

TECHNICAL REVIEW

النشرة التقنية - الشرق الأوسط

MIDDLE EAST

USA: \$16.50, United Kingdom: £10

Vol 36/Issue Six 2020

Analysis

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EDITOR'S NOTE

AS 2021 IS around the corner, it is exciting to see economic activity picking up in the Middle East. A PwC report tracks progress (pg 41). While rebooting the countries' economies remains a challenge, what are the influential factors shaping the future of sustainable trade (pg 18)? Sustainability is the thread that runs through this issue. Focusing on transport, heavy-duty vehicle manufacturers roll out top-notch electric and fuel cell trucks (pg 12). Meanwhile, Saudi Arabia welcomes power reforms to ensure the long-term growth of the electricity sector. Elsewhere in the issue, we have reports from construction, health, mining and manufacturing. We wish readers and partners of *Technical Review Middle East* a peaceful holiday season and look forward to working with you in 2021. Thank you for your support.

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

Cover: MAN Truck & Bus



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MIDDLE EAST

SERVING THE REGION'S BUSINESS SINCE 1984

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

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

Printed by: Buxton Press **Printed in:** December 2020

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

Arabic Typesetting: Lunad Publicity, Dubai

© Technical Review Middle East ISSN: 0267-5307

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Briefly

SCCI boosts investment relations with China

THE SHARJAH CHAMBER of Commerce & Industry (SCCI) has signed a MoU with the China Council for the Promotion of International Trade in Shanxi Province, as part of the SCCI's participation in the Shanxi-Middle East Economy and Trade Cooperation Conference, which was held virtually on 23 November, with the participation of economic organisations and institutions from the UAE and the region.

The agreement stipulates the establishment of a partnership between the two sides and the strengthening of economic cooperation in various fields. The number of Chinese companies registered in the Sharjah Chamber of Commerce and Industry reached 1020 enterprises operating in contracting, retail trade, building materials, electronics, and others.

"The MoU is a step in the right direction towards prosperous economic partnerships, as part of Sharjah's keenness to strengthen its diverse relationships at the global level to serve the local business community," said Abdullah Sultan Al Owais.

Facilio and Belimo team up for building operations

FACILIO, A LEADING AI-driven property operations and maintenance (O&M) platform, and Belimo, a global market leader in HVAC field devices, has announced a collaboration to enhance the buildings industry by delivering connected and sustainable environments.

Facilio and Belimo will help real estate owners, operators, and service providers turn IoT data into operational insights and workflows to optimise building performance and comfort in real-time.

"For customers who are shifting to an agile, data-driven operating model, Facilio and Belimo will deliver a single connected operational environment, helping them gain complete real-time visibility and control of their space and equipment. We're excited to partner with Belimo to impact how the real estate industry transforms their property operations with data," said Prabhu Ramachandran, CEO and founder, Facilio.

APICORP extends a US\$50mn facility to finance solar projects

THE ARAB PETROLEUM Investments Corporation (APICORP), a multilateral development financial institution, has announced that it has signed a US\$50mn revolving construction facility with Yellow Door Energy, a leading UAE-based sustainable energy provider for businesses, to develop solar-PV plants in the region with emphasis on Jordan and Pakistan.

Yellow Door Energy has more than 110MW of solar assets operating and under construction in the UAE, Jordan, and Pakistan, with expansions into Saudi Arabia, Bahrain and Oman.

The first utilisation of the financing will be for solar PV projects in Jordan, where Yellow Door Energy is operating and building 79MW of solar PV projects across the country – the largest such portfolio of any company operating there.

Yellow Door Energy is one of APICORP's investee companies and in 2019, the corporation and a consortium of international and regional banks invested US\$65mn in Yellow Door Energy to scale up investments in solar energy and efficiency solutions in emerging markets.

Dr Ahmed Ali Attiga, CEO of APICORP, said, "For years, APICORP has been a trusted financial partner in the region's energy sector, and we are delighted to extend further support to Yellow Door Energy as it scales up its solar operations in into new markets. APICORP is also one of Yellow Door Energy's shareholders, and the revolving construction facility demonstrates our commitment to accelerate the sustainable energy transition in the region. APICORP's financing



Photo Credit : Adobe Stock

Yellow Door Energy, a UAE sustainable energy provider, receives US\$50mn funding boost for its solar parks.

portfolio is now more than 15% green and we are looking to continue to increase this as we move towards our strategic priorities for the energy transition."

"These sorts of agreements are a key focus for us at a time when regional policymakers are prioritising distributed solar projects and demand for renewables has reached an all-time high across the MENA region and globally. We firmly believe that with the right mix of regulations, technology and financing, renewable energy has a massive potential to make inroads in the MENA region," further noted Dr Attiga.

Jeremy Crane, CEO of Yellow Door Energy, said, "Yellow Door Energy is pleased to be working with APICORP again to propel our mission to provide low cost, reliable and sustainable energy solutions to businesses across MENA. This US\$50mn revolving construction facility demonstrates the innovative thinking that makes APICORP and Yellow Door Energy leaders in their respective fields."

SAIF Zone, HFZA sign deal with Sharjah municipality support digital transformation vision

THE SHARJAH INTERNATIONAL Airport Free Zone (SAIF Zone) together with Hamriyah Free Zone Authority (HFZA) have signed a MOU with Sharjah Municipality to support their digital transformation vision, enhance mutual cooperation and upgrade work mechanisms.

The MoU is expected to save investors time, facilitate, quicken and simplify procedures for completing transactions. It will ensure that all standards and information security controls are applied to the electronic link in order to protect it from risks, and lay the foundations for joint strategic cooperation. It will help all involved parties make the most of one another's technical competencies.

The deal was virtually inked by HE Saud Salim Al Mazrouei, director of the Hamriyah Free Zone Authority & Sharjah Airport International Free Zone Authority, and Thabet Salem Al Tarifi,

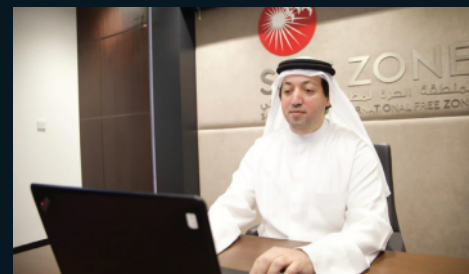
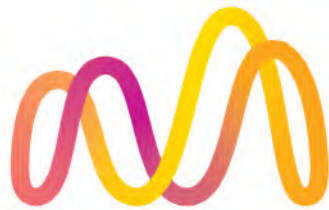


Photo Credit : SAIF Zone

Sharjah municipality signs MOU to boost its digital transformation.

director general of Sharjah Municipality.

Saud Salim Al Mazrouei said, "HFZA and SAIF Zone's cooperation with Sharjah municipality reflects our great interest to strengthen working mechanisms and keep pace with the latest technical developments to ensure that investors get the finest services."



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Dubai Industrial City completes major construction and infrastructure projects

DUBAI INDUSTRIAL CITY, one of the largest industrial hubs in region, has completed major construction and infrastructure projects to help its community keep pace with manufacturing and logistics demand in the UAE.

Two highway extensions to Emirates Road have been completed, giving heavy-tow trucks direct access to the major causeway linking Abu Dhabi with the Northern Emirates, Oman and Saudi Arabia. By improving the community's 127-km-long road network, a major part of its enabling infrastructure, the upgrades enhance mobility for more than 750 business partners.

Dubai Industrial City has also inaugurated a 14,000-bed worker accommodation village, which brings the total number of available beds in the community to more than 56,000.

Saud Abu Al Shawareb, managing director of Dubai Industrial City, said, "As a strategic driver and enabler of the Dubai Industrial Strategy 2030, we have continued to invest significantly in the development of our world-class infrastructure to strengthen our status as a global platform for knowledge-based, sustainable and innovative industries.

He added, "With competitively-priced industrial land, light industrial units and scalable warehouses, our ecosystem offers a cost effective and efficient business location for light to medium manufacturing and logistics companies. These organisations continue to harness disruptive technologies and embrace sustainability to fuel long-term growth in Dubai's industrial sector, which will play a key role in the UAE's resilience as the economy gets moving again."

The manufacturing sector is the fourth-largest contributor to the emirate's economy and the industry reached a major milestone last year, achieving more than 60% of the Dubai Industrial Strategy 2030's phase one objectives.

With industrial land plots ranging from 50,000 sq ft to 3,000,000 sq ft available for long-term lease with ready infrastructure, electrical power supply, fibre optic cables, a robust storm water drainage system, and access to major highways, Dubai Industrial City continues to enjoy strong demand for its land plots and warehouses.

The industrial hub is designed around a competitive masterplan



Photo Credit: Dubai Industrial City

divided into sector-focused zones: minerals, base metals, food and beverages, trading and distribution, transport, chemicals, and machinery and equipment. This has created an integrated end-to-end supply chain representing every aspect from raw materials such as cement and asphalt to food production, manufacturing, packaging, warehousing and logistics.

Oman: International companies express interest to invest in green hydrogen projects

A GROUP OF international companies have expressed their interest to invest in clean hydrogen projects in the special economic zones and free zones in Oman, said Jalal bin Abdulkarim Al Lawati, from the Public Authority for Special Economic Zones and Free Zones (OPAZ).

Those companies are showing interest to invest in the Special Economic Zone at Duqm (SEZAD) and Sohar Free Zone to produce electricity from solar and wind energy as great sources to produce green hydrogen for export.

The sultanate is one of the five potential destinations for investments in clean energy, according to the studies carried out by these companies. In view of that,



OPAZ allocates 100 sq km of land in Duqm for clean energy.

Photo Credit: OPAZ

the sultanate is rich in the natural solar and wind energy, especially in Duqm.

Jalal Al Lawati said that the OPAZ has initially designated a dedicated zone for the clean energy in the Special Economic Zone at Duqm (SEZAD). This zone covers

an area of 100 sq km, which is enough to generate about GW energy. Furthermore, OPAZ is coordinating with other government bodies to allocate an area in Sohar for expansion in producing solar power.

Al Lawati remarked, "Clean hydrogen projects are considered one of the future strategic projects that international companies are interested to invest in as an environment-friendly alternative to oil and gas byproducts. Usually electricity is generated from clean sources and used to separate hydrogen bits from oxygen in water, and then use hydrogen bits as a source of energy or converted to other chemicals such as ammonia or methanol."

ACWA Power wins The Red Sea Project utilities contract

THE RED SEA Development Company (TRSDC), the developer of an ambitious regenerative tourism project in Saudi Arabia, has awarded a contract to a consortium led by ACWA Power to design, build, operate and transfer The Red Sea Project's utilities infrastructure.

This will make it the region's first tourism destination powered solely by renewable energy.

The contract utilities to be delivered under the single agreement include, the provision of renewable power, potable water, wastewater treatment, solid waste management and district cooling for 16 hotels, international airport and



Photo Credit: The Red Sea Development Company

The project will be the region's first tourism destination powered solely by renewable energy.

infrastructure, as part of the phase one of The Red Sea Project.

Energy will be generated via solar panels and wind turbines, to meet an initial demand of 210MW, and the destination will enjoy the battery storage facility of 1GWh.

The agreement also includes the construction of three seawater reverse osmosis (SWRO) plants, a waste management centre and an innovative sewage treatment plant (STP) that allows waste to be utilised for enhancing the environment; and the creation of new wetland habitats as well as supplementing irrigation water for the TRSDC landscape nursery.

Mohammad Abunayyan, ACWA Power chairman, said, "The Red Sea Project is a vital undertaking under the Saudi Vision 2030 and aims to be a global showcase of the Kingdom's ability to develop ambitious mega projects.

"Powering the Red Sea Project and all utility services exclusively with clean, renewable energy sources is a commendable strategy, and enabling it through a public-private partnership contract underlines TRSDC's groundbreaking approach which sets a new benchmark in sustainability and environmental stewardship," he added.

Imdaad awarded

IMDAAD, A DUBAI-BASED group of companies that provides integrated, sustainable FM services that enhance operational efficiencies of physical assets, has scooped two of the top awards at the Innovation in Construction and FM Awards 2020.

The company received the coveted 'Sanitation and Waste Management Company of the Year' title, while Group Chief Executive Officer Mr. Jamal Abdulla Lootah was crowned 'Visionary Leader of the Year' for his inspiring stewardship of Imdaad and outstanding contribution to the regional FM sector.

The Innovation in Facilities Management Awards 2020 is one of the leading events applauding the achievements of the region's facilities management professionals.

Fisia Italimpianti wins Oman contracts

FISIA ITALIMPIANTI, PART of the Webuild Group, has won two engineering, procurement and construction (EPC) contracts worth a combined total of around US\$330mn for two desalination plants in Oman, one of which will be the largest in the country.

Located on the coast in the Gulf of Oman north of Muscat, the plants, commissioned by Oman Power and Water Procurement Company (OPWP) will serve residents living near the capital.

Fisia Italimpianti and its joint-venture partner GS Inima Environment will build plants that use the reverse osmosis process to desalinate water from the sea. The first, Ghubrah 3 IWP, will have a production capacity of 300,000 cu/m of water a day, while the second, Barka 5 IWP, will produce 100,000 cu/m a day. Both projects are expected to take three years to complete, with Ghubrah becoming the biggest in the sultanate. Fisia Italimpianti has a 50% stake in both joint-ventures.

The Barka 5 and Ghubrah 3 plants will increase the Group's presence in Oman as it helps the sultanate reach its goals of sustainable development, and address the challenge of water scarcity. Fisia Italimpianti entered Oman in 2017 with the Salalah desalination project, soon to be completed, which also uses the reverse osmosis process to produce 113,500 cu/m a day of potable water for the city of Salalah.



Photo Credit: Adobe Stock

The plants will help to address the issue of water scarcity.

Briefly

Collaboration on digital truck booking services

MAQTA GATEWAY, THE digital arm of Abu Dhabi Ports, and TruKker, the region's first and largest digital truck booking marketplace, based in Abu Dhabi Global Market (ADGM), have signed an agreement to digitally transform truck logistics through Maqta Gateway's digital logistics solution platform, MARGO.

The Memorandum of Understanding (MoU) enables Maqta Gateway to fully integrate MARGO with TruKker's fleet of onboarded truck drivers and trucks situated across the Middle East.

Dr Noura Al Dhaheri, head of Digital Cluster, Abu Dhabi Ports and CEO of Maqta Gateway, said, "Our collaboration with TruKker streamlines the complex needs of trade across the entire supply chain by leveraging MARGO and TruKker's best-in-class logistics solutions to better meet the demand of those who seek to trade goods and services with the UAE.

"By facilitating increased trade through leading-edge integrated digital transformation, Maqta Gateway is aligning its capabilities with the requirements and expectations of today's customer, allowing user journeys to become better, faster, smoother, more secure, more predictable, and less expensive."

Al Tayer Motors wins Ford Trucks' Champions Award

AL TAYER MOTORS, the official Ford Trucks importer-dealer in the UAE, has won the Champions Award 2019 from Ford Trucks' dealers in 44 countries worldwide for its overall performance.

The accolade comes as Al Tayer Motors records 50% per cent growth in its trucks business in the first nine months of 2020 compared to the same period in 2019. The dealership delivered a solid performance with major wins in the established Construction and Waste Management segments with major inroads into the Transportation, Cargo and Logistics segments.

"Winning the Champions Award from Ford Trucks is a tremendous achievement and recognises the hard work of the entire team in promoting the brand and providing customers with excellent after-sales services across the UAE," said Ashok Khanna, CEO of Al Tayer Motors.

Briefly

Ryse Energy moves to Masdar City

RYSE ENERGY, A specialist in renewable off-grid energy systems with more than 4,000 installations across all seven continents, has moved to Masdar City, Abu Dhabi, to expand into new markets and capture the multi-billion dollar market opportunities represented in the off-grid energy space across the globe.

Alistair Munro, founder and CEO, said, "Masdar City is a global hub for renewable energy and sustainable urban development, and Abu Dhabi is driving innovation through investment into renewables and sustainable technologies, so it is a natural fit for us to establish our business here and build for a greener future for all."

Ryse Energy provides wind and solar as standalone technologies, offering either grid-connected or off-grid options with energy storage. Their wind technologies have been combined with solar PV and energy storage to create hybrid renewable solutions, with various applications including decarbonising infrastructure in the telecoms and oil and gas industries, to community power for rural electrification.

Emrill targets Abu Dhabi

UAE-BASED TOTAL FACILITIES management services provider, Emrill, has appointed Sijo Elias as general manager for Abu Dhabi, as it focuses on achieving further expansion into the capital.

Elias will lead Emrill's operations in Abu Dhabi. As part of his new role, he will oversee all aspects of Emrill's facilities management offering, including technical, MEP, cleaning and security services, as well as energy management. He will report to Emrill's operations director, Gopalakrishnan.

Gopalakrishnan said, "We are looking to expand our presence in Abu Dhabi, adding to the existing mechanical, electrical and plumbing (MEP) and integrated facilities management contracts we currently have. Appointing Sijo, as a dedicated general manager to look after our ongoing operations and create new partnerships in Abu Dhabi, will enable us to establish greater operational capabilities."

TBI hosts dialogue with Private Banks Association on achieving economic growth

THE TRADE BANK of Iraqi (TBI) in partnership with the Private Banks Association of Iraq held a dialogue session on the national bonds issued by Iraq's Ministry of Finance.

