in monetary terms, but also in what he explained as the three p's – profit, people and planet. "Human capital is the key; no organisation can run without humans. Even in Industry 4.0, it is absolutely necessary," he told the audience.



One aspect of the Dubai HSE Forum that made it content-rich, inclusive and informative was the inclusion of academia to provide a different perspective to the industry event.

Taking a similar approach was Nancy Nouameih, VP Quality & Safety, Abela & Co. who said that the company has taken a human-centric approach – saying, "Give your employees, colleagues and co-workers a reason to believe in: you, the team, their contribution counts." She added, "As safety practitioners and leaders it is our job to remove barriers to effective work; to do that requires a shift in mindset to incorporate more into our safety programmes and policies."

In his presentation, "Make trust your objective," Andrew Barker, a culture change and behavioural safety leader, added that small steps can help. He explained to the audience that a quality conversation is significant.

Karim A Pachyannakis, corporate HHSE & Quality manager, Al Mansoori Specialized Engineering, showed a video about how loading accidents can not only result in loss of materials, but most importantly the loss of lives of what could be multiple people. Other topics tackled included the impact of digital transformation in the workplace, and how to ensure health and safety training through innovation.

"Immersive technologies are widely applied across sectors," said Dr Sana Farid, co-president, VRAR Association MENA. She added further that given how society is moving towards e-learning and online learning, it is also important to ensure that safety training is taking place online. "Virtual reality and augmented reality, they are affordable and convenient and have much more impact compared to the traditional model," she said.

Dr Maisoon Ali Alshaali, consultant, Public Health Medicine, Ministry of Health & Prevention stressed the need for long-term action and commitment to reduce pollution levels, involving changes in attitudes and lifestyle choices. She gave a presentation on the UAE's National Health & Climate Change strategic framework which looks to assure the expansion of health surveillance and enhance data protocols related to climate factors. ■

Humans are the weakest link in the sophisticated and complex systems that protect us from catastrophic process safety events.

Dr Mohammed Aref, QHSE expert, Ministry of Human Resources & Emiratization

Meet the Truck of the Year 2020

The Mercedes-Benz Actros wins the honour for the fifth time.

The new Mercedes-Benz Actros tackles safety, efficiency and comfort.

SPECIALIST COMMERCIAL VEHICLE journalists from 24 European countries voted for the Mercedes-Benz Actros to be crowned Truck of the Year of the fifth time. The truck's success story started back in 1997 when the first Actros was released and the subsequent vehicle generation also brought home the award. With a total of nine victories, Mercedes-Benz is now the most successful brand in the fight for the Truck of the Year accolade. The International Truck of the Year jury (ITotY) votes based on innovative technological developments.

Professor Dr Uwe Baake, head of development at Mercedes-Benz Trucks, received the award during the press days of the Solutrans international commercial vehicle show for road and urban transport in Lyon.

In line with the jury rules, the title is awarded every year to the truck which makes the biggest contribution towards road transport innovations that are advantageous to the economy, emissions, safety, driveability and comfort of vehicles. The new Mercedes-Benz Actros tackles safety, efficiency and comfort with a multitude of new features, including: the multimedia cockpit, MirrorCam instead of

exterior mirrors, partially automated driving or further advanced safety systems.

The new Actros has further strengthened its leadership position in safety. A milestone in this field is the new Active Drive Assist. A world premiere in a production truck, the system offers partially automated driving in all vehicle speed ranges. It actively supports the driver in certain conditions through longitudinal and lateral guidance of the truck and can automatically brake and accelerate the vehicle, while also keeping within the lane. The system plays its strengths in both heavy traffic and on long, monotonous trips. However, the driver continues to have full responsibility for driving the vehicle safely. This responsibility also means that the driver must always

The International Truck of the Year jury (ITotY) votes based on innovative technological developments.

have full control of the vehicle in traffic, amongst other things.

The journalists praised the extended functionality of the forward-looking Predictive Powertrain Control (PPC) cruise control system which can now be used on winding arterial routes. Equally commended was the completely digital Multimedia Cockpit which has replaced the conventional instrument cluster in the new Actros.

President of the international jury, Gianenrico Griffini, summarised the jury's votes, "With the introduction of the new Actros, Mercedes-Benz has brought a highly modern truck onto our roads which smooths out the path to achieving automated driving in the future."

Professor Dr Uwe Baake speaking at the awards ceremony in Lyon said, "We are very pleased and proud that the Truck of the Year jury has recognised our efforts of the past years and months with this distinction. Thank you on behalf of the company and the entire team. This will really spur us on to continue giving our all and fulfilling the highest developmental standards for our trucks, especially when it comes to the future-oriented topics of electromobility, automated driving and digitalisation within our sector." ■



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The Scania AXL is steered and monitored by an intelligent control environment.



Driving fleets into the future

Developments in driverless and electric commercial vehicles hold promise for GCC countries looking to decarbonise their economies, reports Shalaka Paradkar.

Photo Credit: Scania

A highlight was the first self-driving heavy vehicle making the 140km Abu Dhabi-Dubai trip, the longest for this type of vehicle in the UAE.

GOVERNMENT SUBSIDISED FUEL and the absence of a rail network have contributed to making trucking the most popular means of moving freight around in the GCC countries. According to BMI Research, more than one million trucks are currently on the road in the GCC.

Commercial vehicles contribute to NO₂ emissions, increase congestion in cities and generate higher carbon emissions. In this scenario, autonomous vehicles are the solution for efficient and sustainable fleet management. As trucks spend more time on highways than congested urban environments, it is anticipated that autonomous trucks may come onstream soon; reducing emissions, downtime (as there is no need for rest stops), transportation costs, and overcoming the challenge of a paucity of truck drivers.

This September, Scania debuted a concept truck, without the cab. Billed as a milestone in the development of heavy self-driving vehicles, the Scania AXL is steered and monitored by an intelligent control

environment. Mines and large closed construction sites are examples of environments that are favourable for self-driving pilots since they are well-controlled locations. In mines, for example, autonomous operations are facilitated by a logistics system that tells the vehicle how it should perform. The combustion engine that powers the concept vehicle mixes traditional and new technology as it is powered by renewable biofuel.

The Sharjah Research, Technology and Innovation Park's (SRTIP) SkyWay project, will see 'unicars' transporting cargo and passengers. SkyWayGreenTech, which is working on the technology being used, is building three test tracks across SRTIP from Sharjah Airport road to Muweilah road. Test tracks have already been created and are being tested before the longer tracks come into operation.

The smart transport, produced by one of the world's leading Dutch companies, accommodates 20 passengers, uses pre-programmed routes and is good for short

distance travel. The sensor and intelligent transport system can handle any obstacles in its path and avoid collision.

The launch of the autonomous vehicle marks a new step in SRTI Park's drive to use smarter public transport, in line with the government's guidelines and strategies for self-driving mobility, providing more sustainable transport solutions.

Hussain Al Mahmoudi, CEO of SRTI Park, said, "The experimental operation of this type of vehicle is an important part of its plan to develop an integrated transportation system based on new innovative technologies and test them in a research process involving the private and academic sectors, through the involvement of students.

"This launch translates the Park's strategy and vision to become a regional development centre for future science and innovative technologies by creating an environment suitable for research and development and through a package of accelerators in cooperation with the private, public investment sector and the academic sector."

Decarbonising

At this year's Tokyo Motor Show, Mitsubishi Fuso, under the umbrella of Daimler Trucks & Buses, launched the Fuso brand fuel-cell prototype, Vision F-Cell.

It is a prototype that will be used to test the possibilities of fuel-cell technology for various commercial vehicles. The 7.5-tonner has a drive with a maximum output of 135 kW and a range of up to 300 km. The Vision F-Cell electric powertrain architecture is basically comparable to that of a battery-powered truck - apart from significantly reduced battery power and additional hydrogen tanks.

While the truck is yet to be launched in the Middle East, delegates at the fifth International Conference on Future Mobility organised by the Emirates Authority for Standardization and Metrology (ESMA) in Dubai, got a glimpse into the future of the global transport sector.

A conference highlight was the first self-driving heavy vehicle making the 140km trip between Abu Dhabi and Dubai, the longest for this type of vehicle in the UAE and neighbouring countries.

Abdulla Al Maeeni, director general of ESMA, said that experts discussed the latest technological advancements and new mobility solutions in the transport sector, such as big data, AI, IoT and new alternatives set to radically change the transport sector.

Al Maeeni added: "The UAE has been at



Daimler Trucks & Buses launched the FUSO brand fuel-cell prototype, Vision F-Cell.

Photo Credit : Mitsubishi Fuso

the forefront of developing alternate modes of mobility with sustainable technologies, prioritising the transformation of current mass transport modes into more efficient and intelligent systems."

The transportation industry has been moving to incorporate IoT technologies such as telematics hardware and software in trucks, with an estimated spend of US\$71bn in 2019, according to Deloitte. In North America, 42 per cent of all owned commercial vehicles are forecast to have telematics by 2021, and 95 percent for all new trucks sold by 2026 in North America, Western Europe, and developed Asia will have telematics and software. Over the next five years, the adoption rate for robotics and automation could reach 70 per cent, with nearly two-thirds of companies deploying predictive analytics and artificial intelligence – a development predicted to reduce accidents, improve safety and efficiency.

Speaking on the sidelines of the Gulf Traffic show in Dubai, Noura Ali Alhouli, senior architecture engineer & road project manager, Ministry of Infrastructure and Development said; "One of our two initiatives within AI is the first customised humanoid robot that will act as an expert consultant engineer, well-versed in deep learning, machine learning, and predictive analytics. The robot will help in project planning, design, execution until closing, and finally, operation and maintenance." The second project implements AI in residential communities, using cameras and facial recognition to track unauthorised visitors, wrongly parked vehicles and even children wandering too far from a community playground.

Electrification

No exhaust emissions and reduced noise levels make electric trucks a great idea for

congested city roads. Volvo has stepped into the niche with its Volvo FL Electric and Volvo FE Electric.

"We are able to meet both the strong environmental demands as well as the high commercial requirements of our customers," says Jonas Odermalm, VP product line electromobility at Volvo. "While customer feedback has been positive, it's clear that the pace of development of charging infrastructure needs to increase."

"Electric vehicles, charged with electricity from renewable sources, are indeed a powerful step towards more sustainable city distribution. However, there will not be one singular energy source that addresses climate change and all other environmental issues. Different types of transport require different types of driveline solutions."

Sharjah's environmental management company Bee'ah purchased the first and largest fleet of Tesla Semi trucks in the Middle East last year, ordering 50 of the all-electric vehicles immediately after their launch in November 2018. The incoming Tesla Semi trucks will primarily be used for waste collection and transportation, including transportation of materials for recovery. They will also add to Bee'ah's fleet of 1000+ vehicles, that includes electric vehicles, and others running on compressed natural gas and bio diesel.

The GCC stands to benefit the most from these advances in transportation and mobility, as they reduce fuel costs and accidents, reduce the dependence on labour, improve uptime and profitability for businesses.

With federal support, new regulations, suitable road infrastructure, and partnerships with manufacturers, the Middle East has a chance to lead the world in the rapidly evolving mobility sector. ■

Steeling for economic challenges

As platinum sponsor, Emirates Steel highlighted vital issues at this year's Middle East Iron and Steel Conference.

THE PAST FIVE years have seen the Gulf construction industry witness a slowdown, with the market contracting by a third between 2014 and 2018, according to a report from Deloitte. While the fall in oil prices in 2014 is to be partially blamed, the GCC's governments have promoted economic plans leading to exciting opportunities for suppliers to the construction industry.

At this year's Middle East Iron and Steel Conference, the mood was upbeat. Emirates Steel CEO Saeed Ghumran Al Remeithi cited the current project pipeline for the region's steel sector to expect healthy growth for years to come, which includes Saudi Arabia's US\$500bn NEOM city development and the UAE's six-month long Expo 2020, which EY have forecasted to contribute Dh122.6bn to the UAE's economy by 2031.

"The Gulf construction industry is unique, given its consistent growth, with new and expansive projects being developed at a consistently rapid rate. For suppliers to the construction industry, the market continues to grow rapidly with consistent investments being made by national governments seeking to diversify their economies. In comparison, markets in Europe, North America, and Oceania, where we also export our products to, do not have such strong growth rates," he said.

Emirates Steel, the only integrated steel plant in the UAE and a subsidiary of the General Holding Corporation (SENAAT), participated in this year's 2019 Middle East Iron and Steel Conference, as the conference's platinum sponsor. The company discussed with conference delegates current opportunities and challenges in a protectionist global trade context, and how companies can mitigate the macro-economic headwinds impacting the steel market.

The Middle East Iron and Steel Conference is an annual gathering of the steel industry in the Middle East (9-11



Photo Credit: Emirates Steel

Emirates Steel is utilising the latest rolling mill technology to produce rebar, wire rod and heavy sections.

December, 2019; Grand Hyatt Hotel Dubai).

Speaking ahead of the conference, Al Remeithi commented, "This year's Middle East Iron and Steel Conference falls at a difficult time for the global steel markets. In this conference, we are looking forward to speaking with attendees, discussing their priorities for the upcoming year and what steps they are taking to abate the impact of global protectionist tariffs, alongside sharing what strategies we as a company are exploring."