The session aimed to keep pace with the reforms being undertaken by the Iraqi government, to advance the economic reality to achieve sustainable financial stability. The session also seeks to attain macroeconomic reforms and to provide essential services.

During the session, several important topics were discussed, including the method for offering financial bonds with attractive interest to attract individual and institutional investors both within and outside the traditional markets.

The session also explored with the prospect of offering these bonds in the Iraqi Dinar and US dollar currencies with different lengths of time for the bond to provide more options for investors.

Dr Salem Jawad Chalabi, chairman of the TBI and chairman of the board of directors, said, "This step comes at the back of TBI's involvement in the economic reforms being undertaken by the Iraqi government.

"Through constructive dialogue with members of the Private Banks Association of Iraq, we discussed various options for offering these bonds. A large part of the funds generated will be directed to support infrastructure development and boost the private sector. As we emerge from the COVID-19 pandemic, it is vital to find new opportunities for potential collaborations and partnerships. The aim is to address the fiscal deficit and provide cash liquidity that contributes to securing the salaries of employees and retirees."

The bank has participated in reconstruction projects, with total loans of more than US\$3bn



Ali Tariq, executive director of Iraq Private Banks League and Dr Salem, CEO of Trade Bank of Iraq.

allocated during the past year alone to support government institutions and agencies.

The bank opened its first branch outside Iraq last year in Riyadh, Kingdom of Saudi Arabia, and intends to upgrade its representative office in the Abu Dhabi Global Market to enable it to carry out consultations and manage investments.

TBI was established in July 2003 with the aim of helping the reconstruction of Iraq by facilitating international trade and continues to be at the forefront of large-scale infrastructure developments across the country.

Social responsibility for the nation is a central of the bank's vision, plans and policies for sustainability. TBI continues to play a pivotal and influential role in Iraq's ongoing recovery and growing Iraqi economy to improve all aspects of life in the country.

TBI is making great strides towards reaching its strategic goals both in business and in assisting the ongoing reconstruction of Iraq.

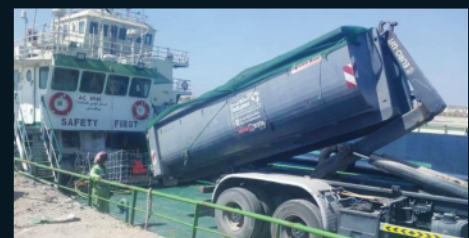
Tadweer launches marine waste vessel in Al Dhafra region

ABU DHABI WASTE Management Centre (Tadweer) has launched a marine waste vessel in Al Dhafra Region of Abu Dhabi as part of the centre's continued efforts to enhance the collection, transportation and treatment of solid waste.

The facility will be used to transfer different types of solid waste from Dalma Island in Al Dhafra Region to Ruwais landfill on a regular basis.

The first of its kind facility in Abu Dhabi articulates Tadweer's continued efforts to protect the environment and ensure the public health and safety in line with the highest international standards.

Compared to traditional methods, the vessel can accommodate large-sized waste containers,



The vessel will operate six times per week, carrying a total of 200 tonnes of waste.

doubling the centre's capacity to transfer huge amounts of waste from different areas of the island.

The 79-tonne vessel is approximately 26 metres long and is operated under the supervision of a permanent crew.

DEWA Innovation Centre and 800MW third phase of the Mohammed bin Rashid Al Maktoum Solar Park inaugurated

HIS HIGHNESS SHEIKH Mohammed bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE, and Ruler of Dubai, visited Dubai Electricity and Water Authority's (DEWA) Innovation Centre and the third phase of the Mohammed bin Rashid Al Maktoum Solar Park to open the facilities

The four-storey DEWA innovation centre, covering 4,355 sq m, houses an auditorium for events, conferences, and training programmes on solar power, renewable energy, and other green initiatives. The facility is the first and largest



Photo Credit: DEWA

The four-storey DEWA Innovation Centre, covering 4,355 sq m, houses an auditorium for events, conferences, and training programmes.

government centre to receive the 'Done by Youth' seal from the Federal Youth Authority and its research on solar power will support the Dubai Clean Energy Strategy 2050.

During the visit, HH Sheikh Mohammed bin Rashid Al Maktoum also inaugurated the 800MW third phase of the Mohammed bin Rashid Al Maktoum Solar Park. DEWA built the third phase using the IPP model in partnership with a consortium led by Abu Dhabi Future Energy Company (Masdar) and EDF Group, through its subsidiary EDF Énergies Nouvelles. The third phase provides clean energy for over 240,000 residences in Dubai. The total capacity of operational projects at the park is 1,013MW.

"Inspired by the vision of the UAE leadership, the inauguration of the third phase of the Mohammed bin Rashid Al Maktoum Solar Park marks a significant milestone in the journey towards achieving the UAE's target of having 50% of its power coming from clean energy by 2050," said Sultan Ahmed Al Jaber, minister of industry and advanced technology and chairman of Masdar.

Siemens Gamesa appoints Marc Becker as CEO of Offshore

REPLACING ANDREAS NAUEN, who was promoted to CEO of the company in June, Marc Becker has been appointed by Siemens Gamesa Renewable Energy as company CEO of its Offshore business.

Becker served as managing director for Germany and head of Offshore Sales and Projects at Siemens Gamesa before leaving the company in early 2020.

Becker commented, "I'm looking forward to rejoining the company and working to extend that leadership, there is huge potential for Offshore wind to lead the fightback against climate change, and with the talented team at Siemens Gamesa as well as the industry's best technology, we are well positioned to play a leading role."

Kuwait's MEW awards major service contract to Siemens Energy

KUWAIT'S MINISTRY OF Electricity and Water (MEW) has awarded Siemens Energy a five-year contract to provide maintenance of 116 high-voltage substations. The contract represents Siemens Energy's largest service agreement in the power transmission sector in the Middle East.

The substations will undergo maintenance to enhance their reliability and safety and will provide power to residential and commercial areas. The service agreement covers preventive maintenance and emergency repair of the substations, including switchgears of different voltage levels, power transformers and various assets in each substation.

"As the heart of any electrical power distribution system, efficient substations are crucial for a reliable energy supply. I am very proud that Kuwait's Ministry of Electricity and Water, for whom Siemens Energy has executed high-voltage maintenance projects for more than 50 years now, trusts once again in our long-term service abilities and that we will continue to jointly strengthen the power supply security in Kuwait," said Katharina Beumelburg, vice-president of Transmission Service at Siemens Energy.

Around a quarter of the power transmitted in the country utilizes Siemens Energy's technology and through preventative maintenance Siemens Energy will ensure that the people of Kuwait have a stable and reliable source of energy.

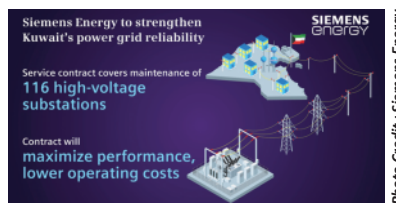


Photo Credit: Siemens Energy

Switchgears, power transformers and various other assets will be serviced.

Briefly

Raysut Cement begins construction of US\$30m Duqm Plant

RAYSUT CEMENT COMPANY (RCC), Oman's largest cement manufacturer has held a ceremony triggering the start of the construction of its new US\$30m grinding unit in Duqm in Oman.

The development of Duqm plant, a strategic expansion for the Muscat Stock Market (MSM)-listed RCC will complement the company's leadership in cement manufacturing adding another one million tonnes to the overall group output, taking the total to 7.4 million tonnes per annum.

"Today's groundbreaking is a milestone for RCC on two counts. It will contribute significantly to our ambitious capacity expansion targets of 10 million tonnes by 2022 which is expected to be further scaled up to 22 million tonnes in the near future. Second, it will help us generate more employment opportunities aiding our efforts to enhance social and economic progress in Oman," said Group CEO, Joey Ghose.

Yousif Al Manea appointed as CEO at Kanoo Logistics

KANOO LOGISTICS, A fully-owned business division of Yusuf bin Ahmed Kanoo Group (YBA Kanoo), has announced the appointment of Yousif Khalifa Al Manea as division chief executive officer.

Al Manea, an industrial engineer who has been with YBA Kanoo since 2007, will be responsible for maintaining Kanoo Logistics' position as a leader in its field in the region and will implement strategies to enhance its global presence.

Fahad Fawzi Kanoo, president of Kanoo Logistics, said, "Mr. Al Manea is a proven senior executive and a capable leader. He has done an excellent job over the past years transforming Kanoo Logistics into a modern and trusted freight forwarding enterprise."

Yousif Al Manea added, "I would like to thank YBA Kanoo and the Kanoo Family for their trust. It has always been an honor to work with one of the largest family businesses in the region and I hope my team and I will continue modernizing and growing the Kanoo Logistics division."

ON THE WEB

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

Thales commissions seven stations for Egyptian National Railways

THALES HAS COMMISSIONED seven new stations across the three major railway lines over the last six months. Upgrades on Sandanhour, Toukh and Qaha stations on the Cairo-Benha line, Geziret and El Maragha on the Asyut-Nagahamadi line, and Kafr el Dawar and Damanhour on the Cario-Alexandria line have all been completed. The project entails new level crossings, upgrade of telecommunications systems, and new technical buildings for ENR.

www.technicalreviewmiddleeast.com/logistics/rail



Photo Credit : Thales Egypt

Sherif Barakat is the country director, Thales Egypt.

New water transmission and technologies company launched

SAUDI MINISTER OF environment has launched water transmission and technologies company to improve water-based infrastructure across Saudi Arabia. WTTCO will manage and maintain water transmission, distribution and storage systems across over 8,400km, transmitting more than 7 million m3 of desalinated water every day across Saudi Arabia. The WTTCO will work to improve efficiency and impact in the water sector, and drive innovation in technology and research. Al-Fadhli considers the establishment of WTTCO to be a key step in enhancing the water sector while contributing to a prosperous future for the Saudi Arabian economy.

www.technicalreviewmiddleeast.com/power-a-water

ADES and SEHA set to promote energy conservation

ABU DHABI ENERGY Services (ADES) has signed a Memorandum of Understanding (MoU) with Abu Dhabi Health Services Company (SEHA), the UAE's one of the largest public healthcare network. ADES will explore retrofitting SEHA's healthcare facilities with energy efficient modifications that reduce power and water consumption to enhance energy efficiency and sustainability throughout the emirate of Abu Dhabi.

www.technicalreviewmiddleeast.com/hse



Photo Credit : TAQA Group

Omar Abdulla Alhashmi is the executive director of transmission and distribution at TAQA Group.

Agility's new solar projects to reduce company's carbon footprint

AGILITY HAS ANNOUNCED solar projects in Dubai and Jordan that will cut the company's carbon footprint in the Middle East by 5%. The solar photovoltaic (PV) plant at Agility's regional headquarters in Dubai, involves the installation of 17,500 panels at three sites, and the capacity to generate nearly eight mega-watts of power at peak. The installation includes a 5.45MW system at the Jebel Ali Free Zone (JAFZA), and a 2.6MW system at the Dubai Investment Park. Once complete, Agility's solar PV system will generate enough electricity to cover 60% of the energy requirements at the sites, and save an estimated 8,838 tonnes of carbon dioxide each year.

www.technicalreviewmiddleeast.com/power-a-water/renewables

Swissport expands its presence in Saudi Arabia

WITH THE HANDLING of the first Pakistan International Airlines flight arriving from Multan, Pakistan, Swissport has added Al-Qassim International Airport, Saudi Arabia, to its growing network in the Middle East.

Initially, Swissport will handle one weekly flight to Multan and Islamabad but this is planned to increase as international flights return to Saudi Arabia. www.technicalreviewmiddleeast.com/logistics/aviation



Photo Credit : Swissport

Swissport offers passenger and ramp services to the Pakistani flag carrier.

Developing connected vehicles

ACCENTURE AND MICROSOFT have agreed to collaborate with CNH Industrial to help the capital goods company enhance its digital capabilities and develop 'smart' connected products and services.

The programme is an integral part of CNH Industrial's digital transformation initiative, which is designed to help the company grow top line revenue, build a digitally enabled workforce, and enhance sustainability. The connected vehicles will provide customers with new services and functionalities in a variety of areas, including computer-aided farming, predictive maintenance, enhanced fleet management and green transportation. CNH Industrial also plans to develop a broad set of data-driven digital services to help clients drive sustainability, such as yield improvement in agriculture and more-efficient vehicles and improved fleet management in the transportation industry. www.technicalreviewmiddleeast.com/manufacturing/innovations

EXECUTIVES' CALENDAR 2020-21

DECEMBER

14-15	Gulf Traffic	VIRTUAL	www.gulftraffic.com
26-28	Trans Middle East	BAHRAIN	www.transportevents.com

JANUARY 2021

13-16	Kuwait Building Show	KUWAIT	www.kuwaitbuildingshow.com
28-29	ICCCT	UAE	www.waset.org/creative-construction-technology-conference-in-january-2021-in-dubai

FEBRUARY 2021

17-18	Smart Data Summit	UAE	www.expotradeglobal.com/events/smartdatasummit
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MARCH 2021

9-11	Intermodal Africa	SENEGAL	www.transportevents.com
17-20	EGYPT PROJECTS	EGYPT	www.egypt-projects.com
22-24	Oman Design & Build Week	OMAN	www.omandesignandbuildweek.com
22-24	5G MENA	VIRTUAL	http://tmt.knect365.com/5g-mena/
24-26	Minexpo Africa Tanzania	TANZANIA	http://minexpo.expogr.com/

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

Mobility and logistics transformation on agenda as Hypermotion heads to Dubai in November 2021

HYPERMOTION, THE GERMAN-ORIGINATED exhibition addressing the transformation and future of the transport, logistics and mobility sectors through disruption, decarbonisation and digitalisation, is heading to Dubai as a key event at the Expo 2020 grounds.

Hosted at the Dubai Exhibition Centre (DEC) from 2-4 November 2021, Hypermotion Dubai will coincide with Expo 2020 – the Arab region's first world fair running under the theme 'Connecting Minds, Creating the Future'.

With mobility, sustainability, and opportunity key subthemes of the six-month-long mega event, Expo 2020 is set to provide a much larger global audience for Hypermotion Dubai, which has the backing of private and government organisations at the forefront of next generation mobility and logistics. Organised by Messe Frankfurt



Sultan Ahmed Bin Sulayem, group chairman and CEO of DP World.

Middle East, Hypermotion Dubai 2021 will take place with global ports operator DP World as Global Partner. Sultan Ahmed Bin Sulayem, group chairman and CEO of DP World, said, "Hypermotion brings together innovative minds and ideas to transform the mobility and logistics industry. From integrated logistics concepts to disruptive ideas and digital networks, Hypermotion allows us to work with industry experts to

build a world of smarter trade and more intelligent logistics."

The annual three-day event will operate under four key themes: Connectivity, Hypermodality, Sustainability and Digital & Urban Logistics. It will target a unique mix of Business-to-Government (B2G), Business-to-Business (B2B) and Business-to-People (B2P) audiences through strategic content, high-end networking opportunities, competitions and pitches covering all aspects of the future of intelligent transport systems.

Simon Mellor, CEO of Messe Frankfurt Middle East, stated, "This region's commitment to Industry 4.0 transformation is solid and one which the global industry needs to partner to progress the Middle East's transportation sector to a new era of super efficiency, productivity and prosperity."



Photo Credit: Iveco

Iveco taking part in the Dakar rally earlier this year.

Driving into the future

GCC transport sector looks to a more sustainable, tech-driven future, but old-fashioned values remain as important as ever. Martin Clark reports.

Those that embrace innovation and technology will be better equipped to prosper in this new environment.

THE TRANSPORTATION INDUSTRY – from trucks and trains, through to air freight and automobiles – is an integral part of making business tick in the GCC.

That is not likely to change despite the unprecedented events of 2020. Long-term development hopes for key sectors like construction and infrastructure remain intact, both key drivers for industrial transportation services.

However, the new catchphrase – build back better – applies across the board, and could spell an acceleration in changes and improvements in transportation, as the shift to cleaner, more sustainable vehicles, fuels and technologies gains momentum.

Mega infrastructure projects like Neom in Saudi Arabia will seek to embed these and other values as they integrate

transportation services into their overall development.

This is all, in part, reflected in analysis by Deloitte in its annual GCC Powers of Construction 2020 report, this year titled: *'A new normal for a new decade'*.

Sustainability will be a thread that runs throughout the industry, with transportation providers expected to play their part, cutting down on waste and emissions.

Yet it comes at a time when contractors and suppliers are also being asked to make cost savings as the region navigates its way through the recovery and economic uncertainty caused by the pandemic.

For those active within the construction and infrastructure segment, Deloitte says many firms now face an “existential challenge” in an industry that was already struggling with declining project activity,

cashflow and payment issues, decreasing margins and heightened competition.

“Those that embrace innovation and technology will be better equipped to prosper in this new environment,” it notes.

Technology trends

There is no doubt this is already being reflected among the major truck companies, hauliers and logistics firms that ply their trade in the region. Digitalisation, sustainable practices, and new business models were discussed online at The Big 5 Digital Festival in November, which attracted key industry names such as Japan’s UD Trucks, now a part of the Volvo family.