"The growth of demand in Asian markets, has been exciting, alongside witnessing strong construction performance in the GCC, particularly from producers such as Saudi Arabia and the UAE ahead of Expo 2020. However, there are also challenges in the slowdown of the global manufacturing sector, with automotive manufacturing in particular facing pertinent and ongoing challenges at the onset of a wider global recession."

Concluding, Al Remeithi said, "The Middle

East iron and steel sectors are both important to the development of wider local and regional industries, including construction, manufacturing and energy, and ensuring their continued health is an important aspect of ensuring the health of the wider economy of the region. We look forward to sharing our own perspective from Emirates Steel on the current performance of the steel market."

Emirates Steel is owned by SENAAAT, the UAE's largest industrial conglomerate and a driving force for implementing the Abu Dhabi government's industrial diversification policy.

Abu Dhabi-based Emirates Steel is the only integrated steel plant in the UAE, utilising the latest rolling mill technology to produce rebar, wire rod and heavy sections. In 2012, the company began producing at a capacity of 3.5 million MTPA, following two expansions and the investment of around US\$3bn. ■

Plane Ap-peel: Italy at Expo 2020

Recycled plastic, orange peels and coffee grounds will be used in constructing Italy's pavilion, which will flaunt aerospace technology.



ITALY, AMONG THE first countries participating in the Universal Exposition to start building its own pavilion, has broken ground at Expo 2020 Dubai this December.

Designed around the theme: 'Beauty connects people', the pavilion will showcase Italian talent and expertise and feature Innovation Hub, an innovatively designed structure, which has been inspired by the

most advanced sustainability and circular economy standards.

The Italy pavilion, located in proximity to the UAE pavilion on the 'cultural spine' of the Expo site, will open its doors on October 20, 2020 and demonstrate innovation and sustainability in aerospace.

The structure, covering an area of 3,500 sq m and reaching a height of almost 27 m, will afford a memorable, immersive

experience to visitors. Italy expects an estimated 28,000 visitors on average daily for a total of over five million visitors during the six months of the Expo that will conclude in April 2021.

Italy will share visibility space with the pavilions of the UAE, India, Germany, Saudi Arabia, Japan and the US between the thematic areas of Expo 2020 dedicated to 'Opportunities' and 'Sustainability'.

The national pavilion has been conceived by a consortium comprising CRA-Carlo Ratti Asso-ciati, Italo Rota Building Office, matteogatto&associati and F&M Ingegneria, and is built in collaboration with the Italian Ministry of Foreign Affairs and the UAE.

The pavilion is a metaphor for the journey from Italy to Dubai.

Exploring recycling, circularity and digitally reconfigurable architecture, the pavilion is

Italy will share visibility space with the pavilions of the UAE, India, Germany, Saudi Arabia, Japan and the US between the thematic areas of Expo 2020 dedicated to 'Opportunities' and 'Sustainability'.

made out of three boats that will be converted into the roofscape and the backbone of the structure. Painted red, white and green – the colours of the Italian flag, the three hulls of the ships, when seen through a bird's eye-view, will appear like three petals, according to Italy at Expo 2020 Dubai.

Commenting on the use of overturned ships as the roof of the pavilion, Carlo Ratti, founding partner of CRA and director of the MIT Senseable City Lab at the Massachusetts Institute of Technology (MIT), said that the three structures will be used in 'different ways' even after the end of the six-month long expo.

Ratti added that "overturning the hulls is based on sustainability and circular architecture concepts".

"There will be a 'prologue' with large spaces inspired by the forms of important Italian pi-azze, and a 'grand finale' that will be almost like a cathedral to nature, light, [and] the music of the universe, like the sky over the Mediterranean and the desert," said Italo Rota, founding partner of Italo Rota Building Office. The pavilion's architecture draws from the historical tradition of ocean-going populations and fishermen from Europe and the world.

Integrating sustainability in the core of the concept, the project utilises specific construction materials such as orange peels and coffee grounds that will clad the skywalk, mycelium and recycled plastic extracted from the ocean to engage with the circular economy.

Moreover, the exhibition incorporates local materials from Dubai such as real sand. Natural climate control strategies are also used inside of the project.



Natural climate control strategies are used inside of the project.

Photo Credit: CRA-Carlo Ratti Associati

The exhibition route of Italy at Expo 2020 Dubai reflects a journey of sight. It starts high up, from the unusual view from a panoramic viewpoint – just like the travelers on the Grand Tour, who used to admire the amazing landscapes of Italy from the highest points – and accompanies the visitor on a journey through narrative architectures: the Belvedere, where beauty can be glimpsed through an octagonal window opening onto Italy's finest landscapes; the Short Stories space, dedicated to presentational and cinematographic "short stories" focusing on Italian excellence in know-how and expertise; then there's the Innovation Study Centre, offering an immersive journey into the latest frontiers of Italian research on space and marine waters; and lastly, the Theatre of Memory, dedicated to the mother of all the muses. As the pavilion is

located close to an open park, no structures will hinder views of its front and side walls.

"The project allows us to realise not only an exhibition space, but a space that represents the best of Italian ingenuity," said Paolo Glisenti, general commissioner for Italy at Expo 2020 Dubai. "The Italian Pavilion will be [delivered] with the contributions of partner companies – large, medium, and small – to provide the best structural, engineering, technological, and scenographic components that [can contribute to] sustainability, the circular economy, and digital architecture." ■



The pavilion's architecture draws from the historical tradition of ocean-going populations and fishermen from Europe and the world.

Photo Credit: CRA-Carlo Ratti Associati

ENOC: 'Reimagine Energy'

ENOC GROUP, THE official integrated energy partner of Expo 2020 Dubai, has marked the ground-breaking of its Expo 2020 Dubai pavilion, located near the UAE pavilion and between the Sustainability and Opportunity districts.

Under the theme of 'Reimagine Energy', the pavilion will be split across five distinct pavilion structures or 'houses' inspired by traditional oil storage tanks drawing inspiration from ENOC's heritage. Collectively, these houses explore humankind's relationship with energy from the beginning of time in an immersive, multi-format experience for visitors of all ages.

Through a unique architectural approach and a myriad sensory experiences including juxtaposition, audio-visual narratives and interactive projections, the pavilion is modelled to challenge typical ideas of 'energy' while facilitating a conversation around the evolution of the sector.

Crude oil exports earned Iraq an estimated US\$850bn over 2003-18 (IMF data).



Photo Credit: Adobe Stock

Rebuilding Iraq: the paradox of plenty

Despite being blessed with tremendous natural resources, Iraq's reconstruction is a challenging process, says economist Moin Siddiqi.

The country is slowly emerging from deep economic strains of the last five years, but faces stiff challenges, namely repairing infrastructure destroyed in 2014-17 ISIS war.

AMONG THE MOST 'undiversified' of Middle Eastern oil producers, Iraq is more vulnerable to oil price volatility. In 2018, Iraq's petroleum sector accounted for about 55 percent of GDP, and almost all of its total budget and export revenues (International Monetary Fund data). The hydrocarbons sector is critical to present and future consumption and investments.

As it slowly emerges from the deep economic strains of the last five years, Iraq faces stiff challenges: repairing infrastructure and other property destroyed by the 2014-17 war with ISIS, as well as improving the supply of electricity, water and other public services.

The paucity of basic services is the source of much discontent in Iraq. Electricity supply has averaged only 17 hours per day in recent

years, impacting the business environment. Job openings for the estimated 800,000 annual entrants to the labour market are limited. Not surprisingly, GDP has barely grown in per capita terms since 2014.

"Forty years of upheaval has eroded physical and human capital and weakened public institutions. Social conditions remain harsh following the war with ISIS, with slow progress at reconstruction, weak public services and a lack of job opportunities. The recent rebound in oil prices helped deliver a large budget surplus and healthy build-up in reserves in 2018, but post-war recovery has been sluggish," noted the IMF in July 2019.

Crude oil exports earned Iraq an estimated US\$850bn over 2003-18 (IMF data). However, poor governance, public financial management weaknesses, and

severe capacity limitations diverted these windfalls away from 'productivity-enhancing investments' in human and physical capital towards higher current spending, notably on public sector wage bills and subsidies but little has been saved in financial assets. Consequently, Iraq's development needs remain colossal.

Rehabilitation challenges

The implementation of Iraq's public works programme provides daunting budgeting and engineering challenges. Conflicts and neglect have left major portions of infrastructure in tatters, however, existing bottlenecks in various sub-sectors offer opportunities for engineering, procurement and construction (EPC) firms, as well in project design, execution and maintenance.

The entire country, which is the size of France, demands large-scale rehabilitation. The efforts include rebuilding highways, streets, roads, and bridges, seaports and airports; restoring electricity, repairing power stations and investments in transmission and distribution networks; re-connecting interrupted water supplies and developing wastewater management; solid-waste treatment and disposal facilities; providing mass social housing, hospitals, schools and sanitation services; and focusing on information and communication technologies, which requires the expansion of wireless and internet connectivity.

Reconstruction efforts have been proceeding at a moderate pace; capital spending totalled just ID14 trillion (US\$11.8bn) in 2018. The ISIS war left cities like Mosul and Tal Afar facing over 70 percent destruction. By 2017, the cumulative real losses to non-oil economy stood at ID124 trillion (US\$104.9bn).

The World Bank's Iraq Damage and Needs Assessment (DNA) on the seven directly affected governorates estimated the overall damages at US\$45.7bn and reconstruction and recovery needs totalling US\$88.2bn. The Bank estimates repairing of the country's almost 60,000-km of roads will cost US\$17.4bn – with further US\$2.6bn to rebuild about 1,300 bridges. Official estimate for mass housing development stands at US\$17bn.

Continued expansion in power generation capacity remains a high priority. There are about 20 gigawatts (GW) of power grid capacity (mostly gas-fired) either under-construction or planned for the medium-term.

There are about 20 gigawatts (GW) of power grid capacity (mostly gas-fired) either under-construction or planned for the medium-term.

Investment in transmission/distribution networks has lagged behind over decades. That explains the hefty distribution losses, estimated at 50-60 percent of total power supply – which are of the highest levels in the world, according to the International Energy Agency (IEA).

Reducing these losses by half can improve vastly the efficiency of grid supply, thus increasing available capacity by one-third (IEA estimates).

The Government of Iraq (GoI) estimates the cost of rebuilding the country to be US\$100bn over a five-year period, which seems a conservative estimate. The US-based Foreign Policy Research Institute puts the price tag of rebuilding Iraq between US\$160bn and US\$270bn, or probably even higher.

Developing institutional capacity

Iraq has also experienced a severe deterioration of 'soft' infrastructure – reflected in governance, market failures and labyrinthine bureaucracy, which affects both the demand and supply of public works and their restoration. On the supply side, reconstruction is hindered by capital inadequacy, shortages of skilled managers and pervasive state intervention. Furthermore, over-regulation (red tape), obsolete commercial laws and lack of economic reforms, such as bank restructuring and deregulation of energy and services have stymied foreign direct investment (FDI) and constrained the growth of non-oil sectors.

Iraq suffers from limited absorptive and project execution capacities. The government needs to improve its ability to plan, reform and manage recovery, plus growth expectations. Though it is making slow progress enacting laws and developing the institutions

to implement national agenda, however, structural reforms are still needed to ease investors' concerns about an opaque business climate. The World Bank's *Doing Business 2020* survey ranked Iraq 172 out of 190 economies in terms of the ease of doing business. The Bretton Wood Institutions stressed that Iraq's private sector requires far-reaching reforms to flourish.

Most importantly, Iraq should adopt a robust strategy to depart from being purely 'oil-based' towards becoming a productive 'diversified economy', as well as adhering to transparency and accountability – thus ensuring a cohesive future.

Strengthening governance, including the rule of law, tackling infrastructure gaps and improving financial services will support business growth and aspire new entrepreneurs. The rebuilding of Iraq could be sluggish unless weaknesses in institutional capacity are properly addressed.

IRAQ Selected Macroeconomic Indicators

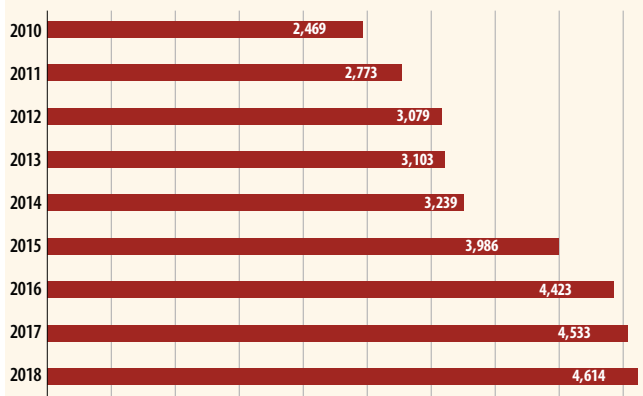
	Projections					
	2015	2016	2017	2018	2019	2020
DOMESTIC ECONOMY						
Nominal GDP (US\$bn)	177.7	175.2	195.5	224.2	224.1	241.5
of which: Non-oil Output (%) of total GDP	66.3	66.9	60.1	55.0	59.7	60.6
Real GDP growth (%) annual change	2.5	15.2	-2.5	-0.6	4.6	5.3
Non-oil real GDP (%) annual change	-14.4	1.3	-0.6	0.8	5.4	5.0
Consumer price inflation (%; average)	1.4	0.5	0.1	0.4	0.8	2.0
Gross Domestic Investment #	24.9	20.8	16.7	12.9	18.8	16.7
Gross Domestic Consumption #	81.2	87.0	80.8	79.1	84.5	84.5
Overall Fiscal Balance, incl. grants #	-12.8	-13.9	-1.6	7.9	-4.1	-3.5
Total Government Debt, incl. arrears #	56.2	64.2	58.9	49.3	51.4	50.5
EXTERNAL SECTOR (US\$bn)						
EXPORTS, FOB	56.5	50.0	68.0	92.4	82.9	87.3
of which: Crude oil (%) of total	99.3	99.4	99.4	99.4	99.2	99.3
IMPORTS, FOB	56.7	53.1	53.1	62.3	75.1	77.3
Merchandise Trade Balance	-0.2	-3.1	14.9	30.1	7.8	10.0
Gross Official Reserves	54.1	45.5	49.4	64.7	57.2	53.5
Import-cover (months of total imports)	9.3	7.8	7.3	8.0	6.8	6.2
External Government Debt	66.1	65.0	69.5	68.7	72.2	76.2
Exchange Rate (dinar/US\$1; period avg)	1,166	1,180	1,182	1,182	1,182	1,182

As percent of gross domestic product (GDP).

Structure of Output (% of GDP; 2018): Agriculture 3%; Industry 56%; and Services 41%.

Sources: Iraqi authorities; IMF and World Bank.

Ten-year Trends in Iraq's oil production (000' bpd)



*January-to-September

Iraq is OPEC's second-largest producer (after Saudi Arabia) and the world's third-largest oil-exporter.

Proved oil reserves: 150bn barrels (Iraqi Ministry of Oil).

Ultimately recoverable resources: 246bn barrels (U.S. Geological Survey).

Sources: BP and OPEC Oil Market Report September 2019.

Broader agenda

Iraq's Planning Ministry is specifically encouraging private-sector involvement in priority projects, including energy, transportation and logistics, water, healthcare, manufacturing, construction, and agriculture. The scope of public works programme goes beyond the

task of rebuilding by aiming to solve many chronic de-efficiencies – rising from a lack of economic diversification. Current oil revenues (under US\$90bn) are insufficient to fund long-term spending.

Iraq's annual revenues could surge more than two-folds if non-oil sectors are activated: manufacturing, petrochemicals, agriculture, tourism transportation, and services.

Thus, GoI needs to depend on external aid, loans (including both non-commercial and official) and public-private partnerships (PPPs) with foreign companies with 'risk-appetite' taking on development projects in the pipeline, such as new refinery and petrochemical plant in Al-Faw; rebuilding and repairing cement plants in Sinjar, Mosul and Fallujah; fertiliser plant in Baiji; repairing glass plants in Ramadi; new and rehabilitating hospitals in Karbala, Mosul and Ramadi; rehabilitation of Baghdad-Mosul-Rabia-Fishkhabour highway; new technology incubator in Baghdad; and Karbala city project in downtown Karbala. Some government projects are vague

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Iraq's Planning Ministry is specifically encouraging private-sector involvement in priority projects, including energy, transportation and logistics, water, healthcare, manufacturing, construction, and agriculture.

and long-term like plans to build 25,000 housing units in each of Iraq's 19 provinces.

Cautious optimism

Unlike other war-torn states, Iraq's future creditworthiness appears more solid, with real potential for sustainable development, assuming political stability. This reflects vast (untapped) hydrocarbons resources, fertile agricultural land, a plentiful water supply and by regional standards, technical sophistication. Iraq must reform itself, but needs international help to improve governance, reform policies and nurture a productive market economy to attract private investments and deliver public services more efficiently, thereby rebuilding social cohesion and completing the political transition – vital to lasting peace.

Iraq's annual revenues could surge more than two-folds if non-oil sectors are activated: manufacturing, especially petrochemicals, agriculture, tourism transportation and services. Despite severe headwinds, Iraq has become the world's fifth-largest oil producer, with output reaching nearly 5mn bpd in H2 2019. The Ministry of Oil wants to expand production to 8.5mn bpd within decade after infrastructure (incl. export terminals) has been upgraded.

A younger fast-growing population can drive innovation and economic growth. To deliver on 'demographic' dividend, massive

investments in education and vocational training (emphasis on science/technology) are needed along with promoting digital connectivity, and key labour reforms to induce graduates to apply for private sector rather than civil service jobs and encourage

Despite severe headwinds, Iraq has become the world's fifth-largest oil producer, with output reaching nearly 5mn bpd in H2 2019.

entrepreneurial initiatives. The growth of small-medium sized enterprises (SMEs) will help to combat high unemployment in Iraq.

In sum, capacity-building, fostering technical/scientific skills, and promoting human capital and prudent macroeconomic policies, coupled with reliable physical infrastructure as well as conducive business climate are pre-requisites for Iraq becoming a vibrant economy on a par with peer upper middle-income countries and to reintegrate into the global economy. ■

MAN Energy Solutions provides 53 MW of electrical power to Iraq

MAN ENERGY SOLUTIONS is providing a drink can factory of the Royal Can Making Company (RCMC) in Iraq with six MAN 18V32/40 CD engines, with a total capacity of 53 megawatts (MW). The recently constructed power plant in Baghdad, the capital of Iraq, will supply power to the RCMC manufacturing site and to other nearby industrial plants.

"Iraq is a country in the process of change. After the armed conflicts of the past, the World Bank is forecasting economic growth of 6.5 per cent for this year," explained Waldemar Wiesner, Head

of Region MEA (Middle-East Africa), Power Plant Sales, at MAN Energy Solutions.

"Providing local businesses with a reliable energy supply is the prerequisite for economic growth in Iraq. Our localised power plant solutions ensure the operation of industrial plants and make customers, such as the Royal Can Making Company, independent of the national power grid," Wiesner added.

The new power plant offers reliable energy supply for the RCMC drink can factory and therefore enables high utilisation of production capacities, as the

plant is no longer affected by fluctuations in the national grid. The company manufactures more than two billion drink cans every year.

This year, MAN Energy Solutions has commissioned two power plants in the Iraqi cities of Samawah and Basra.

"We are proud that the Royal Can Making Company is another customer from the Persian Gulf region which is relying on energy solutions provided by MAN Energy Solutions. In total, we are now supplying more than 200 MW of power to rebuild the country's infrastructure," said Wiesner.

Siemens and Orascom to rebuild 1.6GW power plant

SIEMENS AND ORASCOM Construction signed an agreement with Iraq's Ministry of Electricity to rebuild Baiji 1 and Baiji 2 power plants in northern Iraq. The plants will have a combined generation capacity of 1.6 gigawatts (GW) when completed and are a major step in Siemens' roadmap for rebuilding Iraq's power sector that has already added more than 700 megawatts to Iraq's grid.

Work at Baiji, which is about 250 km north of Baghdad, will begin once the contracts are approved by Iraq's Council of Ministers and a financial agreement is reached with the Ministry of Finance. The projects are expected to be completed within 28 months after the financial closing.

The power plants in Baiji were severely damaged by Islamic State militants. Recovering the lost capacity from the plants will help Iraq power its biggest oil refinery located in the city, a concrete plant, and will provide electricity to thousands of homes in Salahuddin province and other areas.

Iraq's electricity minister Luay al-Khateeb, Siemens AG's Joe Kaeser and Osama Bishai, the CEO of Orascom Construction, witnessed the signing of the agreement on the sidelines of the Iraq Energy Forum 2019 in Baghdad.

Siemens will supply four new SGT5-2000E gas turbines and will inspect and revamp six existing ones. The company will also provide two 400kV and one 132kV substations, along with generators, auxiliaries, automation and control systems, and related electrical equipment.

"Iraq's economic transformation is picking up pace, and this project demonstrates Siemens' commitment to help Iraq's Ministry of Electricity provide efficient and reliable power to all its people," said Dietmar Siersdorfer, CEO Siemens Middle East and UAE. "We are proud to begin this project to help Iraqis in liberated areas recover and prosper."

Discussing the deal, Karim Amin, CEO of power generation at Siemens AG, said, "The reconstruction of Baiji 1 and 2 power plants mark the second phase of our roadmap in Iraq and will be the biggest so far in terms of power generating capacity when both plants are completed. The rebuilding of Baiji will secure 1.6GW and will create



Siemens has partnered Iraq's Ministry of Electricity to modernise four power plants.

hundreds of jobs, which is a further demonstration of Siemens' commitment to support knowledge transfer to the Iraqi people."

Siemens' footprint has been expanding in Iraq and the company is now active at over 20 locations, from Basra to Erbil. Siemens also has some recent experience in Baiji. Earlier this month, Siemens delivered power equipment to ensure constant electricity for a clinic being built in the city and will also donate Siemens medical equipment for the facility. Al-Tawheed Centre is expected to open this year and will be able to treat 10,000 patients a year.

Siemens and Iraq's Ministry of Electricity signed an implementation agreement to kick off the execution of the roadmap for rebuilding Iraq's power sector in April 2019. Within the implementation agreement, the two agreed on the award of contracts valued at approximately US\$774mn for Phase 1 of the Roadmap.

Photo Credit: Siemens



Siemens is operating the Khormala power plant in Kurdistan.

Photo Credit: Siemens

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Egypt: Realising clean energy goals

If Egypt can go the extra mile to put the right policies in place, it has the potential to draw 53 per cent of its electricity from renewables by 2030, states IRENA. Abhishek Paul reports.



Photo Credit: Adobe Stock

Historically, Egypt has been relying primarily on fossil fuels for electricity generation.

BLESSED WITH AN abundance of sunlight and wind, Egypt is ushering in a new era of its energy landscape. The completion of the 1.4-GW Benban Solar Park construction marks the momentous beginning of the country's transformation towards clean energy.

Touted as one of the world's largest solar parks, the interdependent government venture has attracted US\$2bn investments, backed by international financing institutions. The cooperation between public and private sectors for the giant solar project stands out as a model to follow suit.

With several other solar and wind projects

in several phases of development, Egypt is on track to reach the targeted 20 per cent electricity generated from renewable sources by 2022 and 42 per cent by 2035, reported *Daily News Egypt* citing Mohamed El-Khayat, chairperson of the New and Renewable Energy Authority (NREA).

After struggling to keep pace with rising energy demand due to intense fuel shortages in 2012-14, the most populous North African country found no way to tide over the crisis, except pursuing energy diversification drive.

The sustainable energy strategy, ISES to 2035, developed in 2014, is based on the least-cost approach, whereby energy

subsidies are likely to be eliminated by 2022. Thereby, enabling different energy sources to compete within a free and fair market structure.

Historically, Egypt has been relying primarily on fossil fuels for electricity generation – oil and gas accounts for nearly 90 per cent of electricity generation.

Currently, hydro power is the country's most mature form of renewable energy, with an installed capacity of 2800MW. However, this situation would see a change, apparently, by FY 2021/22, with wind providing 14 per cent, solar 25 per cent and hydro power mere 2 per cent by 2035.

"First, an increase in the amount of renewable energy connected to the grid will cut consumption of oil and gas, which will in turn reduce the amount spent on subsidies. The government has recently slashed energy subsidies as part of a series of fiscal reforms, reducing public spending on subsidies from a high of 5.9 per cent of GDP in FY 2013/14 to 2.4 per cent in FY

With solar and wind projects in several phases of development, Egypt is on track to reach the targeted 20 per cent electricity generated from renewable sources by 2022.

2017/18," said a report of *Oxford Business Group*. It is expected that this shift towards renewables will help achieve its goal of eliminating subsidies completely by 2022.

The country's schemes such as feed-in tariff (FIT), build-own-operate (BOO), energy performance contracting (EPC) and independent power producer (IPP) for privately owned solar and wind projects are playing a part in attracting the foreign investors.

Some of the BOO scheme projects include 200MW solar photovoltaics (PV) facility at Kom Ombo; 200MW solar PV facility at West of Nile area; 250MW wind power plant at West of Nile area; and 100MW concentrated solar power (CSP) plant at the West of Nile area. According to the Wind and Solar Atlas, there are opportunities and potential for Wind and Solar plants in the East and West Nile areas that will produce around 31,150MW from wind and 52,300MW from solar.

The Gulf of Suez is one of the best locations in the world for harnessing wind energy due to its high stable wind speeds that reach on average between 8 and 10 m/s at a height of 100 metres, along with the availability of large uninhabited desert areas, according to Egypt's Wind Atlas. The



The Gulf of Suez is one of the best locations in the world for harnessing wind energy.

Photo Credit: Adobe Stock

Ras Ghareb onshore wind farm, with 262.5 MW of installed capacity in the Gulf of Suez, has been grid-connected and commissioned, in November, according to ENGIE Africa.

Egypt's energy strategy envisages a total share of 16 per cent for coal, 3.3 per cent for nuclear energy and 42 per cent for renewable energy in the installed capacity mix by 2035.

However, by adopting the right policies now, Egypt could realistically draw 53 per

cent of its electricity from renewables by 2030, according to International Renewable Energy Agency (IREA).

IRENA's REmap analysis finds that due to declining costs for renewable power technologies, their increased deployment results in a reduction in total energy costs of US\$900mn annually in 2030, equivalent to a cost reduction of US\$7 per MWh. This is the case even before taking into account the reductions in external costs from air pollution, which would bring broad social and health benefits worth as much as US\$4.7bn annually in 2030.