Its Quester vehicle has been active in the Middle East for years and is known for its long-haul reliability, with UD Trucks incorporating digitalisation and other intuitive features, such as user-friendly apps to improve fleet control. Its New Quon range received a facelift recently, while UD Trucks also successfully markets its Croner medium-duty truck across the GCC.

Volvo Trucks itself is pioneering a range of eco-friendly and smart initiatives in its home market back in Europe. That includes live tests of two fully electric heavy duty construction trucks in order to meet the growing demands for reduced noise and emissions. It follows the successful introduction of electric trucks for urban transport and refuse collection.

As part of the tests, an electric Volvo FM truck equipped with a mixer is delivering concrete to customers, while an electric Volvo FMX truck fitted with a hooklift is to be used for larger infrastructure projects. From next year, hauliers in Europe will be able to order all-electric versions of Volvo’s heavy-duty trucks – a major step forwards on the road to fossil-free transport. It is unknown how long it might take for the GCC to follow suit given the multitude of factors involved in take up, but the direction of travel is clear, according to Roger Alm, Volvo Trucks’ president.

“To reduce the impact of transport on the climate, we need to make a swift transition



Hyundai Xcient Fuel Cell is the world's first mass-produced fuel cell heavy-duty truck.

Photo Credit : HYUNDAI

from fossil fuels to alternatives such as electricity,” he says. “But the conditions for making this shift, and consequently the pace of the transition, vary dramatically across different hauliers and markets, depending on many variables such as financial incentives, access to charging infrastructure and type of transport operations.”

Old-fashioned values

Against this dynamic backdrop, however, traditional values such as durability, performance and after-care remain strong selling points, as they have always done.

One of Saudi Arabia’s leading distributors, Arabian Auto Agency (AAA), recently hosted an industry event in Riyadh showcasing IVECO’s full range, where it underlined the importance of these old-fashioned values.

The full IVECO line-up included two Trakker 6x4 Rigid Chassis mounted with a local body tipper, a Trakker 6x4 Tractor heavy truck, a Performer 4x2 Tractor head, two Eurocargo trucks, two Daily vans and three Daily light-duty trucks.

Further events are planned at other AAA sites in Dammam and Jeddah. AAA prioritises after-sales support, delivered through a kingdom-wide network of sales,

service and parts centres, says Maan Gharaibeh, its general manager.

“We have become the go-to partner for major Saudi companies based on our industry-leading service levels.”

IVECO Saudi Arabia area manager, Marco Torta, added that durability remains one of the fundamentals underpinning its entire vehicle range.

“Our commitment to all our customers is that when they buy an IVECO truck, they can rely on the durability of our products. Durability also means a strong focus on after-sales service, and this is one of the main pillars for IVECO and AAA in this market.”

These were all highlighted in abundance at the 2020 Dakar rally — held in Saudi Arabia for the first time earlier this year — with FPT Industrial sponsoring the Petronas Team De Rooy IVECO to power its trucks with Cursor 13 engines.

The 13-litre engine was designed for the most demanding heavy-duty needs in industrial applications, such as long haulage trucks, large tractors and harvesters.

The Cursor 13 engineered for the Dakar IVECO trucks delivered essential robustness, reliability and durability and power, reaching 1,000hp.

This year’s rally kicked off in Jeddah, passing through mountains, canyons and dunes in the direction of Riyadh, before heading into the sands of the desert, and then finishing in Qiddiya, the country’s entertainment hub.

Cleaner fuels

Nonetheless, there is no doubt that change is coming to this vital industry, although the

To reduce the impact of transport on the climate, we need to make a swift transition from fossil fuels to alternatives, such as electricity.



Renault's used trucks factory.

Photo Credit : Renault

pace of development may well be uneven.

For practical reasons, transport companies will shift to electric operation in stages. In practice, many will have a mixed fleet of trucks powered by different fuels during what could be a bumpy transition period.

Volvo Trucks has also noted an increased interest in gas as an alternative to diesel for heavy-duty truck operations in Europe as an interim measure.

The race to cut emissions does not end there, though, with manufacturers implementing eco measures across the production chain.

From January 2021, Scania says it will have halved carbon emissions at all its factory operations in Asia and Oceania, for instance.

With the rapid expansion of its own electric trucks and engines range, the company is also investing heavily in battery power.

"This is a tangible manifestation of our determination to take a leading role in heavy vehicle electrification," said Ruthger de Vries, Scania's head of production and logistics.

Pushing the boundaries even further, Hyundai this year shipped its first fuel cell heavy duty trucks.

The Hyundai XCIENT Fuel Cell is the

world's first mass-produced fuel cell heavy-duty truck, utilising the almost untapped power and potential of hydrogen.

The company plans to roll out 1,600 of the trucks by 2025, reflecting its environmental commitment and technological prowess as it works toward reducing carbon emissions through zero-emission solutions.

While it is initially targeting the North America and Europe markets, the technology will be closely monitored by fleet owners in the Middle East.

"Building a comprehensive hydrogen ecosystem, where critical transportation needs are met by vehicles like XCIENT Fuel Cell, will lead to a paradigm shift that removes automobile emissions from the environmental equation," said In Cheol Lee, executive vice president and head of commercial vehicle division at Hyundai Motor. ■

Renault Trucks T X-Port targets Gulf markets

RECYCLING TRUCKS IS another way the industry is improving its environmental performance and sustainability credentials.

Renault Trucks this year started marketing a new model from its Used Trucks Factory in Bourg-en-Bresse tailored for GCC markets.

The Renault Trucks T X-Port is based on a Renault Trucks T Euro 6, with an 11-litre engine that is converted and certified Euro 3 for Middle Eastern and African markets.

This is a truck that is converted to a Euro 3 using strict industrial processes in order to guarantee the highest level of pollution reduction in force in these markets.

The conversion starts with dismantling the Euro 6 components, namely the silencer and AdBlue components, which are then sent to the manufacturer's recycling

network.

Operators then install the Euro 3 components and the air and diesel filters are reinforced, enabling the vehicle to adapt to its new environment.

Finally, ground clearance is increased by 30mm at the front and 20mm at the rear.

After conversion, the Renault Trucks T X-Port's emission levels and engine performance (power and torque) are fully certified.

The vehicle essentially undergoes the same quality processes as a new vehicle.

The Euro 3-certified truck comes with a 12-month international manufacturer's warranty that covers all incidents relating to the engine, gearbox and axles and is valid throughout Renault Trucks sales and service outlets across the Middle East.

Daimler Buses this year delivered 99 Mercedes-Benz city buses to the Abu Dhabi Department of Transport in the UAE.

GCC states move to clean up public transport fleets

CLEANER FUELS, MORE efficient engines and lower emissions: these are among the new priorities for public transport providers across the Gulf.

Daimler Buses this year delivered 99 Mercedes-Benz city buses to the Abu Dhabi Department of Transport in the UAE.

The fleet significantly expands and modernises Abu Dhabi's efficient and well-integrated transport system.

The city buses are low-floor solo buses of the Mercedes-Benz Citaro type, manufactured in Germany and equipped with the Euro VI emissions standard.

The buses will be maintained under a five-year full-service contract from Emirates Motor Company Commercial Vehicles (EMC CV), the Mercedes-Benz authorised distributor in Abu Dhabi and a member of the Alfahim Group family conglomerate.

The new, updated fleet follows the deployment of 100 units of the Mercedes-Benz Citaro back in 2009.

"The delivery underscores Daimler Buses' strategic growth goal of opening up new markets...further expanding its global market presence," the German group said in a statement.

MAN'S new TGX bags the 2021 International Truck of the Year Award

MAN'S NEW TGX range has been elected International Truck of the Year 2021 by a jury of 24 commercial vehicle editors and senior journalists, representing 24 major trucking magazines from throughout Europe.

The prestigious award was handed to Andreas Tostmann, Chief Executive Officer of MAN Truck & Bus, during a virtual ceremony that took place at MAN's headquarters in Munich, Germany.

Based on the International Truck of the Year (IToY) rules, the annual award is presented to the truck introduced into the market in the previous 12 months, which has made the greatest contribution to road transport efficiency. Several important criteria are considered, including technological innovation, comfort, safety, driveability, fuel economy, environmental footprint and total cost of ownership (TCO). While retaining a strong family feeling with the present heavy-duty generation, MAN's new TGX range represents a big step forward in terms of comfort, safety, fuel efficiency, connectivity, advanced service portfolio and human-machine interface.

During extended test drives carried out last February in Bilbao, Spain, and more recently, between Germany and Austria in July, the Truck of the Year jury members appreciated the improved cab aerodynamics that - together with the D26 and D38 Euro VI d engines, optimized drive axle and GPS-assisted cruise control - contribute to a reduction in fuel consumption.

Moreover, the jury praised the human-machine interface of the



The new MAN TGX represents a major step forward in terms of driver comfort, fuel efficiency, connectivity and human-machine interface.

new truck range, based on an easy-to-read, fully-digital colour instrument cluster and the turn-and-press control system (SmartSelect) of the secondary display, along with the multifunction steering wheel.

Summing up the jury vote, International Truck of the Year chairman Gianenrico Griffini commented, "With the introduction of the new TGX, MAN has delivered a future-oriented heavy-duty truck range, able to answer today's and tomorrow's transport needs.

Mercedes-Benz's electro-mobility solutions win 2021 Truck Innovation award

THE MOST INNOVATIVE trucks for the electric future bear the three-pointed star – that's the verdict of the renowned International Truck of the Year (IToY) jury, which awarded its prestigious 2021 Truck Innovation Award to two trucks from Mercedes-Benz: the battery-electric heavy-duty truck eActro, which is planned to go into series production in 2021, and the fuel-cell concept Mercedes-Benz GenH2 Truck, which is planned to start operational customer trials in 2023.

The IToY jury, consisting of 25 commercial-vehicle editors and senior journalists, representing major international trucking magazines, especially highlighted the comprehensive approach to electric mobility based on a clear-cut long-term strategy. The award was digitally handed over to Martin Daum, chairman of the board of management of Daimler Truck AG and member of the board of management of Daimler AG, and Sven Ennerst, member of the board of management of Daimler Truck AG for development, procurement and the China region, on November 30, 2020.

Finally, the IToY jury members appreciated Mercedes-Benz Trucks comprehensive approach to electro-mobility, based on a clear-cut long-term strategy, on a global modular electric powertrain platform and on in-house development of main critical components. It's a wide-range solution portfolio, which spans from the pre-production eActros to the battery powered eActros Long Haul, to the fuel-cell liquid-hydrogen concept GenH2 Truck for long-haulage applications.

Summing up the jury vote, International Truck of the Year chairman Gianenrico Griffini commented, "Shaping CO2 neutral transport requires the swift development of battery-electric and fuel cell trucks. This development needs to be supported by a long-



Most innovative trucks for the electric future: Mercedes-Benz eActros and Mercedes-Benz GenH2.

term electro-mobility strategy, which is precisely what Mercedes-Benz Trucks is doing."

Martin Daum said, "We are honoured and proud that the renowned International Truck of the Year jury has recognized our eActros and our GenH2 Truck with the prestigious 2021 Truck Innovation Award. This is strong affirmation that we're on the right track with our strategy clearly focusing on genuinely locally CO2-neutral technologies: battery power and hydrogen-based fuel cells. This combination enables us to offer our customers the best vehicle options, depending on the application. With the eActros, we have demonstrated in recent years that locally CO2-neutral urban distribution is already possible today. And with our GenH2 Truck, we have additionally presented our specific concept for heavy-duty fuel-cell trucks to perform flexible and demanding long-distance haulage."

BKT'S new giant 57" tyre: Here is Earthmax SR 468

The pandemic is not stopping BKT's progress to the future, and the company never stops creating new products. The BKT research and development team has developed its biggest ever prototype tyre: the Earthmax SR 468, a 40.00 R57-inch size tyre designed for rigid dump trucks.

BKT'S WIDE RANGE of specialist off-highway tyres welcomes a new giant product, the Earthmax SR 468, designed for rigid dump trucks. So far the prototype has been made in the 40.00 R 57 size and is ready to be tested in coming months by BKT engineers.

The Earthmax SR 468 joins the numerous products which make up the Earthmax family, a range of radial tyres used on off-road vehicles and equipped with an all-steel structure which provides greater resistance to the casing and hence against damage.

A winning feature of the Earthmax SR 468 is the special tread design and the compound, created to limit the heat generated. The E4-tread depth provides extreme resistance in highly challenging conditions.

Incredible challenge

The history of Earthmax SR 468 is interesting as the new machinery to manufacture the enormous tyre managed to reach the Indian plant in Bhuj, Gujarat last January, just before the lockdown which affected – at various levels and at different times – the Asian continent too.

Initially, owing to the emergency situation created by the COVID-19



The Earthmax SR 468 is the largest ever tyre size made by BKT.

Photo Credit: BKT

pandemic, the machinery that reached Bhuj was not immediately installed. After a temporary shutdown of BKT's manufacturing facilities, which was necessary to implement a rigorous safety plan for all staff, activities finally returned to full operation. The machinery for the giant 57" tyre was installed with online support from the manufacturer's staff who coordinated with BKT engineers on site.

"Despite the pandemic and the extreme difficulties caused by the situation, in BKT we achieved the impossible: going ahead very determinedly but with a similar focus on people, who for us are the company's real assets," says Rajiv Poddar, joint managing director of BKT.

"With this giant 57" tyre, the prototype of which has been made thanks to the extraordinary determination of my fellow workers, we wish to send a positive message to the market, to our partner distributors and to our end users. In BKT, research and development into new products, which help the company evolve and the sector, has not stopped. Thanks to the enthusiasm and know-how, BKT always finds new ways to grow, even in the most complex situations."

Dilip Vaidya, president and director of technology at BKT, says, "At this time we must call on all our strength, energy and all our creativity. That is what drives BKT's initiatives and also its products."

Talking more about the BKT's new product, Dilip adds, "It is a very important moment. The giant tyre will now be subject to the most rigorous testing up to the spring of 2021, until we are sure we have achieved the highest possible level of quality and reliability, as always. Only when we are absolutely sure, we will offer our users the best Earthmax SR 468 possible, and officially launch the giant 57" tyre." ■



Earthmax SR 468 joins the numerous products which make up the Earthmax family.

Photo Credit: BKT



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Global trade tensions have driven a recalibration of supply chains that will see greater simplification and diversification.

PhotoCredit: Adobe Stock

How to combat slowdown in trade

Dubai's DMCC research suggests significant innovation across technology, finance, sustainability and policy is required to create a potential US\$18tn boost to trade.

Nearly, 90% of global trade is reliant on trade and supply chain finance.

THE COVID-19 PANDEMIC, global trade tensions, and longer-term structural factors lay the context for a weak trade outlook in the short-term and modest trade outlook in the long-term, according to Dubai Multi Commodities Centre's (DMCC) latest *Future of Trade 2020* report. There is great potential to boost global trade by trillions of dollars with the application of technology, growth of cross-border services, innovation in trade policy, and trade-related infrastructure development, the report revealed.

DMCC's thought leadership report – now in its third edition – examines the impact of geopolitics, technology, COVID-19 and global economic trends on the future of trade, with a focus on trade growth, supply chains, trade finance, infrastructure and sustainability. In addition to offering analysis, the report provides clear and tangible trade policy recommendations to government and business.

According to the research, geopolitical tensions, namely the US-China trade war, and economic recovery from the global COVID-19 pandemic will define the trade landscape of the 2020s. While the pandemic has caused the fastest and deepest economic shock in history, it has already significantly shaped the future of trade by accelerating trends such as digitalisation, the recalibration of global supply chains, and a reconsideration of the role of national security in trade policy.

"The Future of Trade report explores the various scenarios for the road ahead in what is an unprecedented time for global trade. Despite the evident economic uncertainty of the time, our research shows that one thing is certain – the future of trade, and indeed the future of the economic recovery, relies heavily on global cooperation. Finding common ground and collectively making the case for international trade will be key determining factors of success. With this

research, DMCC set out to not only identify barriers to global trade but provide solutions to them,” said Ahmed Bin Sulayem, executive chairman and chief executive officer, DMCC.

The report was launched during a webinar where attendees were briefed on the findings and key recommendations for government and business to enable trade in the 2020s and beyond. A series of conversations with international trade experts also looked at ways to practically enact the report’s key recommendations.

“In 2020, the global trade order is at a tipping point that will define the decade ahead. However, the *Future of Trade* report illustrates that if businesses and governments are willing to collaborate to overcome some of the barriers at hand, the outcome will be a positive one. Within our research we have identified four key components that, if taken together, could drive trade by US\$18tn up to 2030. These include the implementation of technology that supports trade, the growth of cross border services trade, innovation in trade policy, and the investment in trade related infrastructure,” said Feryal Ahmadi, chief operating officer, DMCC.

“Innovation, not just in supply chains, but in the way trade policies are shaped and partnerships are formed, also have a crucial role to play here. Whether governments and businesses will feel the urgency to be more ambitious on ESG and sustainability, in light of competing national economic priorities, will be another factor that will influence the trade landscape. Ultimately, the key to boosting global trade comes down to collaboration and the willingness to forge new ways of working together. Offering insight on the road ahead, not just analysis on the current situation was important to DMCC, and that is why recommendations for government and business are made throughout the report,” she added.