Egypt should be adding 2GW a year of solar and wind, but its civil service has only been given enough capacity to process one project at a time, according to a senior executive at the European Bank for Reconstruction and Development (EBRD), said a report of Institute for Energy Economics and Financial Analysis (IEEFA). ■

IRENA's REmap analysis finds that due to declining costs for renewable power technologies, their increased deployment results in a reduction in total energy costs of US\$900mn annually in 2030.

Five recommendations for sustainable growth of MENA energy sector

ACCESS TO PRIVATE sector financing, introduction of carbon pricing and increased energy efficiency are among the five vital recommendations for sustainable growth of the Mena energy sector, states a new report from Arab Petroleum Investments Corporation (Apicorp). The whitepaper titled "The Energy Transition: Reshaping Investments and Strategies," outlined the approaches for the sustainable growth of the energy sector in the MENA region in light of the transition towards a low-carbon world.

Based on the outcomes of a strategic roundtable that brought together 40 high-level industry experts from the energy and financial sector, including representatives of government, multilateral organisations and the private sector, the recommendations encompass sustaining energy investments; enhancing finance, improving regulations, pricing carbon, bolstering efficiency and re-educating the public on misconceptions surrounding the hydrocarbon industry.

Ahmed Ali Attiga, CEO of APICORP, said, "In this age of rapid

evolution for the energy industry, greater stakeholder collaboration between leaders of the energy and finance markets is of critical importance. At the APICORP workshop on Energy Transition, the participants identified the need for countries to develop new regulatory models with higher standards of governance to create the right incentives and enable higher private sector participation. This involves outlining clear and specific national and local environmental concerns, setting targets and establishing independent authorities to oversee the implementation of the entire process."

Leila Benali, APICORP chief economist and head of strategy, energy economics and sustainability, said, "The transition towards a low-carbon world is perhaps the energy market's biggest shift in nearly a century. For the MENA region to keep pace and truly unlock the massive potential of its vast energy resources, countries need to act swiftly and engage the private sector to proactively adapt and innovate."



A consortium consisting of ACWA Power and MDC Power Holding Company along with the Federal Electricity & Water Authority (FEWA) has achieved financial closure for the 150 MIGD Umm Al Quwain Independent Water Project (IWP) in the UAE.

Photo Credit: ACWA Power

Demand for wastewater treatment surges

Large-scale upgrades of sewage treatment plants in the GCC and Egypt have driven strong growth in reuse. Abhishek Paul reports.

WORLD RESOURCES INSTITUTE'S (WRI) recent Aqueduct Water Risk Atlas has set the alarm bells ringing in the Middle East and North Africa (MENA) as 12 out of the 17 most water-stressed countries belong to this region.

This kind of situation, certainly, imperils the region's economy. Stating the same, the World Bank found that the MENA region has the greatest expected economic losses from climate-related water scarcity, estimated at 6-14 per cent of GDP by 2050.

In the light of extreme water scarcity, the region's situation presents both risks and opportunities for industry players to grow by developing better technologies.

Increasingly, Middle Eastern countries are dependant on desalination technology to mitigate water scarcity. Desalination technologies are designed to treat industrial or municipal wastewater, seawater, brackish groundwater, surface or potable water. Kuwait, Saudi Arabia, and UAE have some of the biggest water desalination plants across the globe. According to Global Water Intelligence, the world's desalination market is projected to reach US\$7bn by 2022, with the MENA region accounting for US\$4.3bn.

Rising population, rapid industrial growth, and growing demand from several

manufacturing sectors are some of the factors driving the increased demand for potable water.

"Industry experts believe that the establishment of the manufacturing sector in the Middle East is also set to open new opportunities for the desalination sector over the next few years. Moreover, North Africa is witnessing a rise in the number of investments in the water sector that is likely to boost desalination in the region in the near future, predict experts," said a report by Ventures Onsite.

In addition, treating water and reusing it for industrial application is gaining traction

About 84 per cent of all wastewater collected in GCC countries are treated to safe levels and 44 per cent of it goes on to be reused.

in the Middle East. About 84 per cent of all wastewater collected in GCC countries are treated to safe levels and 44 per cent of it goes on to be reused, according to the World Bank's *Beyond Security* report. Oman, which is ranked 16 in the list of water-stressed countries, treats 100 per cent of its collected wastewater and reuses 78 per cent of it, the report mentioned.

Large-scale upgrades of sewage treatment plants in the Gulf and Egypt have driven strong growth in reuse, according to the International Desalination Association (IDA).

"Reverse osmosis technology has lower electrical and thermal energy (3-4 kWh/m³) as compared with other water desalination technologies such as Multi-Stage Flash (MSF) and Multiple-Effect Distillation (MED) (5.5-16 kWh/m³) due to which the technology is now being widely adopted across the globe," according to Adroit Market Research.

However, the sustainable and effective brine treatment from desalination plants remains serious concern for the organisations and the governments.

Desalination projects aside, many firms are developing advanced solutions such as energy efficient water treatment, filtration products, pumps and water systems and leak detection technology. ■



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Expedite the transformer testing process with OMICRON's Testrano 600

POWER TRANSFORMERS ARE widely considered to be the most critical components in electrical transmission and distribution networks. Due to the ageing of transformer fleets in the field, regular testing and condition assessment become increasingly relevant. Testing transformers is the most time-consuming form of equipment testing in a substation - on average an entire working day needs to be scheduled for the full range of routine tests.

Omicron's three-phase transformer test set, Testrano 600, is the world's first portable, three-phase test system, which supports the most common electrical tests on power and distribution transformers. Weighing just 20 kg, Testrano 600 is ideal for on-site routine and diagnostic testing and during factory acceptance tests (FAT).

Testrano 600 includes newly designed multi-plug cables, connected to the high-voltage and low-voltage side of the transformer. The third multi-plug cable is connected to the on-load tap changer (OLTC) control, allowing the up and down switches of the tap changer to be recorded as well as the control of the OLTC's motor current and voltage. Tangled cables become a thing of the past and it is easy to maintain an overview of the connections.

Testrano 600 automatically reconnects and switches the correct outputs and inputs to the transformer terminals. Once test connections are made, the transformer turns ratio, DC winding resistance, and demagnetisation tests can be performed successively, on all three phases of the transformer, without changing the leads. By significantly reducing the amount of lead changes and trips to the transformer, the testing process is safer for test engineers.

Due to Testrano 600's true three-phase injection method, measurements can be performed on all three phases of the



Photo Credit: OMICRON Electronics

Testrano 600 includes newly designed multi-plug cables, connected to the high-voltage and low-voltage side of the transformer.

transformer simultaneously. Users can complete the testing process in approximately one-third of the time relative to a single-phase injection test system.

Multiple ways to operate

Testrano 600 can be operated via the smart Testrano TouchControl on the integrated 10.6" touch display or via the Primary Testing Manager (PTM) software. Testrano TouchControl offers pre-configured wiring diagrams and convenient features for graphical comparisons and detailed analysis. Using Testrano 600 with the PTM software offers full guidance while testing, easy data management and automatic result assessment. The PTMate app offers direct support on site and can extend the PTM features set to a smartphone, such as sending images directly, detailed wiring diagrams for fast and safe wiring as well as a stop button for ongoing measurements.

A profile of the leading special cables manufacturer in the Middle East

MESC WAS FOUNDED as a privately owned company in Riyadh in 1993 to cater the growing industry of specialised cables in the region. It started rolling its machines in 1994 and selling in 1995. After consolidating its presence in KSA, MESC succeeded in penetrating other market in the Middle East, North Africa, Europe and USA.

Over the years, MESC has expanded its production to cover all types and ranges of cables by acquiring existing companies, establishing new companies and joint ventures. The MESC products range includes industrial, instrumentation and process control cable, low voltage power cables, offshore cables, railway signaling and data cables and any types of customised cables manufactured as per the customers' needs and specifications.

MESC plants, in Saudi Arabia and UAE, consist of ultra-modern facilities, high tech machinery and well-equipped laboratories, built for conducting various routing and type tests. MESC operates with quality systems set in accordance with the guidelines of ISO 9001, ISO 14001 and ISO 45001 for all activities right from



Photo Credit: MESC

MESC is currently supplying various major projects in different sectors across the Saudi Arabia, UAE, Kuwait, Bahrain and Oman.

the selection of raw material suppliers, schedule planning, production, testing and to delivery of cables, with a policy aiming for total customer satisfaction.

MESC UAE was established in 2008. Located at RAK Al Ghail Industrial Park, the factory is spread over an area of 54,000 sq m, which houses the production facility, offices, workshops facilities, and warehouse.

The plants has an advanced laboratory with extensive range of test and measurement equipment specifically for the flame retardant control and power cables, fire resistant

instrumentation cables, and low smoke halogen free cables. Moreover, MESC can design cables to comply with all major international standards such as IEC, BS, DIN VDE, ICEA, UL, etc.

The RAK facility has also achieved the ISO 9001, ISO 14001 and ISO 45001 certifications, and operates with clearly defined and documented quality system set in accordance with the guidelines of ISO with its policy aiming for total customer satisfaction.

MESC is at the forefront of providing complete solutions in industrial, instrumentation and process control cables for the energy sector and the numerous commercial development projects across the region.

MESC is currently supplying various major projects in different sectors across the Saudi Arabia, UAE, Kuwait, Bahrain and Oman while continuing to make inroads into new territories within Africa, especially in the Northern and Western region and Asia, and MESC always tried to remain differentiated from the competition by manufacturing products specific to the needs of the market.



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Africa unlocks the potential of 5G

The arrival of 5G could be a game-changer for Middle East and African economies and jobs. However, for now, 5G is a very long way off in a continent where 3G dominates and 4G is still rolling out. But that didn't stop it being a major talking point at this year's AfricaCom conference and exhibition, as Nancy Onyango reports.

THE THEME FOR the 2019 AfricaCom conference and exhibition was 'Accelerating business transformation to strengthen African economies'. This may be a locally-focused theme, but is in line with a global focus on the Fourth Industrial Revolution (4IR) and how it has the potential to advance economies – notably African economies – by creating jobs. Not surprisingly then, the buzzword during the three-day conference was 5G, the essential ingredient for 4IR.

Internet users across the continent are looking forward to the 5G promise that, once available, it will be up to 20 times faster than current 4G networks. Some studies estimate that 5G will add over 10 trillion dollars to the global economy over the next 15 years and create millions of jobs across the globe. As Nicolas Blixell, vice-president, Ericsson, put it, "If you don't have 5G, you don't have the fourth industrial revolution."

Here are some key takeaways from a few of the main speakers during AfricaCom (12-14 November in Cape Town) that brought together over 15,000 attendees, 450 speakers and 500 exhibitors this year.

5G trials in MENA

The Middle East and North Africa (MENA) region is the second least penetrated region in the world. The region had close to 400

million unique subscribers by mid-2018, equivalent to close to 60 per cent of its population. The increased consumer appetite for streaming and gaming across North Africa creates demands for the faster downloads that 5G networks could meet. According to a recent report, over 70 per cent of Moroccan households now have access to the internet.

North African and Middle Eastern operators such as Etisalat, Ooredoo, STC and Zain have already taken steps to develop their own 5G networks. It is estimated that 5G will account for 6 per cent of total connections in the Middle East and North Africa region by 2025.

In Morocco, Maroc Telecom has been conducting 5G trials since March 2018 in collaboration with Ericsson. Fadoua Laaroussi, program and planning director at

Moroccan operator inwi shared Morocco's 5G trial experience, noting that "inwi is also conducting 5G trials in collaboration with Huawei and is installing new equipment on its radio to expand its backhaul fibre backbone network".

During the conference, MTN South Africa and ZTE also showcased 5G use cases; these included how the ultra-high-speed network of more than 1.678 Gbps will support a variety of applications such as AR/VR, voice, 3D video and HD live broadcast.

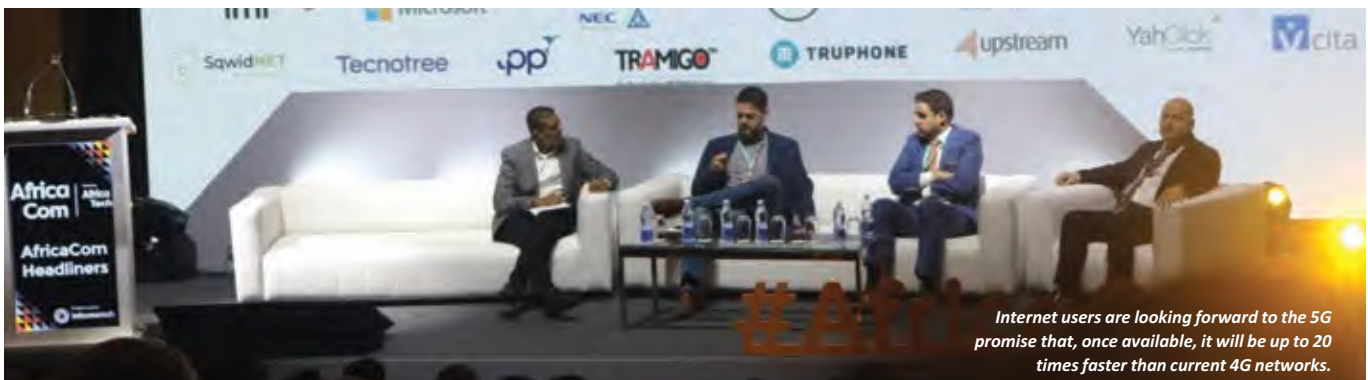
Is Africa ready for 5G?

Africa is certainly uniquely positioned to benefit from the new technology, in terms of new jobs from increased automation, the societal problems that it may solve, and developments in education, infrastructure and health. At the moment, though, 4G/LTE is still on the way in much of the continent. At the end of 2019, around 25 percent of mobile subscriptions are expected to be for LTE in the Middle East and North Africa, while in sub-Saharan Africa LTE will account for around 11 per cent of subscriptions.

The region's wireless technology needs and uses are anticipated to evolve, however, and by 2025, 82 percent of subscriptions in the MENA are expected to be broadband while in sub-Saharan Africa mobile broadband subscriptions will increase to reach 70 percent

**If you don't have 5G,
you don't have the
fourth industrial
revolution.**

**Nicolas Blixell, vice-president,
Ericsson**



Internet users are looking forward to the 5G promise that, once available, it will be up to 20 times faster than current 4G networks.

Photo Credit: Nancy Onyango



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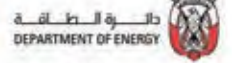
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of all mobile subscriptions (largely LTE, though some 5G subscriptions will also be part of the overall figure), according to the 2019 *Ericsson Mobility Report*.

On the first day of AfricaCom, MTN, together with Huawei, launched its 5G trial in an effort to bring African businesses and consumers better technologies. During the launch Dean Yu, Huawei carrier business VP for Southern Africa, said, "5G is at the stage of large-scale deployment in 2019 globally. In the 5G era more cloud-native services will appear."

But there are some caveats, certainly for Africa. During the 5G track held on the second day of the conference, Matt Reed, practice leader, Middle East and Africa at Ovum, argued that "5G will roll out across the continent slower than most of the world's regions". Contributing factors that will stymie the process include market dynamics such as expensive devices, the regulatory bottlenecks that could slow up or undermine the release of spectrum, and, of course, the stage at which the African market finds itself at the moment: dominated, in next-generation terms, by 3G.

Framing the current challenge of adopting currently emerging technologies, Chafic Traboulsi, head of networks for Ericsson Middle East and Africa, said that it will take Africa time to adopt current technologies like 4G and then move to 5G. "Currently in Africa, we have 60 per cent of mobile connectivity on 2G," he pointed out. "There is still lots of work to do in addressing infrastructure challenges. The slow connectivity is a result of regulatory barriers, handset costs that are beyond the means of many Africans and a large African population that is dispersed more than other continents, making coverage a challenge," he added. Looking into the future, Traboulsi estimates that in 2024, 5G will still be insignificant in Africa compared

to other technologies. Africa will still mainly be relying on 3G and 4G for data.

Comparing the African market to the Middle East, Traboulsi added that the Middle East is more advanced when it comes to 5G. This is due, he suggested, to progressive regulatory attitudes. Many regulators, it seems, have understood that the advancement of the country's economy is tightly linked to the deployment of telecommunications infrastructure and they have acted on that insight by providing access to 5G spectrum in a quick, non-prohibitive way.

Arnaud Blondet, chief innovation officer at Orange for Africa and Middle East, further argued that key operators in Africa need to focus on 4G to enhance the customer journey. Blondet further added that the vital application in the future for Africa for 5G will be home broadband. "This will be beneficial to many households, particularly in the rural and remote areas with no access to fixed broadband," said Blondet.

Smartphones at the epicentre of 5G

It's smartphones that are central to a user experience and thus, for its consumer-facing applications, central to 5G. The average income per capita per month in Africa is under \$100 per month and the average cost of a smartphone with all the basic features is \$40. And yet, according to the World Bank Group publication *Connecting Africa Through Broadband*, "Mobile is the most common form of broadband connectivity in Africa."

But it's not cheap. In 2018, the median cost of an entry-level internet-enabled device in Africa was 40 per cent of monthly income, and the mean average was 62 per cent of monthly income. For the poorest 20 per cent of the population, the average cost of a device in sub-Saharan Africa was 375 per cent of monthly income in 2018. Furthermore, the affordability of devices

North African and Middle Eastern operators such as Etisalat, Ooredoo, STC and Zain have already taken steps to develop their own 5G networks.

has not significantly improved in most African countries between 2016 and 2018.

Today a 5G handset costs in the range of \$1,000; beyond the means of most – and itself is a barrier to connectivity. Back in the present day, something is being done to address handset affordability. During the event, pan-African operator Africell launched its first 3G smart feature phone, afriphone, powered by KaiOS, the leading mobile operating system for smart feature phones. The new device will be the first KaiOS-powered device in The Gambia and Sierra Leone, and will also be made available in Uganda and the Democratic Republic of Congo.

Designed for affordability and accessibility, afriphone features 3G connectivity and access to apps like WhatsApp, Google Assistant, Facebook, YouTube, and Google Maps. It includes other smartphone features such as Wi-Fi, GPS and NFC, and offers a hybrid dual-SIM slot that supports two SIM cards with 512MB memory + 256MB RAM. It also boasts a powerful battery which enables extended hours of talk time.

Returning to the recurring theme of the event, the 5G future is undoubtedly a promising one, with the Ericsson Mobility Report mapping over 180 service providers across the globe who have indicated that they expect to have 5G in the coming years. To date, there have been around 50 5G commercial launches across the world. Most have focussed on large cities, creating some initial 5G coverage. A few dozen operators have already launched services for smartphones and another five are offering 5G services for fixed wireless access. Trials have also taken place in a number of African countries. The promise of 5G, especially for mobile-centric parts of the world like Africa, looks immense. For now, however, 3G, 4G and affordability of end user devices may be more immediate concerns for most African end users and operators. ■

Photo Credit : Nancy Onyangango



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Explosion proof
condensing unit.

Photo Credit: SKM Air Conditioning

In the chill zone

Nabil Abouseido, marketing and business development director, SKM Air Conditioning, on why a slowdown still means good business for the HVAC leader.

SKM Packaged Air Conditioners are specifically engineered to withstand the harsh dusty environment of the Middle East.

ONE OF THE region's leading air-conditioning manufacturers and a proudly 'Made in UAE' brand, SKM has extensive facilities, including a 43,000 sq m factory, and in-house engineering and R&D centre.

The company offers a full spectrum of air-conditioning products that range from standard air-conditioning offerings to unique devices such as explosion-proof units, condensing units, swimming pool units, and TUV-certified Hygienic Air Handling units.

Speaking at the sidelines of The Big 5 show in Dubai this year, Nabil Abouseido, marketing and business development

director, SKM Air Conditioning, said, "We are not here to only look for new customers. People come to the show to specifically meet us. We have customers and distributors spread across Kuwait, Pakistan, Sri Lanka, Saudi Arabia, Egypt, Algeria, western and central Africa."

At this year's Big 5, SKM launched five products with new technology. Abouseido believes the event, firstly, is a great opportunity for people to sense and feel SKM's products first hand, outside of the pages of a catalogue.

"Secondly, it's an opportunity for people from the industry to see a brand made in the UAE, and produced in the first

factory of its kind in the Middle East and North Africa region.”

Abouseido is an industry veteran, who has more than 40 years of experience under his belt.

“We were established in 1974, at a time when there were no easy international communications, no fax or computer – we used to send a telex,” he reminisces.

“This is my forty-second year here. When we were designing equipment back in the day, there was no software, but there was a lot of real engineering, going back to formulae and calculating. There was a lot of trial and error to get things right as there was no technology transfer or franchising from another company.

“At SKM, we didn’t follow anybody else. We built everything ourselves, with our own people and in-house R&D department. I remember 1980 was when our first computer was installed, which was a massive mainframe that was used purely for inventory.”

SKM is a market leader in customised products and has the resources to engineer tailor-made units for specific industries and applications. Especially in the oil and gas sector, SKM commands one of the biggest market shares in several Middle East countries.

“We are ahead of international companies when it comes to customisation,” Abouseido says. “When we entered the oil and gas sector, 20 years ago, we started doing custom-made units to fit the unique requirements of the sector, especially when there are rigs in the sea or refineries in hazardous zones.”

SKM has been included in the Saudi Aramco Supplier Information System for all the 9COM products. The company has a long track record in manufacturing special products and supplying HVAC solutions for onshore and offshore oil and gas installations.

An approved supplier to Aramco,



Photo Credit: SKM Air Conditioning

Nabil Abouseido, marketing and business development director, SKM Air Conditioning

Abu Dhabi National Oil Company (Adnoc), Dubai Petroleum Company (DPC) and Kuwait Oil Company (KOC), SKM is also ISO-certified.

The Sharjah-headquartered company has been providing environmental engineering solutions to high risk hazardous areas for over 20 years.

SKM also holds ATEX certification for its modified Hermetic Reciprocating compressors suitable for Zone 2, IIB and T3. SKM manufacturing facilities are certified from IECEx for the application of quality systems for equipment in explosive atmospheres.

SKM Packaged Air Conditioners are specifically engineered to withstand the harsh dusty environment of the Middle East, Abouseido informs. “They are built specifically for outdoor installations, either on ground or roof level.

“While our oil and gas vertical specialises in fully customised products,

we also have a unitary business vertical (packaged units), which has a retail component. These units are sold in supermarkets. The third vertical is focused on commercial projects - catering to towers, hospitals, schools, malls, and public sector buildings. We are covering the whole market.”

So, has business contracted on account of the current slowdown in construction across the region?

“I have seen many crises in the 40+ years have been here,” Abouseido responds, with a smile. “Even in the midst of slowdowns we do well, because we are able to provide value engineering. We can provide solutions to fit the customers’ budget, as we can design and value engineer it. That’s why we do more business during a slowdown than otherwise during boom time.”

SKM has bagged several public sector clients. Recently, the company signed an agreement to produce energy-efficient chillers for the UAE Ministry of Energy and the renewable energy company Masdar.

Abouseido says the tightening energy efficiency standards and the absence of common regulations and standards across the GCC for building envelopes are a major business challenge faced by HVAC companies. The GCC region countries are key signatories of the Kigali amendment to the Montreal Protocol, which is focused on phasing down the use of high-global-warming hydrofluorocarbons (GWPs). The GCC industries are accelerating the transition from hydrofluorocarbons (HFCs). In fact, in 2017, SKM launched the Middle East’s first line of chillers equipped with Honeywell’s Solstice ze (R-1234ze) refrigerant.

While the adoption of this technology helped support regional goals to become greener and more energy efficient, Abouseido points out that varying compliance standards within the GCC are serving to push manufacturing costs up for suppliers and squeezing profitability. “At a regulatory level, we should keep updating the minimum energy performance standards for air conditioners. Improved building envelope standards would reduce the strain on HVAC systems.”

Speaking of the future, Abouseido said SKM will continue to keep innovating across its product range to ensure it maintains its position as a market leader, and a successful homegrown UAE brand in the air-conditioning industry. ■

SKM is a market leader in customised products and has the resources to engineer tailor-made units for specific industries and applications. Especially in the oil and gas sector, SKM commands one of the biggest market shares in several Middle East countries.



Photo Credit: DMG Events

Still bullish on the Middle East

The Middle East construction industry considered one of the top locations to invest, according to a new report.

GCC AND THE wider Middle East were recognised for standout construction opportunities based on responses from nearly 6,000 global industry professionals from 136 countries. The findings are included in The Voice of the Construction Industry Report, unveiled during the CEO Forum during The Big 5. The report is based on research conducted by GRS Research & Strategy Middle East, in conjunction with The Big 5.

A total of 5,951 senior construction industry professionals from 136 different countries were surveyed on the trends and outlook of the construction sector in the GCC, Middle East and Africa.

Of the GCC countries, respondents felt there were the most opportunities to be found in the UAE (56 per cent) followed by Saudi Arabia (44.4 per cent).

“Thanks to the size, strength and history of The Big 5, we not only deliver a world-class trade event, we are also a trusted source of insight and intelligence for the construction industry. This new research from a huge cross section of senior construction professionals underscores our reputation as a source of knowledge, and helps global industry stakeholders generate revenues, save money, and shape future strategies.”

“The responses come from professionals in sectors including manufacturing and distribution through to developers, contractors, engineers, architects and consultants, with each being segmented by business type, seniority, geographic location, and company turnover, allowing for a detailed analysis of the issues influencing each sector and how they are shaping the industry,” added Greenish.

The research revealed that the GCC and the wider Middle East were the standout opportunities recognised by respondents not already active in those regions when considering where their business may look for opportunities in the future.

Of the GCC countries, respondents felt there were the most opportunities to be found in the United Arab Emirates (56 per cent) followed by Saudi Arabia (44.4 per cent). In line with these findings, 36 per cent of those interviewed said their business would enter the UAE within the next 12 months either directly or via a joint venture.

According to Andrea Piccin, Partner - General Manager, GRS Research & Strategy, the findings represent good news for the UAE and the wider Middle East region:

“Economic growth is seen as a key factor generating business opportunities in the GCC. This is undoubtedly piquing the interest of international companies, which are now looking to expand in the Middle East for the first time.”

“Also, the increase in tourism, particularly in the UAE, is a major driver for business growth and one that many construction companies have already capitalised upon,” he added.

As part of the research, the top trends impacting all aspects of the construction industry were addressed with respondents stating prefabrication and modular construction, energy efficiency, and sustainability are the most important.