Some of the important takeaways from the report on the front of technology and sustainability include:

Technology and trade

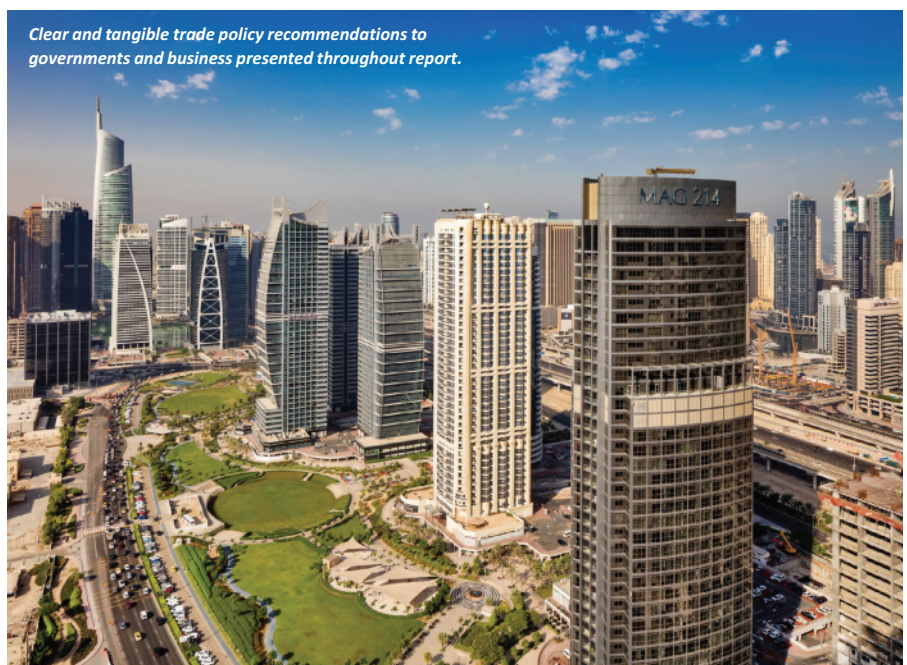
- Technologies such as artificial intelligence, blockchain, and digital platforms have the potential to drive

trade by increasing efficiency, driving down costs, and opening new business and trade opportunities.

- While some technologies have the potential to boost trade – others may disrupt current patterns of production and trade and reduce international trade; the net effect of technology on trade growth could be only US\$400bn (AED 1.469th).
- Automation and robotics will shorten supply chains by moving manufacturing closer to centres of consumption while additive manufacturing will undermine components supply chains.
- There is an urgent need for governments to address the fragmentation of the global technology policy environment, to

business models is fast approaching a tipping point – it is not quite there yet.

- The lack of comprehensive solutions, global regulatory frameworks, and standardised reporting remains a barrier to comprehensive implementation.
- In order for this to change, innovative solutions are required, which could include the use of technology and stronger policy coordination in both bilateral and multilateral agreements.
- The COVID-19 pandemic may have both positive and negative impacts on sustainability in business – though there is increasing understanding of the benefits of sustainable business practices, the priority for governments will be on restarting national economies.



prevent the evolution of separate standards, applications, and systems.

Sustainability in trade

- Sustainability is moving from a ‘nice to have’ to a necessity for companies as pressure mounts from consumers, governments and the investors community.
- However, business leaders remain divided on whether sustainability is an economic imperative. While the incorporation of sustainability into

- DMCC has debuted a new index tracking the trade of environmentally sound technologies (ESTs). Tracking sustainability through trade in ESTs is a way to showcase how countries are re-industrialising in an environmental way. Unsurprisingly, the key economies buying and disseminating green technologies globally are some of the world’s biggest economies. China is currently the biggest exporter of ESTs, followed by Germany and the US – all heavily producers of ESTs. Similarly, the US, China, and Germany are also the largest importers of ESTs. ■

“In 2020, the global trade order is at a tipping point that will define the decade ahead.”

The full version of DMCC’s ‘Future of trade’ report is available for free download at www.futureoftrade.com.



Developers should use fire-resistant materials.

Photo Credit : Adobe Stock

Protecting buildings and their occupants from fire

Dubai-based Al Muqarram Group is calling for stakeholders in the construction sector to ensure that their buildings and tenants are protected against fires.

THE NUMBER OF residential fires in the UAE is set to reduce significantly following the approval of a landmark resolution requiring all residential homeowners to install fire detector devices and subscribe to the civil defence e-system.

This development comes in the wake of multiple fires that have engulfed scores of residential buildings resulting in loss of lives and the destruction of property and investments worth millions of dirhams.

In 2019 alone, reported residential building fires in the UAE caused 66% of the total number of building and facility fires.

These unfortunate incidences not only sent shockwaves across the real estate sector but also served as a wake-up call to property developers and the authorities of

an urgent need to put in place policies that safeguard tenants and investors from fires.

During the summer season, there is a surge of fires. These fires have led to the deaths of over six people since 2018. Apart from causing the loss of lives, these fires have also led to thousands of job losses.

Fire safety measures should be taken to ensure such unnecessary losses are reduced, if not done away with altogether. Homeowners and those involved in construction and real estate sector need to ensure that they have all the necessary fire safety devices, such as fire detectors. They also need to embrace new construction technologies that help protect these buildings against fires.

Homeowners and developers need to

ensure that they follow the strict guidelines and regulations that help prevent buildings made by flammable materials. Developers should also adopt new and innovative building equipment and products that are manufactured using fire-resistant materials, which lower the chances of these buildings catching fire.

Other measures that developers can take in ensuring fire safety in their buildings include having fire compartments that help contain a fire once it starts. There should also be sufficient fire exits that offer paths that are easy to reach and free of obstruction.

Developers should also ensure that their buildings, whether old or new, are sufficiently supplied with fire alarm systems

and fire extinguishers such as smoke detectors, fire alarms and automated sprinklers. These systems can help control the fire before it spreads.

Fire-safe building products

A leading manufacturer of industrial products, the Al Muqarram Group has been at the forefront of providing property developers with innovative scientific-based fire resistance building products that can be effectively used to protect buildings against fires.

The company has invested heavily in research and development in a bid to develop products that can help to insulate buildings and protect them against fire hazards. Raising awareness and making sure the right products are available are critical, says managing director Safdar Badami. "It is crucial that players in the construction and real estate sectors embrace technologies that will protect buildings against fires."

Products the company has introduced

include the Dolphin fire-stop silicone sealant, approved by the Sharjah and Abu Dhabi Civil Defence, which uses fire-safe chemicals. It is a single component sealant tested by Effectis Laboratory, which confirmed it can withstand extreme heat for up to four hours. The sealant has effective adhesion, and it can be used on glass or glazed surfaces, metals, wood, plastic, tiles, concrete, and other building materials.

"We were the first in construction chemicals industry to introduce a fire-rated sealant in the UAE and the region, seeing the need for fire-rated products," says Badami.

Another effective fire safety product is the fire-retardant PU foam, which can be used to fill open spaces in concrete slabs, roof tiles, and a wide range of insulation. This foam has excellent bonding strength, according to the company, and can be used on a variety of surfaces. It is efficient in insulating against fire hazards and is also good for soundproofing.

Al Muqarram is also conducting R&D into hybrid adhesives, some of which will be fire-proof. A benefit of these is that they are relatively environment-friendly, with lower VOCs.

"We are continually upgrading our product lines to be more user-friendly and safe," says Badami, adding. "With fire-rated products and construction chemicals, we will overcome substandard construction."

"It is encouraging to see that the relevant authorities are enforcing tighter regulations and guidelines to protect buildings and the people living and working in them," comments Badami. He adds that it is not just about compliance; raising awareness is important. "In our manufacturing facility, we train our people in health and safety and fire safety, drawing on international standards and new ideas worldwide," he says. The government is providing a platform and opportunities for companies to understand the new technologies and new ways of working, he adds. ■

New fire safety standard launched

A GLOBAL COALITION of more than 80 fire safety organisations have launched a new worldwide consistent approach to the fire safety and management of buildings, hoping to save more lives by reducing risks and preventing fires.

The International Fire Safety Common Principles (IFSS-CP) is a global response to

country-to-country differences in fire regulation. The standard delivers a clear performance-based framework and common principles that apply to all stages of a building's life cycle, from design, construction and use to change and eventual demolition.

Gary Strong, chair of the IFSS coalition

said, "Our coalition has worked hard to produce this globally applicable way to bring consistency on fire safety to buildings new and old and reduce the risk to lives.

"The new standard is unprecedented, being the first agreement on fire safety principles on this international scale."

Honeywell launches fire safety cloud platform

HONEYWELL HAS LAUNCHED the first tools from its new suite of Connected Life Safety Services (CLSS), its first all-in-one fire safety cloud platform.

Honeywell's CLSS suite of tools, built on the Honeywell Forge platform, enables fire technicians to minimise disruption, prove compliance and reduce the time needed for design, installation, commissioning, inspection, maintenance and reporting of life safety systems.

"Today's global environment requires the fire and life safety industry to innovate with solutions that enable facility managers and system integrators to monitor their systems and diagnose issues anytime, from anywhere," said Sameer Agrawal, general manager, Global Fire Software and Services, Honeywell.

"Many facilities are working to create healthier environments and even to limit



Photo Credit : Honeywell

The system enables data within a fire system to be accessed from anywhere.

the density of occupants in order to comply with social distancing. With CLSS, we help system integrators deliver the highest level of safety and service to their customers and work more efficiently by giving them

insight into the system problem before they even get to the site," he added,

Honeywell's CLSS platform enables systems integrators and facilities management firms to access the data within a fire system from anywhere, without necessarily being physically at the control panel.

By applying the principles of digitisation and the Industrial Internet of Things technology, Honeywell's CLSS tools make it easier to design, install, test and commission fire systems while helping to eliminate errors and manual data entry across design, commissioning and maintenance processes.

During scheduled maintenance, CLSS streamlines the verification of compliant fire system testing and automatically generates and archives compliance reports for audit purposes.

Showcase project brings German know-how in wastewater treatment plants to India

ENEXIO Water Technologies designs primary treatment and sidestream treatment for retrofitting an existing Indian wastewater treatment plant.

ALMOST EVERY SECOND person in India suffers from water shortage. The sustainable use of water and wastewater is, therefore, absolutely essential. But many Indian wastewater treatment plants do not purify wastewater or insufficiently, so sewage sludge is often disposed of in an uncontrolled manner. The consequences are mud accumulation, dead fish, and considerable effects on human health. The Show Case Plant India (SCPI) project is designed to help eliminate these poor conditions.

The SCPI project supported by the Environmental Technologies Export Initiative of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), makes German know-how in wastewater treatment plants available to India. It shows how wastewater treatment can be adapted to local conditions, making water reuse possible, recharging groundwater, and improving surface water quality.

The first step is a feasibility study. During the study, the concept of a showcase wastewater treatment plant for existing plants with an estimated population of 50,000 will be developed. Coordinated by aqua & water International GmbH (Hanover), the project partner KUHN GmbH Technische Anlagen as well as the German Water Partnership e.V., the Fraunhofer Institute for Interfacial Engineering and Biotechnology (IGB) and ENEXIO Water Technologies GmbH are collaborating in the project.

The aim of the feasibility study is a system concept that combines high impact with maximum energy efficiency.

The showcase plant should, therefore, include the main components:

- Mechanical pre-cleaning
- A primary treatment system



Photo Credit: Aguas Tratadas del Valle de México

The experiences from the Atotonilco project – the largest wastewater treatment plant in Mexico – will be incorporated into the design of the primary treatment for the showcase wastewater treatment plant in India.

- Biological wastewater treatment
- Sidestream treatment by means of biofilm treatment processes for agricultural water supply
- Sludge treatment
- A combined heat and power plant for the use of sewage gas

ENEXIO Water Technologies is responsible for the design of the primary treatment stage and the sidestream treatment. The experience gained in the Atotonilco project – the largest wastewater treatment plant in Mexico – will be integrated into the primary treatment plant's design. Based on the findings of the feasibility study funded by the BMU, the equipment of an industrial-scale existing wastewater treatment plant will be implemented at a later date.

Managing director Peter Althaus is pleased that ENEXIO Water Technologies is participating in SCPI. "In this way, we can create better living conditions for a large section of the Indian population." The

showcase plant will have a model character, says Althaus, and this is why a training centre on site is also projected. "After all, we want to win over not only local decision-makers with this project. We also want to make our knowledge available to operating companies of wastewater treatment plants, planners and students, so that this technology can have an impact elsewhere as quickly as possible," says Althaus. ■

Within the ENEXIO group ENEXIO Water Technologies is the expert for water, wastewater and air treatment and for cooling tower components. For more than 40 years, they have been planning, developing and manufacturing structured packings and lamella packs for biological and chemical/physical processes in water and wastewater plants, bio and gas scrubbers, cooling towers and for air humidifying and cooling of stables. Learn more at www.enexio-water-technologies.com.

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Exploiting green energy opportunities

Italian companies have made inroads into the UAE renewable energy market with innovation and bespoke solutions.

THE RENEWABLE ENERGY market is on the rise in the UAE, and Italian companies are determined to make a strong impression in the country with their latest sustainable and renewable technologies, according to Amedeo Scarpa, Italian Trade Commissioner to the UAE.

Speaking to *Technical Review Middle East* on the sidelines of virtual WETEX 2020, Amedeo underscored Italian companies' crucial role in Italy's energy savings' outstanding performance, reducing 43 million tonnes carbon emissions last year: one of the best EU and world performances.

The Italian companies are keen on manufacturing and supplying bespoke green solutions to the UAE as the country aims to get 50% of its energy needs from clean sources by 2050.

Representing 1/3 of foreign participation at WETEX, Italy has opened its pavilion, organised by the Italian Trade Agency (ITA) in cooperation with Italy's Embassy in the UAE. A total of 31 companies have showcased the latest Italian advancements in sustainable and renewable technology, which made massive contributions to the country's carbon emission reduction goal. The exhibitors have presented internationally-recognised products and

Over the last three years, Italy has consistently been one of the UAE's preferred suppliers for renewable energy sector components.



The UAE continues to set the pace in reducing the cost of producing solar energy.

Photo Credit : Adobe Stock

services related to water treatment, recycling, solar energy generation and renewables, air control and environmental protection systems, and green building systems.

Amedeo says, "In line with a recent performance in Italy, I can confidently say that investing in the renewable energy sector is not currently at risk. In fact, we're seeing a growing interest in investing in the Italian sources of renewable energy from non-European countries. Not only from an ethical standpoint but also economically, as it proves to provide long term benefits to both humans and the environment. Exploiting green energy can help the economy recover from the pandemic."

Three driver factors will mainly influence the economic growth: the steady increase in government funding in the sector, the continued technological advances and the gradual freeing from fossil fuel exploitation, according to Amedeo.

The *Renewable Energy Market Outlook 2025* by the International Renewable Energy Agency (IRENA) projects that the global renewable energy market will reach US\$2,152.9bn by 2025, marking an increase



Amedeo Scarpa, Italian Trade Commissioner to the UAE

Photo Credit : ITA

of 4.9% compared to 2017.

"The UAE's renewable sector has not been dramatically affected by the pandemic, confirming its resiliency. As a matter of fact, the supply of Italian components used for desalination and solar power plants to the UAE has steadily increased. Over the last three years, Italy has consistently been one of the UAE's preferred suppliers for renewable energy sector components, with a 16.47% increase in the first trimester of 2020," he notes.

Although this year has undoubtedly raised challenges, Amedeo says the UAE is still a growing market for Italian companies to present many exciting innovations that can support the broader Middle East's sustainability commitment. ■

A holistic approach to manage emissions

In their ministerial meeting from 27-28 September 2020, the G20 Energy Ministers agreed on a communiqué where they endorsed the Circular Carbon Economy Platform as a tool to manage emissions and foster access to energy.

G20 ENERGY MINISTERS have acknowledged the Circular Carbon Economy (CCE) approach as a holistic approach to managing emissions that aims to provide new pathways towards economic growth.

“We acknowledge that the CCE approach is a holistic, integrated, inclusive and pragmatic approach to managing emissions that can be applied reflecting a country’s priorities and circumstances. By encompassing the broad range of pathways and options available it takes into account different national circumstances, while striving to meet our shared global aspirations...taking into account national and regional contexts, we will endeavor to explore various opportunities, including, the CCE Platform and existing G20 programmes and initiatives, to advance transitions towards affordable and reliable energy for all.”

The CCE approach is built on the “4Rs”: Reduce, Reuse, Recycle and Remove to advance stable and secure energy markets and energy access for all while holistically managing emissions and advance cleaner and more sustainable future.

Moreover, reduction can be achieved by encouraging technological innovations such as renewables, efficiency and nuclear. “Reuse” refers to converting emissions into value added materials to industries by utilising and advancing Carbon Capture and Utilisation (CCU), and Emissions to Value (E2V). “Recycle” means relying natural processes and decomposition, including the use of energy carries like hydrogen,

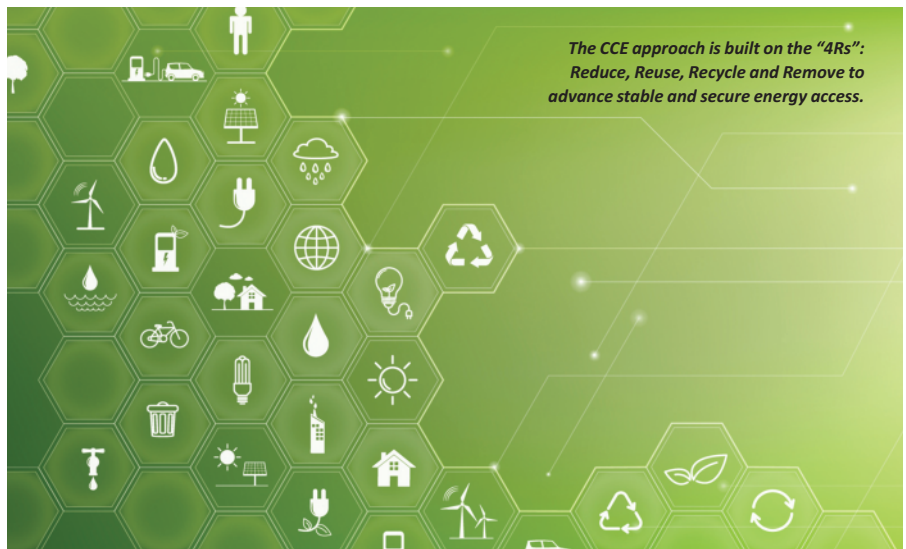


Photo Credit : Adobe Stock

methanol and ammonia, representing the natural cycle and recycling.

Lastly, “Remove” revolves around implementing natural and geological Carbon Capture and Storage, Direct Air Capture, and natural based solutions to remove emissions from industries and the atmosphere.

The G20 presented the CCE Platform that includes the CCE Approach, Guide and the Accelerator. The CCE Guide provides a toolkit of opportunities and recommended options to be utilised by G20 members and beyond, each according to their different national circumstances, needs and priorities.

King Abdullah Petroleum Studies and Research Centre (KAPSARC) has led the CCE Guide efforts to address these challenges. CCE adoption can also be found in the

private sector. For example, Saudi Aramco, the world largest Energy company, stated on their website, “We are adopting and implementing energy efficient technologies and practices... energy efficiency is a key component in our strategy to increase the sustainability of our operations. Championing and practising energy efficiency helps us reduce emissions, improve the operational performance of our plants and facilities, and promote environmentally responsible communities.”

The CCE approach can help address crucial issues facing the world in achieving universal access to energy. It is in this spirit that the G20 is working to ensure energy access to all, especially vulnerable groups.

Also, the G20 continue to support institutions with frameworks to employ the private sector and enable affordable reliable energy access. G20 members are to apply these systems taking into account system efficiency and national circumstances, including its specific resources endowment and its political, economic, environmental, social and risk-informed development contexts. ■

G20 Energy Ministers endorse the CCE platform and its “4Rs” framework while acknowledging the key importance of reducing greenhouse gas emissions.



Global green hydrogen demand is expected to exceed 530 million tonnes by 2050.

Photo Credit: maly/Adobe Stock

Making the GCC a force in global green hydrogen

Strategy& highlights long-term strategic priorities for GCC producers to lead the green hydrogen export market and achieve scale advantages of the green ammonia value chain.

THE RAPID SHIFT to green hydrogen presents Gulf Cooperation Council (GCC) countries with an opportunity to play a leading role in this new industry. Green hydrogen could become a major and versatile power source of the decarbonised future. By 2050, global green hydrogen demand is expected to exceed 530 million tonnes, equivalent to around 7% of global primary energy consumption. This would displace 10 billion of barrels of oil equivalent per year, around 37% of current global oil production. A Strategy& report highlights the best ways for GCC producers to supply large export markets by using renewable

energy to produce and convert green hydrogen to green ammonia.

“The green hydrogen economy is coming but will entail building a new energy ecosystem with unique requirements and, as yet, many unsettled elements. Although technically proven, green ammonia production is not yet operating at industrial levels. However, with several large-scale demonstrator projects currently under way, commercialisation is imminent,” said Dr Ulrich Koegler, partner with Strategy& Middle East. At the other end of the supply chain, ammonia “cracking” technology still requires further development to extract

high-purity hydrogen cost effectively at the volumes required.

Currently, the GCC possesses several advantages in producing green hydrogen, such as abundant, low cost, renewable energy resources. However, that is not enough to win in the global market. Green hydrogen transportation can be extremely expensive, costing up to twice as much as the initial production cost. As a result, the main challenge in supplying green hydrogen to large import markets like Europe and East Asia will be containing cost along the entire supply chain.

James Thomas, partner with Strategy& Middle East, added, “There are several reasons why ammonia makes sense as a transportation means for hydrogen: It is safe and requires considerably less complexity to transport compared to gaseous hydrogen.” The ammonia value chain and trading patterns are already well established, albeit operating at a fraction of the volume

Currently, the GCC possesses several advantages in producing green hydrogen, such as abundant, low cost, renewable energy resources.



Photo Credit: Strategy&

James Thomas, partner with Strategy& Middle East

required to be a material component in the energy mix; and there are also existing international shipping routes that overlap with potential green hydrogen export flows, and a network of ports worldwide that can handle ammonia at industrial scale. “Several initiatives are under way to make green ammonia the long-distance hydrogen carrier of choice, including high-profile projects in Australia and recent announcements in Saudi Arabia,” added Thomas.

Furthermore, there is an immediate imperative for GCC countries over the next three to five years to lay the groundwork for a well-functioning green hydrogen economy for domestic use and export. This requires policymakers to define a national strategy for a green hydrogen ecosystem; establish the policy, regulatory, and investment environment that will instill confidence among participants and lead to faster progress; and initiate projects to develop and demonstrate green hydrogen technologies and to establish the formula for commercial success.

According to the report, there are four long-term strategic priorities for GCC producers to lead the green hydrogen export market:

Establish lowest-cost, large-scale green hydrogen production capability

GCC countries should continue to invest in utility-scale solar farms to achieve low-cost renewable electricity input prices for hydrogen production and deploy the electrolyzer technology most suited to large-scale green hydrogen production.

Focus on green ammonia production as a hydrogen carrier and storage medium

This must be a key focus area for research and development (R&D) spending and an opportunity to localise world-leading capabilities in the GCC that will underpin the new global hydrogen economy.

There is an immediate imperative for GCC countries over the next three to five years to lay the groundwork for a well-functioning green hydrogen economy for domestic use and export.

Master ammonia cracking in key port destinations

The choice of export markets is critical. GCC exporters should adopt a long-term view and focus on a relatively small number of markets with sustainable demand due to high consumption and low production potential.

Create green hydrogen hubs

To achieve maximum cost efficiency, GCC exporters should establish integrated green hydrogen–ammonia infrastructure hubs focused on domestic production and centralised reconversion activities in export

destinations. In the GCC, these hubs could be co-located with, or near, renewable electricity generation.

“Although many countries have ambitious plans for green hydrogen, the GCC states have unique advantages that could allow them to play a leading role in the hydrogen economy. By seizing the green hydrogen opportunity, GCC countries can lay the foundation for economic growth in a decarbonised world and ensure their continued influence in energy markets,” concluded Susie Almasi, executive advisor with Strategy& Middle East. ■

Technology enables cheap production of green hydrogen

GREEN HYDROGEN IS formed by using renewable energy to power electrolysis that splits water molecules into their constituent elements: hydrogen and oxygen. Advances in electrolysis technology and the falling cost of renewable energy are enabling the mass production of “green hydrogen,” which is more environmentally sustainable. Green hydrogen is a clean energy source that can be stored for a long time and transported over considerable distances.

These developments have altered the calculus for hydrogen and created a significant opportunity for countries to boost economic growth and move away from fossil fuels. Previously, the traditional means of producing hydrogen generated large volumes of carbon dioxide. Developments in various electrolysis technologies over the past decade, specifically polymer electrolyte membrane, have increased system efficiencies to nearly 90%, and the operational lifetime of the process is approximately 80,000 hours. We estimate that new and cheaper materials will reduce the overall capital cost of polymer electrolyte membrane equipment, lowering the capital cost per kilowatt (kW), currently between US\$800 and US\$1,400, to as little as US\$200/kW by 2050.

Two major changes will make green hydrogen cheaper to produce:

Decreasing costs of renewables

Electricity represents a large share in the operating costs of electrolysis processes (roughly 50% for PEM electrolysis, assuming electricity prices of 4.5 cents/kilowatt-hour). However, we expect that the installation of more low-cost solar photovoltaic and wind power plants globally over the next decade will produce the required electricity for less than 2 cents/kWh according to the prices of recent tenders.

Increased economies of scale

Yearly additions to electrolysis capacity, along with larger average project sizes, are creating larger economies of scale and a reduction in project capital costs.

Based on these factors, Strategy& estimates that the production cost of a kilogram of green hydrogen using the PEM technology will fall from US\$2.30-US\$2.80 in 2018 to US\$0.70-US\$0.90 by 2050.

Source: Strategy&



Powering new mining frontiers

What defines the mining sector's future? Is it the ability to adapt to new environments and market demands? Or is the foresight to invest in new power alternatives and renewable solutions that can change the market and drive growth? John Lewis, managing director, Aggreko Africa, explains.

There has to be a balance between the needs of the sustainable energy sector, climate change and the mining sector.

MINING HAS BEEN under immense pressure over the past few years, particularly during the 2020 lockdown. The restrictions on movement, distance and access have significantly hit bottom lines and growth forecasts and this impact will likely be felt for some time to come. It is a complex climate, but it is one that can be managed with futureproof investment and planning.

When it comes to energy, the mining sector has faced plenty of criticism, from activists and investors alike. Renewable and sustainable solutions that pay attention to environmental pressures have become critical for the industry. Not only have investors and portfolios been dropped in the mining industry – another blow to the sector – but direct investment has followed suit. However, the reality is that the mining sector is essential to the development of renewable energy solutions and platforms.

The minerals and metals provided by the sector are the metals and minerals required by the sustainable energy industry for development and operations.

There has to be a balance between the needs of the sustainable energy sector, climate change, and the mining sector. And this can be found in new forms of energy and solutions that change the frontiers of mining power. Solutions that work with the sector's abilities and requirements, and its ongoing innovation in mining depths, abilities and investments.

The answer in energy

Mining has always pushed the boundaries of what can be, what could be, so it can deliver to increasingly demanding market expectations. This has resulted in deeper mines in remote locations with limited access to infrastructure. It has also forced a change in how mining organisations

approach cooling, energy provision and health and safety. What is needed is access to flexible cooling solutions that can adapt to changing site requirements, weather, and environments without adding to the environmental or cost burden.

The availability of capital and funding for the sector is one of the biggest challenges right now. The costs of exploration and production have affected profits, and investors remain reticent about putting their money where the new projects are – not just due to climate issues but also due to risk aversion. For many companies in mining, flexible finance has become an established way of helping them to push boundaries, explore new possibilities, and minimise risk as much as possible.

This is where the as-a-service

methodology, often cited in technology, becomes of immense value to the sector. Rented energy solutions allow companies to scale – up or down – on-demand and within specific parameters. They also use a more dynamic blend of energy sources that are reliable, sustainable, and easier on the planet.

Leaders in the energy as-a-service market can deliver highly specialised cooling, heating, and other power requirements using hybrid and energy storage systems alongside some of the more traditional products that use diesel or gas. These systems can be customised to fit very specific client environments and remote locations and the challenges of maintenance, upgrading, refuelling or retooling are left in the capable hands of the

service provider, not the mine. They also make a big difference to the bottom line.

The partnerships for change

The further the mines stay away from the grid, the harder it is to find reliable energy and service providers that can deliver this energy reliably. This is where partnerships play a vital role in helping the sector to balance its power needs versus market demands. Working with a reliable service provider, the sector can re-evaluate its energy usage policies and adopt more environmentally aware solutions instead. Remote locations and limited infrastructure suddenly become less of a burden and more of an opportunity to establish sustainable systems and reduce emissions. ■

Aggreko provides hybrid solutions that allow diesel generators to run at a lower capacity with immediate and measurable emission reductions. This is then synchronised to solar and battery storage to ensure that there is always stored energy in the event that there is limited solar available.

Flexible finance has become an established way to push boundaries, explore new possibilities and minimise risk.

thyssenkrupp opens new manufacturing and service centre in Turkey

EXPANDING ITS GLOBAL service network for the mining industry, thyssenkrupp Industrial Solutions has started its operations at the new manufacturing and service centre in Ankara, Turkey.

Covering a total area of 14,000 sq metres, including offices and four workshop halls for 30 employees as a beginning, this new manufacturing and service center expands the global service network of thyssenkrupp Industrial Solutions. With a local team of highly skilled engineers and technicians, the site will profit from the global transfer of knowledge and experience and deliver high quality, innovative services.

Can Yapan, managing director of thyssenkrupp Industrial Solutions Turkey, said, “This new manufacturing and service centre enables us to even better meet our customer’s increasing demand for services throughout the entire life cycle of their plants and machines. It contributes to Turkey’s goal to increase the value add from the mining sector and prioritise domestic production and service of mining machines and equipment as part of The Eleventh Development Plan (2019-2023). We already started contributing Turkey’s economy with the completion and export of our first manufacturing order in October.”

The manufacturing portfolio includes the fabrication of all kinds of steel structure, machine assembly, machine components, as well as spare and wear parts. For various equipment made by thyssenkrupp and other manufacturers, the service portfolio encompasses spare and wear parts management and supply, on-site services such as inspections, shutdown management, revamps, digitalisation and repairs in the event of equipment failure.

“With a large number of mining machines and facilities installed in the region, we have a good basis and we want to offer the best possible services to our customers. Our maintenance assistance



Employees of the manufacturing and service centre in Ankara, Turkey.

Photo Credit: thyssenkrupp

system and performance and quality monitoring make it easier to plan and forecast plant operation. Drone inspections and 3D plant scanning, or remote inspections and remote condition monitoring are just a few more solutions of our digital service portfolio,” said Serhan Usman, plant manager.

“This new service centre in Turkey will be a crucial part of our global production network, but it is also a great addition to our already strong footprint in Middle East & Africa and will allow us to serve our clients especially in Middle East and Eastern Africa, even better,” added Dr. Philipp Nellesen, CEO of thyssenkrupp Industrial Solutions Middle East & Africa.

Leveraging the technology

There are many benefits of digitalising the construction industry, including high productivity at low cost, increased use of data and idea sharing.

IN THE VIRTUAL session, 'Remodelling the construction & infrastructure industry through technology', panellists covered the benefits of data, improved cost forecasting, opportunities to capture ideas on a central platform, and cybersecurity, among other benefits and risks for the construction industry as it becomes more digitalised.

Highlighting the role of data in construction, Dr Jacques Khouri, head of digital transformation and innovation, Dar Al-Handasah, says, "In construction, data is the new currency; the more data you have, the better you manipulate it, the more knowledge you will have, the less interrupted operations you will have for the facility, and then you will have more customers, more clients, more passengers; whoever is dealing with the building, will be happier and more comfortable."

Talking about solving the price challenges, Yewande Akinola, innovation lead, Laing O'Rourke, says, "Right at the heart of current conversations, is price fixity from the client. The client wants to know what the price is whether it will be fixed on that price very early on, right? Our margins aren't great as an industry, but if we can really leverage technology to be able to give the price fixity that we absolutely need for ourselves and our clients, I say, 'bring on the technology'."

Pointing out the benefits of digital technologies deployment in the sector, Marie-Luce Godinot, executive vice-president, digital transformation, IT, innovation and sustainable development, Bouygues Construction, notes, "Previously, it was very difficult in our industry to capitalise on ideas and learning from one project to another project. You always had to fill in forms or make some papers, and people onsite don't want to do that because at the end of the project, they already are on another project. With digital platforms, such as digital twin, you have the opportunity to capitalise on the



Photo Credit: dmg events

way we have been working and not focus only on the building we are doing right now."

With the rise of leveraging digital technologies, the construction firms are more likely to witness cybersecurity threats.

Keith Churchill, corporate manager, Construction Technology, Bechtel Corporation, says, "I think that the risk of a cybersecurity breach on the operational technology is something that's really undervalued by the whole industry, whether it's our clients, whether it's us, or

whether it's our suppliers. I think that really what it comes down to is as we take this next step into the wireless cloud-based solutions, we're opening ourselves up for a safety incident or some kind of an event that could really cause personal harm or to the facility or the environment.

"We need to protect ourselves, and we need to take measures in order to understand how to do that." ■

The virtual session was hosted as part of The Big 5 Digital Festival.

The Big 5 Festival successfully connects the construction community in 2020

DESIGNED TO HELP companies and industry stakeholders navigate the current crisis and prepare for the next normal, The Big 5 Digital Festival has seen the online participation of construction and infrastructure professionals from around the world to restart business together, get a clear vision of what is next for the sector, build strategic connections, and be inspired by powerful ideas.

The virtual event has gathered over 500 global brands, showcasing thousands of construction products and solutions. Through its purpose-built platform, the event enabled one-to-one video calls, chats, and networking opportunities powered by an AI-based matchmaking software.

"As event organisers, we had to quickly adapt to the new normal and find viable solutions to continue accomplishing our mission of connecting and supporting the construction community, despite travel restrictions, lockdowns and physical distancing," said Josine Heijmans, vice-president, Construction at dmg events, during her opening remarks.

The event also offered a four-day "Redefining Construction" programme, aimed at developing strategies to build the construction industry of the future.