“These trends reflect the UAE and Saudi governments’ recent focus on the development of smart and sustainable cities. According to the results, it is anticipated during the next 12 months governments from these two countries will place even greater emphasis in these key areas providing an additional boost for the industry,” added Piccin.



The research revealed that the three biggest trends influencing the industry are energy efficiency, prefabrication, and sustainability.

Technology and the impact it has on the construction industry is also outlined within the data. Advanced software, building information modeling (BIM), and digitalisation are identified as the top three disrupters of the sector. These are closely followed by the Internet of Things (IoT) and smart technology, and 3D printing. ■

Trendspotting: Prefab is ab fab

THE VOICE OF the Construction Industry Report unveiled at The Big 5’s invite-only CEO Forum, a conference for 150 CEOs from the region’s leading construction firms, which took place at The Big 5’s opening day.

The findings of the research said the three biggest trends influencing the industry are energy efficiency, prefabrication, and sustainability.

The UAE has the highest percentage of companies given 5 out of 5 (26.8 per cent of the total) by respondents asked: “How satisfied are you with the current performance of your company?”, with the

country ranked number one by average score. By that same average score measure, European organisations came in just behind, with 25.3 per cent given 5 out of 5.

Some 60 per cent of respondents are expecting to see an increase in their company’s turnover this year. Manufacturers and technology providers lead the ranking in terms of business types that expect to see an increase. In every region considered, more than half of the companies expect the turnover to increase; across Africa (excluding South Africa), 74.8 per cent of companies are expecting growth.

Spotlight on KIZAD Construction City

ONE OF THE standout exhibitors at this year’s Big 5 was Khalifa Industrial Zone Abu Dhabi (KIZAD), now home to more than 200 tenants and over US\$17.5bn in total investments. KIZAD launched the second phase of KIZAD Construction City – an ambitious new project that provides a dedicated cluster for the manufacture, import, storage and distribution of construction materials in the UAE.

Samir Chaturvedi, CEO, KIZAD, said, “We are delighted to be the Industrial & Free Zone Partner of the Big 5 Exhibition this year as the exhibition represents a powerful platform to showcase our tailor-made and cost-effective manufacturing, logistics, material sourcing, storage and distribution solutions to over 60,000 professionals working in the industry.”

Visitors to the stand could see how KIZAD Construction City offers a seamlessly connected, cost effective and close-to-market hub for the manufacture, import,

storage and distribution of construction materials. The hub is connected to 90 percent of the UAE’s major construction projects as KIZAD offers first-class intermodal connectivity by sea, road, and air, with rail connectivity being developed as well.

“We benefit from a prime location at the crossroads of east and west, with many direct liner connections to Asia and the rest of the world, offering logistical savings for imports that can be passed down right the way along the supply chain,” Chaturvedi said.

“Our vision for the future – aligned with Abu Dhabi’s Economic Vision 2030 – is to further enable global trade and the flow of FDI to Abu Dhabi, the UAE and the region. To that end, we are investing in infrastructure, technologies and innovations, and a skilled workforce to provide a fertile business ecosystem for companies that are joining our free zone and industrial zone. We are also expanding KIZAD Construction City as part of our ongoing growth plans with new light

industrial units for smaller scale manufacturing, serviced land plots that can accommodate both small scale businesses and mega projects, and pre-built warehouses that are ideally located near major construction projects in Abu Dhabi and Dubai.”

Chaturvedi added, “The UAE’s construction sector has ongoing projects valued at over US\$200bn, representing enormous business opportunities for growth and we are only just tapping into its potential. Ultimately, KIZAD is designed to provide companies with an efficient environment for doing business at low operating costs that will allow them to thrive and prosper. KIZAD Construction City represents an ideal environment for setting up storage and logistics facilities and offers a seamlessly connected, cost effective and close-to-market hub for the import, manufacture, storage and distribution of construction materials.”

Celebrating women in construction

BAM, WSP, Parsons execs bagged top honours at The Big 5's Women in Construction awards.

WINNERS OF THE Women in Construction (WIC) Awards were announced at the second edition of The Big 5's Women in Construction (WIC) Forum & Awards this November. The awards are aimed at addressing the need for gender balance, diversity & inclusion (D&I) policies and best practices in the workplace while empowering women in the notoriously male-dominated construction sector.

Jessica Rigley, area staff manager at contractors BAM International, won the coveted Women in Leadership category at the WIC Awards. She was commended for her 20+ years of experience in leading more than 200 staff and her pioneering role as a woman in HSE, which involved the development of an online HSE monitoring system.

Layla Kailany, assistant project manager at Parsons International, won The Next-Gen Woman of the Year category for her work on mega-projects and taking responsibility of aspects such as managing design and construction, coordinating with subcontractors, and helping resolving construction issues.

WSP in the Middle East was awarded Company of the Year for their D&I achievements including the introduction of flexible working policies that resulted in 88 per cent of mothers returning to work after maternity leave, as well as the use of inclusive language referenced in job adverts resulting in being able to attract a more diverse workforce – for example, 50+ per cent of graduates and interns, were female.

The Big 5 recognised those making a positive impact on the sector by fostering collaboration, supporting best practices, and provide effective solutions to today's industry challenges. A full house was given an overview of current issues faced and new initiatives undertaken to push the industry forward.

Dr Shetha Alzubaidi, CEO and partner at Brookson Project Management and judge of



the Women in Construction Awards, said: "Women are often under-represented in the fields of engineering, both in the academia and in the profession of engineering. However, women working in construction are on the increase. With a concerted effort from key industry players, there is a chance that more women will view a career in construction as a great one."

This year, supporting the Women Empowerment Principles (WEPEs), an initiative of the UN Women and the UN Global Compact, the largest sustainability network in the world, The WIC Forum & Awards also hosted an official Pledge Ceremony for the companies willing to come together and sign the WEPEs.

In line with its commitment to promote innovation in construction and support promising start-ups, for the second consecutive year, The Big 5 presents local and international selected start-ups displaying innovative solutions and pioneering products at the Start-up City, in

partnership with CCC (Consolidated Contractors International Company), Catalyst (a Masdar & BP Initiative), and Wamda.

"In a world where innovation and technology are more and more crucial to remain competitive, the construction sector is still widely considered a late technology adopter. In this context, start-ups play a truly vital role in the sustainable development of the industry, as they inject innovative ideas, creative approaches, and a good dose of entrepreneurial spirit," said Josine Heijmans, vice-president Construction – dmg events.

Organised by dmg events, The Big 5 covered the full construction cycle with alongside six co-located shows: The Big 5 Heavy, Middle East Concrete, HVAC R Expo, Middle East Stone, The Big 5 Solar, and the Urban Design & Landscape Expo. The event hosted 2,390+ local and international exhibitors showcasing 20,000+ building solutions and products. ■



The Kingdom turns to renewable energy

Global thought-leaders unite for Middle East Electricity Saudi conference.

The full remit of renewable issues was examined during the conference.

Photo Credit: MEE Saudi

THE GLOBAL ENERGY sector homed in on abundant expansion opportunities in Saudi Arabia as the Kingdom hosted a dedicated trade exhibition and conference devoted to power sector diversification, specifically in the field of renewable energy solutions.

Incorporating Renewable Energy Arabia, the second annual Middle East Electricity Saudi exhibition and conference was organised by Informa Markets (November 19-21) at Riyadh International Convention Centre with the support of King Abdullah City for Atomic and Renewable Energy (KACARE), Riyadh Chamber of Commerce and Industry, Saudi Arabian Standards Organization (SASO) and more.

Naif M Al Abbadi, Saudi Arabia's deputy minister of Energy, Industry and Mineral Resources, commented at the 2018 edition of Middle East Electricity Saudi that the exhibition "helps the industry with the essential steps for developing an integrated and diversified energy industry in the Kingdom."

Middle East Electricity Saudi has been

launched as the Kingdom emerges at the forefront of a regional power investment drive. SR500 billion (US\$133bn) worth of investment is said to be needed in the Kingdom, which the Saudi government is partly seeking through renewables.

"Saudi Arabia is one of the most attractive renewable markets in the GCC," said Deep Karani, exhibition manager, Informa Markets. "In line with the Saudi Vision 2030, government initiatives are a big part of new efforts to increase energy solutions and meet anticipated targets.

"Given the importance of renewables within the Saudi market, we introduced a dedicated sector - Renewable Energy Arabia to Middle East Electricity Saudi as a tailored spotlight covering renewables, energy management and innovative storage solutions from local and international brands that can assist domestic players with answers to ever-changing capacity challenges."

Renewables fell under focused concentration in the three-day Middle East Electricity Saudi conference, which

attracted several highly esteemed speakers from across the region and Europe.

The full remit of renewable issues was examined during the conference. Dr Pieter Smeets, the senior manager - industrial sustainability at SABIC discussed the company's renewable energy and corporate sustainability perspectives, while Ahmad Manzoor, head of Smart Infrastructure Solutions and Services of Siemens, helped delegates redefine the renewable energy landscape in the Industry 4.0 era.

Saudi Arabia's huge solar potential, a sector that has already attracted inward investment to the Kingdom, was also a key Middle East Electricity Saudi talking point.

Solar Installer, a leading Middle East specialist in solar services, has opened a branch in Jeddah and plans to roll-out new customer-made Solar ERP integrated systems and practical training programmes in utility scale PV plants installation at Middle East Electricity Saudi.

"The market in KSA is enormous with a pipeline of more than 40 GW following the Kingdom's 2030 Vision," explained Americo Guedes, the CEO of Solar Installer's KSA branch. "We are entering the market with our knowhow, equipment, senior experts and our revolutionary integrated system. We are committed to transferring our knowhow and capabilities to the Saudi market through our services including installation, testing, commissioning, operation, maintenance." ■

Given the importance of renewables within the Saudi market, we introduced a dedicated sector –Renewable Energy Arabia to Middle East Electricity Saudi.



The expo itself will be built to resemble a smart city, where the technologies and concepts can come to life.

Global market for smart cities tops US\$2tn

New WFES feature will showcase technologies and innovations for smart cities.

Across the world today, there are 33 ‘megacities,’ those with a population of 10 million people or more. By 2030, Euromonitor predicts this number will grow to 39.

AS THE SMART cities market tops US\$2tn by 2025, the new Smart Cities Expo & Forum at the World Future Energy Summit 2020 will show how technology can be leveraged to improve happiness, health, sustainability and safety in cities across the Middle East and beyond.

Across the world today, there are 33 ‘megacities,’ those with a population of 10 million people or more. By 2030, Euromonitor predicts this number will grow to 39, and all but one of those six new megacities, Chicago, will be in a developing economy. Unless urban growth is carefully planned and managed, then densely packed, poorly built cities will place a heavy burden on the environment – leading Frost & Sullivan to forecast a global smart cities

market of US\$2tn by 2025.

The new Smart Cities Expo & Forum will showcase a full range of smart city innovations within one of the world’s leading commercial events for sustainable technology.

“The urban environment is where all the pressures on sustainability collide – the buildings we live and work in, transportation, communications, how efficiently we deliver and use energy, and our ability to provide food and clean water,” said Dr Lamya Nawaf Fawwaz, executive director, brand & strategic initiatives at Masdar. “The Smart City Expo & Forum provides the ideal platform to showcase how the latest innovations can deliver the next wave of connected communities to

support economic competitiveness and citizen happiness.”

Hosted by Masdar and part of Abu Dhabi Sustainability Week, the World Future Energy Summit is the leading global event and marketplace for future energy, cleantech and sustainability. Already, Masdar is successfully applying smart city innovations at Masdar City, Abu Dhabi’s pioneering low-carbon community advancing a wide range of solutions for urban sustainability.

Within the World Future Energy Summit, the Smart Cities Expo & Forum brings forward-thinking governments and municipalities, together with pioneers in smart infrastructure, future transportation and next-generation building technology to explore the potential of connected communities. The expo itself will be built to resemble a smart city, where the technologies and concepts can come to life.

The annual World Future Energy Summit in Abu Dhabi is the leading global industry event and exhibition for future energy, clean-tech and sustainability. Bringing together government and business leaders, 800 specialist exhibitors and 33,500 visitors from 170 countries, it showcases pioneering technologies and ground-breaking thinking in energy, energy efficiency, water, solar, waste and smart cities.

As a global hub for business, innovation and knowledge exchange at the heart of Abu Dhabi Sustainability Week. The World Future Energy Summit inspires the advancement and transfer of ideas, technology and investment across borders and between the public and private sectors worldwide, helping to stimulate sustainable growth for all stakeholders.

“Since its inception in 2008, the World Future Energy Summit has helped transform the energy landscape in our region and beyond,” said Grant Tuchten, Group Event Director, World Future Energy Summit. “The Smart Cities Expo & Forum is the next stage in the event’s evolution to consider the many complex, interconnected factors that contribute to sustainable development, placing the Middle East at the forefront of change.”

The Expo will include a variety of smart city innovations that harness the potential of the internet of things (IoT), artificial intelligence (AI), and blockchain.



Photo Credit: Adobe Stock

Energy efficiency will be a priority with a focus on green buildings at the Summit.

The Smart Cities Forum will provide knowledge exchange across four days of discussion and case studies, with leading global experts sharing their experience and insights. “Sessions will cover topics such as: urban master planning, the roles of private and government sectors, air quality, connectivity, the sharing economy, smart infrastructure, and the built environment. In keeping with the World Future Energy Summit’s origins, energy efficiency will be a priority with a focus on green buildings.