The Big 5 2021 will run alongside nine specialised events, including The Big 5 Heavy, Middle East Concrete, Windows, Doors & Facades Event, Gulf Glass, HVAC R Expo, The Big 5 Solar, Middle East Stone, Urban Design & Landscape Expo and FM Expo.

Next-gen Cat 349 excavator offers increased efficiency at lower operating costs

THE NEXT GENERATION Cat 349 excavator replaces the 349D2 model, offering contractors up to 45% more operating efficiency, up to 25% more fuel efficiency, and up to 15% less maintenance costs.

The new 349 excavator features a hydraulic return filter with more than 3,000 hours of service life, fuel system filters synchronised for service at 1,000 hours, easily accessible water and sediment drains and the hydraulic system's oil level check, and air filters with an integrated pre-cleaner and primary and secondary filters providing double the dust-holding capacity of the previous design.

Main features:

- Cat Grade with 2D: gives operators visual guidance to grade via the standard touchscreen monitor so they can make more accurate cuts. The system is readily upgradable to Cat Grade with Advanced 2D or Cat Grade with 3D for enhanced accuracy.
- Grade Assist (available as a software update): automates boom and bucket movements to help operators of all skill levels improve their results.
- Cat Payload: helps operators increase loading efficiency with on-the-go weighing; real-time payload estimates can be calculated without swinging to help prevent overloading and underloading trucks.
- Lift Assist: quickly calculates the weight of the actual load being lifted and compares the result to the rated



The Next Generation Cat 349.

Image Credit: CAT

capability of the excavator. Visual and auditory alerts indicate whether the machine is within a safe working range.

- E-Fence: prevents the excavator from moving outside operator-defined points. This helps protect the machine, underground utilities, and other objects from damage.
- Cat Product Link: provides a constant stream of wireless information available via the online VisionLink interface, allowing machine managers in the office to quickly evaluate critical operating information.
- Smart Mode: automatically matches engine and hydraulic power to digging conditions, reducing fuel consumption and optimising performance. Engine speed automatically lowers when hydraulic demand decreases, further reducing fuel usage.

For more information about the 349 and other Next Generation Cat hydraulic excavators, contact the local Cat dealer or visit www.cat.com.

Volvo unveils PT220 pneumatic tyre roller

DESIGNED FOR A variety of compaction applications, Volvo's PT220 pneumatic tyre roller features a fuel-efficient and powerful Volvo diesel engine, increased performance characteristics and enhanced safety features. The PT220 pneumatic tyre roller is available to customers in Middle East and Africa.

This machine features Volvo's D5 Tier 3 compliant turbo-charged diesel engine, which is not only more powerful and fuel efficient, but also considerably quieter in operation. This machine is incorporated with safety features, such as Roll Over Protective Structure (ROPS) sunshade, reversing alarm and automatic engine shutdown.

The PT220 compacts uses the forces of mass and manipulation; it can be adapted to a variety of applications by adding or removing ballast or by adjusting tyre inflation pressure. The positioning of the tyres, four

each on front and rear, helps to ensure uniform surface coverage while rolling. The tyres' kneading action against the material surface provides better compaction. An isostatic suspension for the front tyres helps to keep the roller stable on irregular surfaces as well as maintaining uniform tyre contract pressure.

Other highlights of the PT220 include dual seats with a sliding console to give the operator the most convenient work position and the best view of the work area.

At the heart of the PT220 is an advanced turbocharged four cylinder Tier 3/Stage IIIA engine, whose 99 kW (135 hp) output provides strong performance with plenty of power in reserve – and yet is fuel efficient and exceeds the requirements of exhaust emission legislation across the machine's intended market. Propulsion comes in the form of a closed loop hydrostatic parallel circuit, which is fitted



The engine and hydraulic components are easily accessible, thanks to a swing-up engine hood and access step.

Image Credit: Volvo CE

with two heavy duty radial piston motors.

Travel speeds range from 0 to 15 km/h. Forward to reverse directional changes are smooth, using a simple control lever to

reduce operator fatigue. To maximise effort and minimise service requirements, the transmission delivers power directly to the rear wheel motors.

Tips to use your equipment to its fullest

How MB Crusher units can transform skid steers, loaders, and backhoe loaders into effective solutions.

COMPACT EQUIPMENT, SUCH as skid steers, loaders, and backhoe loaders, are becoming very popular due to the fact that they are very versatile.

These machines are so resourceful, and MB Crusher units can push the limit even further. Operators can transform their skid steers and backhoe loaders (BHL) into a compact recycling centre. At the site, these machines will be capable of handling demanding jobs and save time and money.

How can you upgrade your loaders, skid steers and backhoes?

It's MB Crusher's ultimate goal to transform any machine, of any size, into a powerful crusher or screener.

Agile and compact: What can transform them into powerful and revolutionary machines?

MB equipment can hook up to any brand of skid steers, loaders, or backhoe loaders from 2.4 to 25 tonnes, and they allow you to crush and screen any material for immediate reuse or sell.

What are the main benefits, and who are they for?

The benefits are countless. For the company using them, MB Crusher units can transform waste into reusable material, which means saving on hauling expenses, landfills or specialised treatment centre costs, saving on purchasing aggregate material, hiring operators and long working hours.

The benefits are important for the environment: reduction of dust and emissions, avoiding using landfill, repurposing waste instead of using natural raw materials.

From cost to revenue: How can waste become a source of income?

MB Crusher's mission is to transform waste into reusable material. Anyone who uses MB machinery can regain value from the



MB Crusher units stay attached to the heavy machinery; they don't need special haulage.

Photo Credit: MB Crusher

waste from his construction site, turning waste into quality material, and if you need to have material crushed or screened to different sizes, adjust the jaws of the crusher bucket or change the panels of the screening bucket directly on-site.

And for job sites with difficult or limited access areas?

MB Crusher units stay attached to the heavy machinery; they don't need special haulage. This also means they can reach a job site where there is no road yet, and even work in places where space is tight, and manoeuvring is difficult. You might have no space, but you still have your recycling centre available. Also, MB's units are designed to work in busy city centres, containing noise and lowering truck movements. Moreover, they can be equipped with a dust control accessory.

Why do MB Crusher units help preserve the planet too?

They preserve the planet because they guarantee effective and economical disposal and recycling of waste, all the resulting material – inert, ferrous, stony, earthy, organic, and dry – can be treated and selected without passing through landfill. Institutions can also benefit from managing solid urban waste.

Why isn't there a need for specialised personnel?

Because all MB Crusher machines share a quick and simple installation – in fact, the machines use the operating machine's hydraulic system. Management and maintenance can be performed directly on site by the operator without needing specialised personnel. ■

Integrated approach for water management

A new report on water scarcity issues by Oliver Wyman suggests that countries in the Middle East must consider offering financial incentives for water efficiency and conservation initiatives.

WATER USAGE AROUND the world continues to rise, but with supply diminishing at current rates, the projections for global water availability are not promising. Oliver Wyman, a global leader in management consulting, estimates that 25% of the world's population is currently living in areas of extremely high water stress, and by 2050 that portion of the population will more than double.

Nearly 2.7 billion people experience water scarcity at least one month a year and the United Nations has declared 2018-2028 the decade of "Water for Sustainable Development". A new report by Oliver Wyman, *Taking Back Control of the World's Most Precious Resource: Opportunities for Integrated Water Management*, highlights that countries need to take an integrated approach that considers their unique challenges, availability of financial resources and extent of water scarcity.

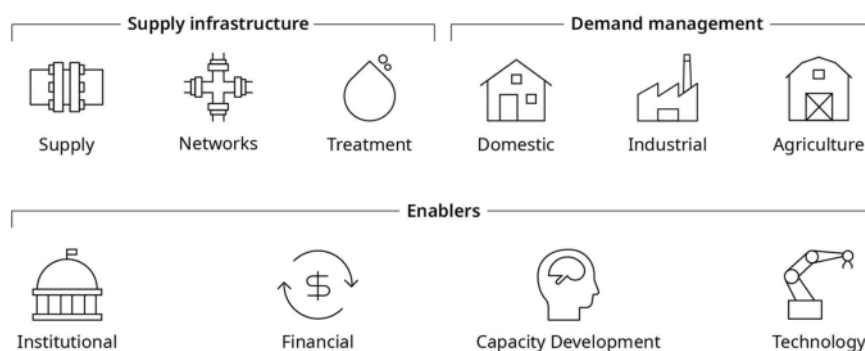
New strategies

The report shows that by adopting such strategies, the accessibility and availability of water resources will become more achievable.

Commenting on the insights, Bruno Sousa, partner in the Energy Practice at Oliver Wyman, said, "With water resources becoming increasingly scarce globally, the Middle East region is addressing the critical issues with governments increasingly adopting new strategies for balancing their scarce water resources and growing demand for fresh water. This has led some countries in the Middle East to turn to options such as desalination and treatment and reuse of wastewater."

According to the report, countries have historically prioritised wastewater treatment lower than water supply services, ultimately resulting in untreated waste being discharged into the environment. In the UAE however, levels of reuse of treated

National strategy and objectives for water



Source: Oliver Wyman analysis

OLIVER WYMAN

wastewater have reached 51%. The use of treatment technology has enabled higher levels of reuse and provided more water at lower costs.

Technological progress

Although many countries continue to use older methods, the report highlights that the water sector has experienced many technological advancements in recent years. Water supply infrastructure can be significantly improved by leveraging new technology and refining existing, ageing infrastructure across the value chain. Innovative water demand management methods can be deployed to further limit domestic water consumption and expand to agriculture and industrial consumption.

Other methods of addressing sustainable water management presented in the report include developing efficient water supply infrastructure, managing water demand, conserving water domestically, enhancing irrigation and crop optimisation.

Persisting challenges

The report also highlights a lack of action to address water-related challenges, which will

further exacerbate economic losses caused by water-related issues. Losses in agriculture, health, and income from similar issues can result in up to a 6% reduction in GDP in the Middle East by 2050.

Bruno Sousa added, "To ensure water-stressed countries mitigate water scarcity, countries in the Middle East should establish multi-year, ambitious, comprehensive programmes to drive the changes required across water supply infrastructure and demand management."

"With the help of policy makers, water resources managers, regulators and service providers, an integrated approach that strives to ensure sustainable development of the sector can be achieved. Clear roles and responsibilities must also be established for accountability purposes and to ensure that the control and monitoring of services provided enhance the performance of the water sector."

The report notes that financial incentives must be in place for water efficiency and conservation initiatives. Likewise, capacity development and technology will create the knowledge and tools to ensure that future challenges are properly met. ■



Enabling digital transformation

Blair Wilson from Rockwell Automation explains how a digital transformation strategy that includes upgrading to a modern distributed control system can help producers be more productive, profitable and reduce risk.

PRODUCERS AND MANUFACTURERS – operating in industries ranging from pharmaceutical, consumer packaged goods, and food and beverage to mining and chemical – are adept at navigating the complexities and challenges of staying competitive.

Producers must strive to protect the bottom line and optimise production by expanding throughput, decreasing downtime, improving consistency, delivering quality, and keeping employees safe. They also must consider the lifecycle costs associated with engineering, inventory, and system maintenance and support.

Digital transformation is a fundamental, cultural shift impacting how organisations work, how the plant floor operates and how value is delivered to customers.

Throw a worldwide pandemic into the mix, and it becomes clear just how important it is to be as productive and profitable as possible while reducing operational risk.

So how can a process industry producer or manufacturer move beyond the status quo to keep up with industry and technological trends? How can they take their operations to the next level of sophistication and innovation to help achieve success and growth in the short and long term?

A one-size-fits-all solution just will not cut it anymore. It is time to get surgical about solutions. Enter: digital transformation as enabled by the modern distributed control system (DCS).

A digital transformation strategy for DCS

Digital transformation can be described as modernising, upgrading, or improving operations by integrating digital technology into all areas of your business.

Digital transformation is a fundamental, cultural shift impacting how organisations work, how the plant floor operates and how value is delivered to customers. It is about outcomes and meeting ever-changing customer needs. It is a systemic change for any producer – and that is why a modern DCS can be a cornerstone of this transformation.

Developing a strategy for your digital transformation means

determining objectives and business goals, assessing the system needs to achieve those objectives, and planning the execution of your strategy. With competitors investing in technology and transforming their operations, the pressure is on to do your research and make decisions. A good question to start with is, “Do I need an upgrade?”

A traditional DCS features a closed system design, is difficult to migrate and modernise, and has a higher total cost of ownership in most cases. The modern DCS is preferable for many reasons, including higher performance, site-wide availability, scalable system capabilities, the open technology stack and the ease of integration. A plant-wide control system using common automation technologies enables seamless integration for process control, discrete control, power control and safety control with plant-floor and business systems.

If you think your DCS has run its course, you are not alone. The global DCS installed base nearing end of life totals about US\$6bn. And many of these systems are more than 25 years old and in dire need of updating.

Reasons to replace a DCS can include an increased failure rate, higher incidence of off-spec product, accelerating maintenance costs, lack of legacy DCS expertise, capacity limitations, and inability to interface with contemporary systems.

A modern DCS addresses modern challenges

The latest DCS platforms have kept pace with technological developments. And more DCS users are now considering upgrading and modernising their systems for optimal performance. A modern DCS can help build a connected enterprise as part of a digital transformation strategy.

PlantPAX 5.0, the latest DCS release from Rockwell Automation, will reduce the architectural footprint with fewer servers and more powerful controllers, drive consistency with embedded process instructions in the controller, streamline workflows with an improved development experience of system attributes, provide robust analytics for real-time decision-making, and align with international cybersecurity standards.

What does that mean for producers? It makes life simpler. A modern DCS should enable producers to achieve plant-wide control and optimisation, maximise operations, achieve high availability, reduce costs and increase production.

What should a producer look for in a modern DCS?

- *Data, analytics and insights that enable real-time decision-making.* This includes visualisation and dashboards for

operations that provide production and operator KPIs, sight to abnormal situations like alarm logs and unexpected downtime events, and a modern approach to HMI graphics.

- *Support for a system over its lifecycle.* Customers know they can depend on Rockwell Automation products. They will last a long time. Beyond the initial purchase and commissioning, people will continue to get customised support for years to come. That includes access to subject matter experts, field services, support contracts, and long-term product availability.
- *Workforce solutions.* From remote access and mobile devices to training for the shift from specialist to generalist, the modern DCS can help address common workforce issues. It provides an enterprise-wide view so staff are not needed onsite, and encourages the shift from reading and memorising manuals to being able to access expert help as its needed.
- *Cybersecurity for systems.* Adhering to cybersecurity standards and certifications for standards such as ISA99/IEC 62443 should be the expectation for any producer.

PlantPAX 5.0: the latest DCS release

The significance of PlantPAX 5.0, a system that has a smaller footprint that is easier and faster to deploy, provides real-time data and analytics for informed decision-making, and is supported throughout its entire lifecycle, which is not lost on producers. Those in batch, hybrid and heavy industries can benefit from a DCS that is purpose-built for plant-wide control and able to serve larger and more complex operations securely. ■

Photo Credit : Rockwell Automation



PlantPax 5.0 – a version that empowers producers to expand what is possible.

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UVD Robots' solution enables hospitals to reduce disease transmission by killing 99.99% of bacteria and microorganisms.

Tapping into disruptive and smart technologies

Amid fears of a COVID-19 second wave with the rise of new cases in some parts of the world, technologies such as Artificial Intelligence (AI), big data, robots, tracing apps and UV lights are set to play a crucial role in arresting the spread of infections. Abhishek Paul reports.

“The UV robot can move automatically without the need for human intervention and ensure greater and better coverage of high-contact areas.”

AMONG THE GCC nations, the UAE's efforts to ensure limited movement and proper social distancing stand out in the wake of the ongoing COVID-19 pandemic. By deploying robots, using Artificial Intelligence (AI) and developing virus tracing and monitoring apps, the country is at the forefront in controlling rising coronavirus infections.

Robots

There was a quick response from Abu Dhabi Airports which collaborated with Tawazun Strategic Development Fund.

Designed for the disinfection of areas, limiting the risk of human exposure to viruses including COVID-19, the new CoDI BOT UGV, developed by Marakeb Technologies, has been deployed at Abu Dhabi International Airport (AUH) since May. To ensure aircraft cabins are kept clean

and sterile, the state-of-art unmanned robot manoeuvres through aeroplane cabin while keeping the operators safe through remote control capability, using real-time video and high-speed 4G data connection. The robot's versatility enables the disinfection of spaces within the airport terminals, reinforcing public safety against the coronavirus and any future virus outbreaks.

The deployment of a robot can give benefits to the sectors such as hospitality, healthcare, shopping malls, public transport and any other places that need disinfection.

To sterilise its government-run hospitals and clinics using smart technology, the Dubai Health Authority (DHA) has introduced eight robots, developed by UVD Robots.

Commenting on UV sterilisation scans at its health facilities, Kholoud Abdullah Al Ali, project manager and leader of the DHA's Dubai Future Accelerators team, said, "The

UV robot can move automatically without the need for human intervention and ensure greater and better coverage of high-contact areas."

Other features include providing 360 degrees coverage and repeating the same process with high accuracy several times.

A subsidiary of Blue Ocean Robotics, Denmark-based UVD Robots' solution has proven to eliminate pathogens within 10-15 minutes of a patient's room. The company's self-driving, disinfecting robots have been rolled out to more than 50 countries worldwide.

Another remarkable innovation comes from Granteq, a leading supplier of UV disinfection machines in the UAE, Saudi Arabia, Oman, Kuwait and Bahrain. Granteq's chemical-free automated and programmable UV-C robot can disinfect surfaces and areas efficiently that are not easily reachable.

In collaboration with Techmetics Robotics, industrial automation solutions provider OMRON Asia Pacific has moved into UVC disinfection with the launch of its robot – LD UVC.

Equipped with lasers and Passive Infrared (PIR) Motion Sensors, for obstacle detection & avoidance, the LD UVC robot manoeuvres through narrow corridors, elevators, and even automatic doors seamlessly. It also shuts off its UVC light upon human detection, ensuring safety for human beings.

Artificial Intelligence

Dubai's Roads and Transport Authority (RTA) is leveraging big data and AI technologies, such as computer vision and machine learning algorithms, to detect and report violations of preventive measures undertaken to fight the COVID-19. Such monitoring covers physical distancing and wearing of face masks onboard taxis, whether for passengers or drivers.

In another development, Daman, the UAE's national health insurance company,



The smart watches help identify and track the geographical location of the patient.

Photo Credit: WAIM

Daman health bot asks patients a defined set of questions and follows specific protocols, and advises them to connect with the authorities.



has collaborated with Microsoft to introduce a health bot.

AI-powered Daman health bot assists patients to conduct self-assessment on COVID-19 symptoms and guide them to the appropriate level of care. The bilingual health bot can provide patient assessment for the disease, triage and symptom checking, offering general medical information, and making medical recommendations.

Tracing and monitoring apps

Using electronic wristbands to enforce isolation and reduce the spread of coronavirus is another phenomenon. A smartwatch device, serving as the tracing and monitoring tool, is linked to the COVID-19 testing and tracing app of UAE's AI Hosn and will be used to make sure that self-isolating people stay at home.

Other infection-related apps by Abu Dhabi's Department of Health include TraceCovid, DOHRemoteCare and StayHome, which are available on the App Store and Google Play.

UV disinfection lights

Many research studies showing the UV-C radiation can be used to eliminate viruses, bacteria and moulds from water, air and surfaces. Sensing the growing need for disinfection products, lighting specialist Signify has introduced UV-C desk lamps to disinfect rooms.

"The new desk lamps can make a difference by helping to inactivate viruses (including SARS-CoV-2, the virus that causes COVID-19) and bacteria to help keep our homes clean from harmful micro-organisms," said Rowena Lee, division leader digital products at Signify.

Not only do all bacteria and viruses tested

to date respond to UV-C irradiation, Signify's UV-C light sources, in laboratory testing, inactivated 99% of the SARS-CoV-2 virus with an exposure time of six seconds on a surface, according to Signify.

For targeted disinfection, cleaning and hygiene products provider Diversey has developed a portable and powerful MoonBeam3 for on-demand disinfection of high-touch surfaces, operating rooms and bathrooms. The new solution is also suitable for patient care equipment, fixtures, keyboards, monitors and work stations on wheels (WOWs).

Honeywell's AI video analytics system

Seeing building occupants follow social distancing and mask guidelines is a challenge for building operators. Honeywell's new solution addresses this issue by leveraging deep learning and Artificial Intelligence (AI) video analytics.

The Honeywell Pro-Watch and MAXPRO network video recorders (NVR) and video management systems (VMS) can now use existing cameras to identify building occupants are complying with guidelines around social distancing and wearing masks. These solutions conduct real-time monitoring of people within a building to ascertain compliance to a building's customised guidelines.

When used in the recommended operating conditions, advanced analytics can isolate and report any instances of non-compliance to buildings and facility managers with a high level of accuracy.

With the deployment of these new solutions, both building managers and tenants gain the ability to navigate living and working in the new normal. ■

Photo Credit: Microsoft and Daman

Saudi Arabia's electricity sector reforms

Expected outcomes of changes from Saudi Arabia's Ministry of Energy include more efficient power generation, increased reliability of service, reduction in the use of liquid fuels for electricity generation, and creating a financially viable sector.

SAUDI ARABIA'S MINISTRY of Energy has announced sweeping electricity sector reforms that can ensure the long-term health and sustainability of the electricity sector. These reforms are considered a crucial stepping stone in achieving the Ministry of Energy goals for the electricity sector, which are in line with the kingdom's goals of Vision 2030.

Some of these include transition to the optimal energy mix for electricity production in the kingdom, with the shift to renewable energy and efficient natural gas sources and increase system efficiency and the reduced use of liquid fuels for energy production.

The comprehensive reform package of measures includes the establishment of a revenue requirement mechanism for sector service providers and a tariff balancing account to compensate for the difference between the efficient cost to serve and the income from tariffs.

Abdulaziz bin Salman bin Abdulaziz Al Saud, Minister of Energy, Saudi Arabia, said, "These reforms lay critical foundations by helping to create a more solid and financially viable sector attracting the required investments. The expected outcomes of this sweeping reform programme include more efficient power generation, reduction in the use of liquid fuels for electricity generation and increased environmental protection.

"Moreover, the reforms aim to increase the reliability and quality of service of the kingdom's electricity transmission network and to facilitate the production of electricity from renewable energy sources, bringing it in line with the kingdom's optimal energy mix for electricity production."

Dr. Khaled bin Saleh Al Sultan, chairman of Saudi Electricity Company, (SEC), said, "With this historic comprehensive reform programme, SEC's balance sheet will become more robust, enhancing SEC's



Photo Credit : Adobe Stock

Saudi Electricity Company ranks 8th in terms of total assets among the largest utility companies in G20 countries.

ability to fund projects and enabling it to execute on its strategy to contribute to the development of a stronger, more sustainable, and diverse electricity sector."

For SEC specifically, the reforms mark the entry of the company into a regulatory framework with clear rights and obligations. In return the company can have the right to receive a fair rate of return of 6% (Weighted Average Cost of Capital) on its regulated asset base and fully recover its efficient cost-to-serve as determined by the regulator, Electricity and Cogeneration Regulatory Authority.

Importantly, the company will operate under a predictable, transparent, and stable regulatory framework with clear arm's length commercial relations amongst sector players and participants. The reforms also include the cancellation of government fees the company had been paying and the reconciliation of the company's net legacy government liabilities, and the restructuring of its balance sheet.

HSBC, financial advisor to SEC, commented, "The creation of this financial instrument and the introduction of an

international standard regulatory framework should enable SEC to maintain a more sustainable capital structure. Through the Balancing Account, the government is expected to continue supporting the sector and SEC on a more structured and transparent basis."

With these reforms in place, the SEC will have the largest regulated asset base of any utility in the MENA region, and will have a regulated asset base which is comparable to the largest utility companies in G20 countries.

Strategy&, a global strategy consulting business and part of the PwC network, and advisors to the Ministry of Energy for the restructuring of the electricity sector, added, "This demonstrates how the reforms hit the reset button on the legacy of decades of ad-hoc methods of addressing the financial challenges of the electricity sector, and put in place a robust, transparent, and stable regulatory framework that will ensure the financial sustainability and health of SEC, and their ability to meet all their commercial obligations including fuel payment, debt service, and dividends." ■

Project Databank

Compiled by Data Media Systems

MAJOR INFRASTRUCTURE AND CONSTRUCTION PROJECTS, EGYPT

Project	City	Sector	Facility	Budget	Award Date	Status	Start Date	Completion Date
Alexandria Port Authority - Dekheila port - Container Terminal	Alexandria	Infrastructure	Port	400,000,000	2021-Q4	Feasibility Study	2011-Q1	2023-Q4
Cairo Governorate - Cities of Al-Salam - New Capital Monorail	Various	Infrastructure	Mass Transit Systems	1,200,000,000	2014-Q4	Construction	2012-Q1	2021-Q4
Ministry of Transport - (Saudi Arabia - Egypt) King Salman Causeway	Sharm El Sheikh	Infrastructure	Causeway	4,500,000,000	2022-Q4	Feasibility Study	2016-Q1	2030-Q4
Mountain View - Sisban - NUCA - Mountain View -City Residential Units	New Cairo	Construction	Residential Development	3,600,000,000	2017-Q1	Construction	2015-Q1	2022-Q4
NAT - Cairo Metro - Line 3 - Phase 3 - Al-Attaba to Al Kit Kat; Al Kit Kat to Rod El Farag; Al Kit Kat to Cairo University	Cairo	Infrastructure	Mass Transit Systems	1,800,000,000	2015-Q3	Construction	2009-Q1	2023-Q4
NAT - Cairo Metro - Line 3 - Phase 4 - Cairo Airport to El Bohy and Shehab	Cairo	Infrastructure	Mass Transit Systems	1,200,000,000	2015-Q1	Construction	2009-Q1	2022-Q2
NAT - Cairo Metro - Line 4 - Phase 1 - Hadaek El-Ashgar to Grand Egyptian Museum till EL Mesaha Square	Cairo	Infrastructure	Mass Transit Systems	4,780,000,000	2019-Q3	Construction	2009-Q1	2024-Q1
NAT - Cairo Metro - Line 5	Cairo	Infrastructure	Railway	400,000,000	2021-Q2	Feasibility Study	2014-Q4	2024-Q4
NAT - Cairo Metro - Line 6	Cairo	Infrastructure	Railway	4,000,000,000	2022-Q2	Feasibility Study	2014-Q4	2024-Q4
SCZone - EL-Tor Port - Multi Purpose Terminal	El-Tor	Infrastructure	Port	100,000,000	2021-Q4	Feasibility Study	2012-Q1	2023-Q1

Elsewedy bags US\$90mn Egypt intelligent transportation system deal

ELSEWEDY ELECTRIC, A leading wires and cables and integrated energy solution provider in the Middle East and Africa region, has announced that one of its units has signed a new engineering, procurement and construction (EPC) contract worth US\$90 mn with Egyptian government for setting up highway intelligent transportation system in the country.

As per the agreement, Elsewedy Electric for Trading & Distribution will complete the project within 18 months for the ITS highway roads in Egypt including traffic management system (TMS) and toll collection system (TCS) in addition to the main control rooms in the ACUD.

Phase One of the project includes six highways running 1,079km-long covering the Shoubra Banha freeway (40 km); Cairo-Ismailia-Port Said (195 km); Cairo-Alexandria (220 km) Cairo-Suez Desert Road (134 km); Cairo -in Sokhna Road (110 km) and Cairo Regional Road (380 km).

Elsewedy Electric unit wins US\$54mn contracts

In another development, one of Elsewedy Electric's subsidiaries has signed three new EPC contracts worth US\$54mn (E£846 million) with the Egyptian Electricity Transmission Company (EETC). The deal inked by Elsewedy Electric for Trading &

Distribution include:

- Construction of overhead transmission line (2 x 30 km) on turnkey basis to connect Toshka 4 substation. The EPC contract will be implemented over four-month period starting from the date of acceptance of the bid.
- Construction of Toshka Substation on turnkey basis. The EPC contract will be implemented over 10-month period starting from the date of acceptance of the bid.
- Construction of West Portsaid Substation on turnkey basis. The EPC contract will be implemented over 12-month period starting from the signing date.

Project Databank

Compiled by Data Media Systems

Project Focus

Compiled by Data Media Systems

Project Summary

Name of Client	NAT - The National Authority for Tunnels Cairo Governorate
Estimated Budget (\$ US)	1,200,000,000
Facility type	Mass Transit Systems
Sector and Status	Infrastructure and Construction
Location	Various
Project start & end date	Q1-2012 and Q4-2021
Last updated	01-11-2020
Main contractor	AVIC INTERNATIONAL China Railway Eryuan Engineering Group (CREEC)
Contract value (\$US)	739,000,000
Award date	Q4-2014

Background

Cairo Governorate is planning to build an electric train line between Cairo and Egypt's new administrative capital, Al-Salam. The railway line will extend over a length of 67km, with 11 stations. The future rolling engine will be able to accommodate 340,000 passengers per day. The project is expected to generate savings of 2.3 billion Egyptian pounds (about US\$130mn) in fuel subsidies related to car traffic per year for the state. It will also reduce traffic on a motorway linking the capital to the Suez Canal in the port city of Ismailia, northeast of Cairo, by 30%.

Project Scope

- Line will consist of 11 stations located in the cities of Salam, Obour, Shorouk, Mostaqbal, Robeiky, and the New Administrative Capital, stretching over 67.8 kilometers. Some 7.5km will be in the form of a bridge, while 0.3km will be in the form of a tunnel. The speed of the train will be 120 km/h.
- The line will start from Adly Mansour Station that is reached by the third metro line, and at Robeiky will be divided into two branches. One will head

north in parallel to the Regional Ring Road to the 10th of Ramadan City and the other will head South to the New Administrative Capital.

The scope of project includes signaling, communication, control, electricity systems, supply 22 trains, civil works, bridging works, tunnel works, railway bridging work and train maintenance workshop.

Project Finance

Cairo Governorate is the client of the project. EXIM Bank will finance the project.

Project Status

Date	Status
Nov 2020	63% of the construction of the train maintenance workshop has been completed.
Nov 2020	63% of the construction work has been completed. 27% of the bridging work has been finished. Tunnel work has reached 86% and railway bridging work has reached 35%.

Recovery begins, but long term challenges remain

All countries in the Middle East region showing signs of expansion in Q3 except for Lebanon, according to PwC Middle East Economy Watch 2020 Q3.

THE LATEST EDITION of PwC's Middle East Economy Watch highlights the economic recovery phase from the COVID-19 pandemic in the Middle East and provides an overview of expected long term challenges and their potential solutions.

Economic activity picks up in Q3 as restrictions ease

Q2 2020 witnessed historically low oil prices and the most intense OPEC+ production cuts, exacerbated by the first wave of the COVID-19 pandemic in the Middle East. Economic activity however, picked up in Q3 with leading economic performance indicators showing signs of recovery. Purchase Managers Indices, which were in the contraction zone for the entire region in Q2, are showing expansion for most months since July.

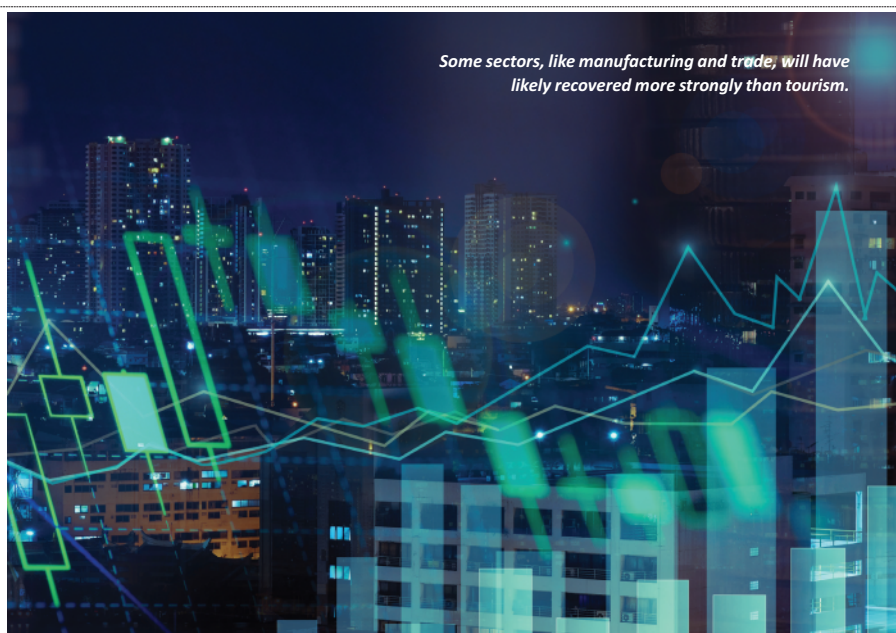
Another encouraging sign for the economy was mobility data from Q3 that uses mobile phone GPS location to show the frequency of visits to different locations including workplaces and shopping centres. By November, most countries were showing a marked recovery in mobility, although still about a 20%-25% below the baseline.

The PMI, mobility and point of sales data, along with more anecdotal accounts of activity, suggest that strong rebounds will show up in Q3 GDP data. Some sectors, like manufacturing and trade, will have likely recovered more strongly than tourism.

Government stimulus spending continues, including support for private-sector salaries and tax deferrals, with Central banks in the UAE and Saudi Arabia announcing rolling over stimulus packages to 2021 to support the economy.

Challenging outlook and rising debt level

The economic recovery from COVID-19 will be just as challenging as the health response, and even more drawn out, as it could take two years for the GCC economies



Some sectors, like manufacturing and trade, will have likely recovered more strongly than tourism.

Photo Credit: Adobe Stock

to recover to pre-COVID levels.

After a historic shock of oil demand in Q2 along with a y-o-y decline of 9% on average in 2020, forecasts predict a prolonged impact on oil demand.

On the positive side, oil producers in the Middle East, and particularly in the Gulf, have among the lowest dollar and carbon costs of production and so should be able to find a market even in a world of declining oil demand. It is even possible that prices might rise later in the decade if the current underinvestment in new capacity causes supply to decline even more quickly than demand.