The Smart Cities Expo will include a variety of smart city innovations that harness the potential of the internet of things (IoT), artificial intelligence (AI), and blockchain; and include breakthrough technologies in smart infrastructure, smart mobility and smart buildings. Many of the concepts are driven by rapid improvements in digital connectivity, and our ability to collect and use data in real time.

“The Smart Cities Expo & Forum will connect new markets with the technology and knowledge we need to build the cities

of the future – cities that are environmentally and socially sustainable – and to make our existing cities work better,” said Grant Tuchten.

The World Future Energy Summit, hosted by Masdar and part of Abu Dhabi Sustainability Week, a global platform for accelerating the world’s sustainable development, runs at the Abu Dhabi National Exhibition Centre (ADNEC) from 13-16 January 2020.

The Summit is the largest event of its type in the Middle East and among the largest in the world, it attracted around 800 exhibitors and around 33,500 attendees during the 2019 edition

Abu Dhabi Sustainability Week will take place from 11-18 January 2020. A global platform for accelerating the world’s sustainable development. The week brings together a unique fusion of policy makers, industry specialists, technology pioneers and the next generation of sustainability leaders. Through its initiatives and events, ADSW is a catalyst for sharing knowledge, implementing strategies and delivering solutions to drive human progress. ADSW is committed to furthering our understanding of the major social, economic and environmental trends shaping the world’s sustainable development. ■

For more information, visit
www.worldfutureenergysummit.com
www.abudhabisustainabilityweek.com

Al-Bahar presents Cat GC Range

IN A RESPONSE to growing regional customer demands and requirements, Al-Bahar has launched the latest Cat GC range across its territory. The two models being offered currently as part of the range introduction include 950 GC and 330 GC. These machines offer the opportunity to move more material in less time, at a lower cost per ton, for a faster return on equipment investment.

Bringing along the new standard, the GC machines are suitable for those looking for machines that are simple, durable, fuel competitive and easy to use. Moreover, with the extensive support of Al-Bahar dealer network and services with Cat genuine parts, these machines are easy to own, operate, and service.

“Customer value comes first at Al-Bahar. Having considered our customer requirements, we found that some of our existing customers wanted simple fuel-efficient machines, which would minimise their owning and operating costs,” said Samer Ismail, product manager – earthmoving and excavation, Al-Bahar.

“There existed the need of a product range at a different price point, offering the same Cat brand Promise and quality,” added Samer. “With an objective of meeting our customers’ expectations, we have introduced the GC range, including machines that offered high performance and are supported by Al-Bahar. Our customers are aware; there will be no compromise on the quality, and after-sales support.”

Cat 950 GC Wheel Loader

The 950 GC is a complete new design leveraging proven Cat components and technology to meet customer needs. Designed for quarries, sand-and gravel pits, coal operation and construction job-sites, the 950 GC can be a choice for governmental bids, offering agencies a well-designed, durable machine that fits the budget.

Cat 950 GC is capable of maximum productivity for everyday operations. It comes with performance series buckets; Z-bar linkage for better bucket loading; and load sensing hydraulics for better balance.



CAT 950 GC

Photo Credit : Al-Bahar

Powered by the Cat C7.1 engine it has an engine idle management system, which minimises fuel consumption. Load sensing hydraulics produce flow and pressure for the implement system upon demand and only in amounts necessary to perform the needed work functions.

Cat 330 GC

The 330 GC is a smart choice for operations where high reliability and low-cost-per-hour performance are priorities. It offers the ideal balance of dependable performance, operator productivity features, and reduced costs. Setting the standards, 330 GC lowers maintenance costs with extended and more synchronized maintenance intervals.

The precise combination of larger hydraulic pumps, an electronic main control valve, and electronically controlled cooling fans in 330 GC allows it to deliver top performance while burning less fuel.

Additionally, it is equipped with two modes to help manage fuel consumption for your specific applications. The new Smart Mode automatically matches engine speed and hydraulic power to demand for the highest fuel efficiency in any application. Other highlights of the 330 GC include an ISO-Certified rops cab, all-around visibility, touchscreen monitor, keyless push start, fewer connections, and less hose and ground-level daily maintenance.



CAT 330 GC

Photo Credit : Al-Bahar

Elematic presents new concrete technology

ELEMATIC HAS LAUNCHED Extruder E9 casting machine for high-speed casting in hollow-core slab production.

With its automation and optimised casting parameters features, the fifth generation Extruder E9 is capable of casting from 30 to 70 per cent faster than its predecessor. Extruder E9's new design of the extruding screws and independent screw drives also support speeding up the process.

Efficient concrete recycling is enabled by not using any water in the digging process which means that concrete removed from openings can be recycled back to the extruder in the hollow-core slab production process.

Additionally, the Modifier E9 saves considerable time by eliminating the need for manual marking of cutting lines or making openings for lifting loop installations and through holes.

Elematic Plant Control system allows for the building elements' designs and production lines, as well as their production sequences and logistics



Photo Credit: Elematic

Extruder E9 from Elematic.

to seamlessly connect to BIM. The advanced solution is designed for precast production's specific needs – the plant can manage, control and optimise the whole production process as well as individual automatic machines with the system.

The new Extruder E9 is suitable for new hollow-core slab manufacturers targeting big volumes and for existing factories to improve the production output, says Curt Lindroth, Elematic area sales director, Middle East.

Doosan introduces driverless construction site solutions

DOOSAN HAS UNVEILED Concept-X, a comprehensive control solution for construction sites.

Concept-X can be used to survey worksite topography via 3D drone scanning, establish operational plans based on the topographical data, and operate construction equipment such as excavators and wheel loaders without human intervention.

Designed to improve industrial productivity and safety, Concept-X realises the construction site of the future by having all dangerous construction work performed solely by equipment, leaving human personnel free to concentrate on more sophisticated analysis and management tasks.

Concept-X, which will be commercialised by 2025, comprises a wide range of disruptive



Concept-X for construction sites.

Photo Credit: Doosan

technologies such as image recognition, cognitive/control technologies, autonomous driving technologies, 5G remote control, 3D drone surveys, accurate workload estimation and assignment, and failure prediction technologies.

Assent unveils pre-fabricated modular buildings solution

AL SHAFAR STEEL Engineering (ASSENT) has launched its new pre-fabricated modular building at The Big 5.

Modular building offers a fast, efficient, eco-friendly and affordable alternative to traditional building methods. Made from light-gauge steel, pre-fabricated modular buildings are constructed offsite in a factory setting before being transported and assembled on-site. This is done under controlled plant conditions using the same materials, designed to the same codes and standards, as conventionally built facilities.

In this methodology, buildings are produced in "modules" that when put together on site reflect the identical design intent and specifications of the site-built facilities. This methodology allows several activities to happen in parallel, decreasing project delivery timelines with an average reduction of between 40-50 per cent for large-scale projects. This approach can reduce project build budgets by as much as 30-40 per cent.

Modular construction can be used for all types of buildings — single or multiple stories — such as residential, offices, educational, healthcare and warehouses.

"The scale of construction work in the UAE, and across the wider region, has brought about the need for faster, more flexible, and convenient solutions that enhance the building process. Pre-fabricated modular building fits the bill perfectly," said Amr Ali, ASSENT managing partner.

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Siemens Gamesa launches new offshore wind turbines

SIEMENS GAMESA RENEWABLE Energy (SGRE) has expanded its product portfolio with the launch of the new Siemens Gamesa DD Flex concept and the SG 11.0-193 DD Flex offshore wind turbine. Built on the current largest offshore wind turbine in the SGRE fleet, the SG 11.0-193 DD Flex can reach a capacity of 11MW under specific site conditions.

“The SG 11.0-193 DD Flex is another example of how Siemens Gamesa constantly works to improve performance and provide greater value for our customers, ratepayers, and society-at-large. Digitalisation allows us to increase the capacity of our current largest machine to 11MW, boosting its annual energy production, while keeping the Levelised Cost of Energy (LCoE) down. In turn our customers can deliver more clean, reliable energy to end-users at lower overall prices,” said Andreas Nauen, CEO of the Siemens Gamesa Offshore business unit.

The SG 11.0-193 DD Flex offshore wind turbine features a 193-meter diameter rotor utilising the 94-meter long Siemens Gamesa B94 Integral Blades.

SGRE will soon install offshore turbine number 1,000 using its patented direct drive technology. These turbines are installed in all major markets globally, including the UK, Germany, Denmark, The Netherlands, Belgium and Taiwan.

Honeywell Genetron app to combat counterfeit refrigerants in Saudi Arabia

HONEYWELL HAS LAUNCHED its Genetron application to combat counterfeit refrigerants in Saudi Arabia. The app, named after Honeywell’s Genetron brand of refrigerants, provides proof of authenticity to customers in Saudi Arabia and directs access to important resources for end-users.

Genetron-branded products have been a target for counterfeiters in the Middle East region. Fake refrigerants can cause a variety of issues, ranging from increased energy use and decreased cooling performance, to significantly reducing the operating life of systems and causing injury and equipment failures.

The digital platform is especially beneficial for small and medium enterprises.

Grundfos showcases digitalised sustainable pumping technology

DANISH PUMPING TECHNOLOGY provider, Grundfos demonstrated how sustainability and technology can be totally compatible at the Big 5 exhibition.

The company showcased a range of projects which are benefiting from its digital driven iSolutions technology which delivers higher reliability, energy efficiency, enables remote management and can save up to 80 per cent off energy costs for commercial and residential buildings.

Grundfos’ digital driven solutions have been installed in the high-profile commercial

building projects across the region, including Royal Atlantis and One Zabeel. For domestic application, its smart water solutions have been selected for over 7,000 villas across the UAE. Grundfos’s Scala2 pump is used at the SEWA (Sharjah Electricity & Water Authority) head office, where it replaced older units, generated energy savings of 80 percent annually with a payback of 1.3 years.

“These projects are clear testimony as to how technology and sustainability can be a mutual fit and how they can improve business bottom lines while helping to address the pressing climate and water challenges,” explained Grundfos – area managing director– Kostas Pouloupoulos.

Grundfos’ sustainable solutions and controls for HVAC systems are being extensively used in new build, and also in turnkey retrofits of older buildings.

Ras Al Khaimah (RAK) Municipality recently signed a MoU with Grundfos for an expansive audit of its HVAC, irrigation, water supply and water disinfection pumping systems across 50 of its buildings and operational facilities, including large-scale sewage plants.

Grundfos iSolutions technology has been designed with the future and sustainability in mind and is part of the company’s goal of helping the world achieve the UN sustainability development goals.



Grundfos is innovating and campaigning for more sustainable solutions.

Photo Credit: Grundfos

Shape Corp’s martensitic steel tube wins award

THE 20TH INTERNATIONAL Swedish Steel Prize has been awarded to Shape Corp from US for the use of martensitic steel in a 3D formed tube for automotive roof rail applications.

“With great skill, Shape Corp has shown the way forward and has succeeded in efficiently utilising a modern material with the highest possible strength level. This shows a major opportunity in challenging other lightweight materials with a steel solution that allows for circular material flows,” said Eva Petursson, chair of the Swedish Steel Prize jury and head of SSAB’s research and innovation.

Shape Corp’s cost effective and robust manufacturing process for 3D-shaped tubes made it possible to utilise the cold forming martensitic steel Docol 1700M, from SSAB, for a lightweight solution for A-pillar and roof rail tubes, with a minimal profile size. The components will soon be implemented in a number of Ford vehicles, including the 2020 Ford Explorer and 2020 Ford Escape.



Shape Corp’s technology and use of steel represents a major leap forward in both car safety and automotive design.

Photo Credit: Shape Corp

By using 3D forming, instead of hydroforming, the company has succeeded in creating smaller profiles than traditional solutions, allowing for better driver visibility, more interior space as well as better packaging of airbags.

The 3D formed A-pillars have an improved strength to weight ratio of over 50 per cent, which has led to an overall mass reduction of 2.8 to 4.5 kg per vehicle.

Ansell unveils HyFlex 11-925 glove for oily environments

ANSELL HAS LAUNCHED the ultra-light weight oil repellent and oil grip multi-purpose HyFlex 11-925 glove.

Designed for oily environments such as automotive, machinery and equipment and chemical sectors, the glove's proprietary coating blocks oil and lubricants from making contact with the wearer's skin resulting in improved hand health and enhanced comfort. Its patented grip feature uses microscopic channels to wick away oil and moisture from the surface of parts or tools, ensuring safe, secure and effective glove contact, reducing risk of slippage.

HyFlex 11-925 features a liner constructed with fine gauge nylon/spandex yarn, providing the user with an unrestricted second skin feel. This blend of protection, performance and flexibility can bridge the gap from previous generations of three-fourths dip oil repellent general purpose gloves, delivering enhanced flexibility, tactility, oil grip and comfort.

The sensitiser used for the product is zinc dibutylthiocarbamate. Only a small number of users may be sensitised to this ingredient in the glove and hence may develop irritant and/or allergic contact reactions.



Photo Credit: Ansell

HyFlex 11-925 glove

Camso launches non-marking press-on forklift tyre series

CAMSO INTRODUCES THE Solideal PON 555 NM and PON 550 NM by Camso, two new non-marking additions to the Solideal PON series.

These new and improved non-marking press-on tyres were developed to deliver increased energy efficiency and thermal performance.

These tyres are capable of meeting the growing needs of indoor applications and rental fleets with operations of medium intensity usage. Additionally, the improved natural rubber used in the non-marking compound can reduce chunking and cutting, while the two-stage construction lowers heat build-up. Continuously improved thermal performance is a vital requirement to decrease tire failure and eliminate forklift downtime.

"As more operations have moved indoors and require cleaner working environments, non-marking tires have become an imperative for approximately 30 per cent of forklift applications," says Thierry Miche, product line executive director – material handling, at Camso.

The Solideal PON 555 NM – smooth-surfaced tire – ensures clean working environment, low rolling resistance and improved thermal performance.

The Solideal PON 550 NM – treaded tire: has all the features and benefits of the PON 555 NM, with a wide profile and flat footprint for increased stability and grip.

ABB develops switchgear for next-gen electricity distribution

RE-IMAGINING SWITCHGEAR technology, ABB has developed the NeoGear low-voltage switchgear that is safer, smarter and more sustainable, maximising efficiency and reducing costs for tomorrow's digitalised industries.

Available from late 2019, NeoGear was successfully trialed at sites across Switzerland and China. NeoGear deploys ABB's laminated bus plate technology, which replaces traditional horizontal and vertical busbar systems.

The bus plate technology is combined with the connectivity and digital smartness of the ABB Ability platform. NeoGear will be a safe option for operators with no exposure to live parts. It reduces the physical switchgear footprint by up to 25 per cent, increases cooling efficiency to reduce heat losses by up to 20 per cent, and reduces overall operational costs by up to 30 per cent, due

to more efficient condition monitoring.

Alessandro Palin, managing director of ABB's Distribution Solutions business line, said, "Switchgear systems are key to ensuring the safety of the electrified economy, but for more than 30 years they have seen little innovation. NeoGear is testament to ABB's commitment and relentless drive to bring future-focused and sustainable alternatives to the market to help shape the infrastructure of tomorrow."

NeoGear's digital capabilities include real-time condition monitoring and predictive maintenance, remote assistance, fault and solutions diagnostics and data analytics for Industry 4.0.

ABB Ability Condition Monitoring for on-site electrical systems is included, helping customers gain operational efficiency and bring more flexibility.



WSK™

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WSK™ Group, we are the manufacturer of HVAC ventilation fans, blowers and spares. Obtain and represent the technologies knowledge from UK – FANKER, We can offer a broad range of expertise in these areas: supplying ventilation fan to customer, fabricate blowers according to customer design, giving technical support to engineering, companies, export HVAC equipments & Spares to overseas and provide OEM to trade customers.

WSK fan blower had been tested & Approved by UKAS Accredited Test Laboratory for Industries & Marine Type Approval Testing. Additional Lab test rating to IP 66 and Salt Mist Highly Corrosive testing were also carried out. WSK fan blower has achieved excellent result in all the Type Approval testing including Salt Mist Corrosive environment & IP 66 rating.

OUR TEST CERTIFICATIONS:

- WSK Fan Blower ATEX Certification - ATEX 028 - Hazardous Zone.
- WSK Fan Blower Marine Type Approval - Lloyds Classification.
- WSK Fan Blower Vessel Approved - ClassNK.
- WSK Fan Vessel Class PDA - ABS.



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تكاليف توليد الطاقة الشمسية انخفضت خلال العشر السنوات الماضية

بمثابة منصة قوية لشركة نيكستراكر لتطوير أعمال جديدة، وتعزيز الشراكات، وتوعية السوق بشأن مجموعتنا من منتجات الطاقة الشمسية الذكية والتصميم الهندسي المجرب، للمساعدة في زيادة القيمة على المدى الطويل بنجاح. ونحن متفائلون للغاية بمستقبل الطاقة الشمسية في منطقة الشرق الأوسط وشمال إفريقيا.

وسوف تُعقد القمة الدولية لطاقة المستقبل، التي تستضيفها شركة مصدر وجزء من أسبوع أبوظبي للاستدامة، وهو منصة عالمية لتسريع التنمية المستدامة في العالم، في مركز أبو ظبي الوطني للمعارض (ADNEC)، وذلك في الفترة من 13 إلى 16 يناير/كانون الثاني 2020. حيث استقطب هذا الحدث الأكبر من نوعه في الشرق الأوسط ومن بين أهم الفعاليات في العالم، نحو 800 عارض و33500 مشارك في عام 2019.

الشمسية على مدار الساعة». وأضافت: «يعد معرض ومنتدى سولار إكسبو حدثاً رئيسياً لشركة فرونيوس للاقترب من عملائنا، وتبادل أفضل الممارسات في مجال ابتكار تكنولوجيا الطاقة الشمسية».

ومع تطور تقنية تتبع الطاقة الشمسية، ستعود شركة نيكستراكر، الشركة العالمية التي تتخذ من الولايات المتحدة مقراً لها والتي تصمم وتصنع وتبني وتخدم أكثر أنظمة تتبع الطاقة الشمسية أحادية المحور تطوراً في العالم لمحطات الطاقة، للمرة الثالثة إلى معرض سولار إكسبو.

إذ يشير كريستان كيرش، كبير مديري التسويق العالمي بشركة نيكستراكر إلى: «أن جداول أعمال الطاقة الشمسية التي تقودها الحكومة في منطقة الشرق الأوسط وشمال إفريقيا تدفع المنطقة لتصبح السوق الكبيرة المقبلة للطاقة الشمسية». وأضاف: «يعد معرض ومنتدى سولار إكسبو

والتي تصل إلى 1,18 جيجا وات، كما أن مجمع محمد بن راشد آل مكتوم للطاقة الشمسية في هيئة كهرباء ومياه دبي، التي تبلغ طاقتها 5 جيجا وات، هي من بين أكبر المجمعات الفردية للطاقة الشمسية في العالم.

وقال بيترى إيزوتالوس، مدير الاستثمار في شركة تاليري إنرجيا، وهي شركة تعمل في مجال إدارة وتطوير الطاقة المتجددة ومقرها فنلندا، «بالنظر إلى أن تكلفة توليد الكهرباء بالطاقة الشمسية على نطاق واسع قد انخفضت بنسبة تتراوح بين 60 و80 في المائة على مدى السنوات العشر الماضية، فهي الآن واحدة من أرخص الاستثمارات الجديدة في الكهرباء في دول مجلس التعاون الخليجي والشرق الأوسط».

وتتملك الشركة، التي ستعرض في معرض «سولار إكسبو»، حافظة تشمل 1,6 جيجاوات من أصول الرياح والطاقة الشمسية في جميع أنحاء الشرق الأوسط وأوروبا والولايات المتحدة، فعلى سبيل المثال، تعتبر شركتنا «تاليري» و «مصدر» مستثمرين مشاركين في مشروع «بيتونة» الذي تبلغ طاقته 200 ميجاوات، وهو أكبر مشروع للطاقة الشمسية في الأردن حتى الآن، وفي مزرعة طاقة الرياح «سيوك 1» البالغة طاقتها 158 ميجاوات، وهو أكبر مشروع لطاقة الرياح في صربيا حتى الآن، لتطوير المزيد من فرص الطاقة المتجددة في أوروبا الشرقية.

ويعتبر معرض ومنتدى الطاقة الشمسية حدثاً هاماً لشركة تاليري إنرجيا للإسراع بالانتقال الإقليمي والعالمي إلى الطاقة المتجددة. «سنسعى إلى الحصول على مصادر تجارية جديدة وتبادل أفضل الممارسات في مجال الابتكار الشمسي».

وبالإضافة إلى شركة تاليري إنرجيا، من المقرر أن يضم العارضون العالميون لمعرض سولار إكسبو كبار مطوري الطاقة الشمسية؛ مثل شركة مصدر، وشركة البحر المتوسط للصناعات الإنشائية (CNIM)، وسكاي باور، وماروبيني؛ بالإضافة إلى شركات الشبكات الذكية بما في ذلك هواوي وأنجيتيم وفرونيوس و صن جرو، وكذلك أجهزة تتبع الطاقة الشمسية نيكستراكر وبي أي إيه سولار وسولتك، ومصنعي الألواح الشمسية مثل لونجي سولار تكنولوجي.

ومن بين هذه الشركات، ستشارك شركة إنجيتيم للمرة الثالثة في معرض الطاقة الشمسية. كما ذكر ستيفانو دومينالي، الرئيس التنفيذي ونائب الرئيس التنفيذي لشركة إنجيتيم أنه: «مع استمرار ارتفاع سوق الطاقة الشمسية في دول مجلس التعاون، هناك حاجة متزايدة لمحولات الطاقة الشمسية الكهروضوئية وأنظمة التخزين في المحولات السكنية والتجارية والصناعية وعلى نطاق المنشآت». كما تعود شركة فرونيوس أيضاً إلى إطلاق خط إنتاجها الجديد. حيث ترى رضوانة سالم، أخصائية التسويق والتحول الرقمي في فرونيوس، وجود فرص تجارية كبيرة متاحة في المنطقة.

وأوضحت رضوانة سالم قائلة: «يظهر سوق الطاقة الشمسية المتنامي في دول مجلس التعاون الخليجي حاجة الدول إلى توفير إمدادات موثوقة وشاملة من الطاقة

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تقول «إيرينا» إن الإمارات تحوي 65 في المائة من الطاقة الشمسية الكهروضوئية

الطاقة الشمسية تخلق وظائف في دول الخليج

يستعرض معرض ومنتدى الطاقة الشمسية في القمة الدولية لطاقة المستقبل أحدث الابتكارات والاستثمارات وتبادل المعرفة حول الطاقة الكهروضوئية والطاقة الشمسية المركزة. فمع انخفاض تكلفة الطاقة الشمسية الكهروضوئية، تتبنى الدول في جميع أنحاء العالم مشاريع مرافق وأنظمة خارج الشبكة على نطاق واسع. وبفضل الأهداف الطموح للطاقة المتجددة والمساحات الشاسعة من الصحراء المغمورة بأشعة الشمس، أصبحت الطاقة الكهروضوئية أرخص مصدر للكهرباء الجديدة في دول مجلس التعاون الخليجي، وفقا للوكالة الدولية للطاقة المتجددة (IRENA).

الشمسية في العالم، والوكالات الحكومية، وقادة الفكر». وأضاف قائلا: «يمكن لزوار معرض ومنتدى الطاقة الشمسية رؤية تكنولوجيا وابتكارات الطاقة الشمسية، وتوفير منتجات الطاقة الشمسية المتطورة لأسواقهم، والتواصل مع أصحاب المشاريع الرائدة في مجال الطاقة الشمسية للتعلم ومشاركة أفضل الممارسات».

تقود دولة الإمارات العربية المتحدة، التي تذكر الوكالة الدولية للطاقة المتجددة أنها تستضيف 65 بالمائة من الطاقة الكهروضوئية في دول مجلس التعاون الخليجي، الابتكار العالمي في مجال الطاقة الشمسية. كما أصبحت - مؤخرا - شركة «نور أبو ظبي» التابعة لشركة الإمارات للمياه والكهرباء، أكبر محطة للطاقة الشمسية التشغيلية في العالم

المستقبل 2020 وفي جزء من أسبوع أبو ظبي للاستدامة، بين كبرى شركات هندسة الطاقة الشمسية ومقدمي التكنولوجيا والممولين.

سوف يكتشف الزوار مجموعة كاملة من اتجاهات وعروض وفرص الطاقة الشمسية للإسراع بنجاح مشاريع الطاقة الشمسية في منطقة الشرق الأوسط وشمال إفريقيا. هذا بالإضافة إلى التقنيات والابتكارات الجديدة في الخلايا الشمسية الضوئية، وتخزين الطاقة الشمسية الحرارية.

وقد أشار جرانت توتشتين، مدير فعاليات المجموعة في القمة الدولية لطاقة المستقبل إلى أنه: «مع زيادة اعتماد الطاقة الشمسية في جميع أنحاء العالم، سيضم معرض ومنتدى الطاقة الشمسية أبرز مزودي تكنولوجيا الطاقة

بحلول عام 2030، تتوقع الوكالة أن يكون لدى دول مجلس التعاون الخليجي 40 جيجاوات من مشاريع الطاقة الكهروضوئية على نطاق المرافق وحوالي 200 ألف وظيفة في مجال الطاقة الشمسية. كما تشمل الوظائف في قطاع الطاقة الشمسية، في عام 2030 حوالي 124 ألف وظيفة في مجال الطاقة الكهروضوئية، و50 ألف وظيفة للطاقة الشمسية المركزة، و23 ألف وظيفة في مشاريع صغيرة على الأسطح تعمل بالطاقة الشمسية.

سيعدم معرض ومنتدى الطاقة الشمسية هذا الانتقال، بوصفه أكبر سوق للطاقة الشمسية في المنطقة، عندما يعود إلى أبو ظبي في يناير/كانون الثاني المقبل. كذلك يجمع هذا الحدث المتخصص المنعقد خلال القمة الدولية لطاقة

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القسم العربي

تحليلات

الطاقة الشمسية تخلق وظائف في دول الخليج



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تحليلات: الاستدامة في سلسلة الإمداد.

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لمحات عن بعض القطاعات: تقرير النقل السنوي.

فعاليات: معرض بيچ فايف، القمة الدولية لطاقة المستقبل، معرض الشرق الأوسط السعودي للكهرباء.

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