One of the lasting impacts of the

pandemic will be on the sovereign balance sheets. The IMF expects regional debt (excluding Lebanon, which went into default in April) to increase by 64% by 2025 to US\$1.5tn. The most dramatic increase will be in Kuwait, going from just 12% of GDP in 2019 to 91% in 2025. Saudi Arabia and the UAE are expected to witness a slight increase in the debt to GDP ratios from 2020 due to higher buffers and fiscal consolidation.

Richard Boxshall, senior economist at PwC Middle East, said, "Q3 2020 has definitely shown signs of recovery for the economy. This has mainly been due to better measures in place to combat the pandemic and continuous adaptation by governments and businesses to the 'new normal.' And while uncertainty about the economic situation of the post-pandemic world persists, the region is much better prepared to manage COVID-19 next year than this, so we should look forward to a period of economic growth and recovery in 2021." ■

Real GDP for GCC countries set for growth and recovery in 2021.

Bobcat expands to new markets, launches diversified vehicles and services

SOUTH KOREAN EQUIPMENT manufacturer Doosan Bobcat announced the launch of its new product line.

Enters the wheel loader market

To expand the company's loader product portfolio and to strengthen the company's position as the world leader in compact equipment, Bobcat is entering the Small Articulated Loaders (SALs) market.

The company is expanding its loader portfolio to provide customers with more choice of Bobcat products, with optimised characteristics for specific applications in construction, rental, agriculture, landscaping, road works, material handling and many other industries.

Bobcat is entering the SAL market with two models, the L23 and L28, designed and built by the company in Bismarck in North Dakota, USA. With the new Bobcat SALs, the traditional attributes of high performance in a compact size, agility and versatility are now complemented by a light touch on the ground and increased lift capacity for lower weight machines.

Launches new light compaction range

Compaction applications are a required part of numerous industries,



Full range of light compaction machinery from Bobcat.



Bobcat's new Small Articulated Loaders (SALs).

and no construction site is complete without a soil and asphalt compactor. As a result, Bobcat is expanding its product portfolio further to offer a full range of light compaction machinery, developed in collaboration with the Ammann Group.

The new Bobcat Light Compaction Range covers seven different product families and 37 models in total, to meet work requirements on almost any construction job site. Bobcat light compaction machines offer maximum performance, while not compromising on comfort, safety and simplicity of use. The Bobcat Light Compaction Range includes vibratory rammers, vibratory forward plates, reversible vibratory plates, hydrostatic plates, walk-behind rollers, trench rollers, as well as tandem rollers.

New innovations and technologies

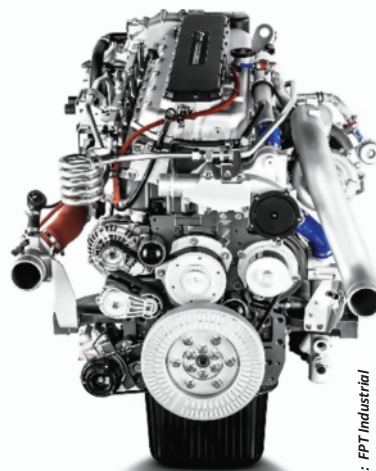
Bobcat MaxControl Remote Operation is a new technology providing convenient, easily accessible remote-control operation using an app on a smartphone. With Bobcat MaxControl remote operation, two-person jobs become single-worker tasks. Operators can tackle simple, everyday tasks such as opening and closing gates or loading bales in a shorter time and with a smaller crew. It is compatible with compact loaders with Selectable Joystick Controls (iOS only) dating as far as back as 2004.

FPT Industrial powers the "Sustainable Truck of the Year 2021"

FPT INDUSTRIAL POWERS the "Sustainable Truck of the Year 2021" in the Tractor category, the IVECO S-WAY NP 460 in LNG version. The winning truck is equipped with the latest generation of FPT Industrial's Cursor 13 Natural Gas: the most powerful, 100% natural gas engine for commercial vehicles on the market.

This six-cylinder engine ensures the IVECO S-WAY NP 460 a maximum power of 338 kW/460 Hp at 1,900 rpm and torque of 2,000 Nm at 1,100 rpm and diesel-like performance. The engine design not only provides reliability and a longer product lifecycle, but it's also the only natural gas engine with 1,600-km autonomy and the new reference in consumption with 4.12 km per kg of gas.

Natural Gas (NG) is currently the most viable and low-cost sustainable solution, with FPT Industrial leading this segment with more than



Cursor 13 NG

55,000 engines sold worldwide. They can run on biomethane, bringing emissions down to almost zero.

Cursor 13 NG uses stoichiometric combustion and multipoint sequential injection, ensuring better fuel consumption and lower noise than Diesel. It can run on 100% CNG, LNG or biomethane and delivers fuel cost savings vs. Diesel of up to 30-35%. To comply with emissions standards Euro VI Step D, this model relies on a simple three-way catalyst, without exhaust gas recirculation (EGR). The Cursor 13 NG is the best alternative with low climate impact for long haul operations since it has been developed to meet high demands on performance and low operating costs without compromises durability.

The Sustainable Truck of the Year award, now in its fifth edition, was created by Italian specialised magazine Vado e Torno.

Trina Solar releases new Vertex series of solar modules

THE VERTEX S is the latest in Trina Solar's high-efficiency photovoltaic (PV) module series, designed for residential and commercial rooftop applications. The newly developed Vertex technology is expected to increase the output power of the units to over 405W.

As the demand for PV systems grows, Trina Solar designed the new series specifically focusing on efficiency, size, weight, appearance, load, reliability, safety, and ease of installation, while striving towards a more environmentally friendly production process and ensuring the model is compatible with mainstream mounting systems, optimisers and inverters.

The new Vertex technology, exclusively featured in this range, combines 210mm wafers, multi-busbar design, non-destructive cutting and high density packing to boost the output power of the model up 60Wp to 405Wp, 17% more than previous generations, and increase model efficiency to over 21%, an increase of 1%.

Gao Jifan, board chairman of Trina Solar, added, "The Vertex S series is another milestone in the long developmental history of the PV industry."

Three versions of the system will be available,



Photo Credit: Trina Solar

The new model will increase efficiency to over 21%.

DE09, DE09.05, and DE09.08, with each module designed with an easy to handle format and light weight for rooftop mounting.

The system will also come with a warranty of 15 years, to reflect the reliability of the modules. Trina are approaching the production of the new range with a more sustainable manufacturing and distribution process- this outlook was designed into the product itself, with its relatively smaller dimensions (1754mm x 1096mm) and weight (21kg) meaning the Vertex maximises the number of units that can be shipped per container, reducing carbon emissions in transport. The range will be shipped in 100% recyclable wood and carton packaging.

For more information on the new range, visit www.trinasolar.com

Middle East's first Green Data Centre announced

MORO HUB HAS announced new Green Data Centre at the first virtual Water, Energy, Technology Environment Exhibition (WETEX).

The Middle East's first certified Tier-III solar-powered Green Data Centre will be built in Al-Yalayais. WETEX, which was held from October 26-28 this year, was the Middle East & North Africa's first ever carbon-neutral virtual exhibition focusing on water, sustainability, energy and technology.

The facility will be utilised to offer digital products and services, taking advantage of 'fourth industrial revolution' technologies such as cloud services and artificial intelligence, and will help Moro Hub's clients' sustainability initiatives to reduce their carbon footprint and achieve carbon neutrality or negativity, with the end goal of reversing the effects of climate change.

The announcement, made by the CEO of the Dubai Electricity

Photo Credit: Moro Hub



The data centre will rely entirely on solar energy.

and Water Authority (DEWA), places Moro Hub as one of the key contributors to the UAE's circular economy, as well as a driving force in DEWA's sustainability pledge.

Saeed Mohammad Al Tayer, CEO of DEWA - of which Moro Hub is a subsidiary, commented "The launch of the Middle East's first solar-powered Green Data Centre represents a new achievement for Moro Hub. This reinforces the Scale 360 Initiative that the UAE has signed, as the first country in the world, in collaboration with the World Economic Forum to benefit from worldwide technological innovation and

advanced solutions to accelerate the circular economy while using fewer natural resources and reducing pollution.

"Dubai continues to maintain its leading position with sustainable and futuristic solutions... in line with the Dubai 10X initiative to transform and position Dubai ahead of other cities around the world by 10 years... (and) provide 75% of Dubai's total power capacity from clean energy by 2050."

With this landmark first in the Middle East's journey towards clean energy, Moro Hub have pledged that this is just the beginning of their venture towards a sustainable digital transformation across the region, with the hope of opening several more green data centres over the region throughout the coming years and begin to draw together larger initiatives to hold the momentum towards a green future.

www.morohub.com

Polypipe launches new high-performance drainage solution

THE NEW TERRAIN Fuze system is manufactured from high-density polyethylene (HDPE), the system is highly resistant to chemical corrosion, making it a suitable solution for hospitals and kitchens, and is heat-resistant, making it suitable for the region's climate.

HDPE allows for a variety of engineering methods, including electrofusion welding, enhancing joint integrity and reducing the chance of failures and toxic leaks.

Adam Smith, managing director of Polypipe, explained, "The Polypipe Middle East approach has always been to support the creation of zero-risk environments... you wouldn't compromise on fire safety or emergency lighting... so why should you compromise on drainage?"

Designed with sustainability in mind, Terrain Fuze is engineered from fully recyclable materials, reducing its ecological impact in the long term. HDPE's light weight also means it can be transported and installed in a much more energy efficient manner than other industry standard systems.

www.middleeast.polypipe.com/terrain-fuze

Leybold reveals CLAWVAC

THE DRY VACUUM CLAWVAC pump from Leybold is designed for rough industrial processes. The ease of disassembly uncomplicates cleaning and replacement processes, allowing the system to function smoothly under high pressure. The plug-and-play nature of the CLAWVAC makes it suitable for packaging plants, pneumatic conveying lines or clamping devices on CNC machines.

The system is available in three models- the 600 i, with a maximum speed of 604 m³/h, the 900 i, with a maximum speed of 874 m³/h and the 1200 i with a maximum speed of 1144 m³/h. All models deliver an ultimate pressure of 150 mbar.

The CLAWVAC's minimal downtime allows for a power-efficient operation, meaning the CLAWVAC is a sustainable option for manufacturing plants. This, combined with the machine's speed control means the energy consumption can be controlled, reducing CO₂ emissions.

www.leybold.com

KOHLER KDI 3404TCR SCR — Unique for more than one reason

KOHLER HAS INTRODUCED its most powerful engine ever – KDI 3404TCR SCR, and one of the most compact in its range.

The hallmark of the KDI 3404TCR SCR is its high torque density, which makes it possible to guarantee performance typical of engines with larger displacement. In the US-T4F version the maximum torque is 500 Nm, while in the EU-Stage V version it is 650 Nm. The big advantage of the KDI 3404TCR SCR is therefore to be able to provide better performance, with much more compact dimensions compared to higher displacement engines.

As for all the engines of the KDI family in Stage V version, the management of the exhaust gas after-treatment system is extremely effective and intelligent, as it is characterised by very long average regeneration intervals and by the ability to regenerate the DPF, mainly in passive mode and in any case without any impact on engine performance or the driveability of the machine.

The extreme effectiveness of the after-treatment systems of KDI engines is also due to the fundamental idea on which this platform was developed. The exhaust gas after-treatment system of the EU-Stage V versions is housed in a single compact and easy to install module, with flexibility guaranteed by the possibility to customise the layout according to the installation on the machine.

The performance in the EU-Stage V version is even higher, to the point that the KDI

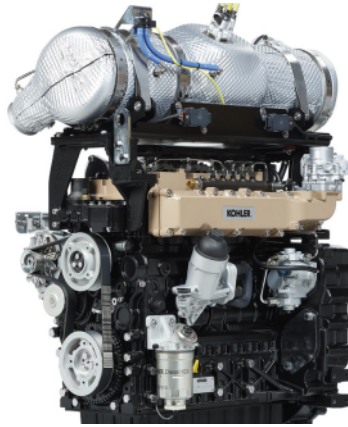


Photo Credit : KOHLER

The KDI 3404TCR SCR engine is suitable for any type of off-road application.

3404TCR SCR engine can reach 112 kW already at 1800 rpm, thus allowing it to work at low rpm with significant advantages in

terms of noise and consumption.

The KDI 3404TCR-SCR not only offers advantages in terms of performance, size and emissions. It also stands out for its architecture, such as the side power take-offs that flank the main and secondary power take-offs and are designed to make the KDI 3404 the suitable solution for manufacturers who want the maximum installation flexibility. Another unique feature of the KDI 3404TCR SCR are the counter-rotating shafts contained in the bedplate architecture, which provide reduction of vibrations, thus offering operator comfort and the silent operation of the engine.

Thanks to its characteristics, the KDI 3404TCR SCR engine is suitable for any type of off-road application, offering the maximum flexibility of installation and superior performance.

KOHLER Engines CheckApp now available

KOHLER HAS DEVELOPED the KOHLER Engines CheckApp, the smartphone application for the monitoring and maintenance of Kohler engines, now enriched with a digital shop for Kohler genuine parts.

The app is a direct line between the end user and Kohler. It provides the end user with a series of advantages which streamline and simplify engine management compared to the past.

It is possible to register an unlimited number of engines in order to keep track of your entire fleet of Kohler engines, making the app extremely advantageous both for end users and for hire companies.

For each engine entered, the app creates a general overview of the engine's condition, in other words a profile which provides the engine's characteristics and its documentation, including video tutorials which show how to replace spare parts and use and maintenance handbooks, thus creating a direct channel to Kohler's official documentation.

Hatz wins Diesel Progress Summit Awards 2020

HATZ, MANUFACTURER OF industrial engines and systems, won 'Engine of the Year under 175 HP' (130kW) and 'New Power Technology' awards at the Diesel Progress Summit 2020 in the USA.

High torque with low installation space requirements convincing

Hatz impressed the expert jury in the first category with the liquid-cooled three-cylinder diesel engine 3H50T. With a displacement of only 1.5 litres and up to 130 Newton meters, it is one of the highest-torque power sources of its kind. The version up to 19kW or 25 horsepower is particularly suitable as an alternative to engines that require considerably more power to achieve the same torque.



Hatz wins two Diesel Progress Summit Awards in 2020, convincing the expert jury for the second time in a row after 2019.

In parallel, it meets the requirements of the world's strictest exhaust emission

limits in this class in a compact way.

Compact protection for critical applications

In the "New Power Technology" category, which was announced for the first time, Hatz won with its systems competence. The manufacturer entered its battery loader and power generator Hatz fiPMG into the race. The abbreviation stands for flywheel-integrated permanent magnet generator. In this case, the generator is integrated into the engine. Compared to a conventional, mounted design, the generator alone requires 90% less space and is 85% lighter. The fiPMG ensures the operation of critical applications in hybrid systems, as a power outage backup or by providing a continuous power supply.

Photo Credit : Hatz

Terex MPS unveils new high capacity wheeled crushing systems

THE NEW TEREX high-capacity, all electric wheeled crushing systems are designed to deliver and built to last. They are quick to set up and dismantle, as well as easy to operate.

WJ3042 Jaw Plant

The Terex WJ3042 is a high performance wheeled jaw crusher plant. Incorporating the aggressive Terex JW42 jaw crusher and a heavy duty vibrating grizzly feeder, the Terex WJ3042 can give optimum production in a range of applications. Plant installation is assisted with hydraulic legs. Its compact size, quick set up times, ease of transport and simple maintenance make the Terex WJ3042 suitable for quarrying, mining, demolition and recycling applications.

WC1150S Cone/Screen Plant

The Terex WC1150S Cone-Screen plant is a high performance, medium sized wheeled crushing-screening system. At the heart of the plant is the 225 kW (300 HP) Terex TC1150 cone crusher with a modern automated control system. Its unique crushing action provides greater capacity,



The WJ3042 and WC1150S are available as stand-alone plants or as part of a multi plant system with product conveyors for a complete crushing and screening solution.

high reduction and good product cubicity for the production of high quality aggregate and sub-base materials. A level sensor over the cone crusher regulates the feed to ensure the cone chamber is choke fed, essential for maximum production, manganese life and optimal product shape. The large onboard 6'x20' 3 deck screen allows for sizing product from a single plant. Plants come with hydraulics for simple and easy installation of the plant.

Complete Systems

The WJ3042 and WC1150S are available as

stand-alone plants or as part of a multi plant system with product conveyors for a complete crushing and screening solution. All plants and conveyors are designed to fit in standard containers for easy transport overseas or on the road; the entire system with conveyors can be transported in nine containers. Once on site, each assembled plant can be transported in a one piece tow. Hydraulic screen lift and hydraulic support legs reduce craneage and tools required for plant set up and relocation.

For further details on their full product portfolio, visit www.terexmps.com

Photo Credit: Terex MPS

CEMEX to offer Vertua net-zero CO₂ concrete

CEMEX HAS ANNOUNCED that Vertua, its first-ever net-zero carbon concrete, will soon be available in its major markets worldwide after a successful launch in Europe.

Vertua, a family of products that ranges from low carbon to the first net-zero CO₂ concrete in the market, places CEMEX at the forefront of the building materials industry's efforts to mitigate climate change.

"We believe that climate change is one of the biggest challenges of our time, and we are committed to doing our part to address it. Vertua is clear evidence that we can transition to a carbon-neutral economy, where concrete is an essential

component in the development of climate-friendly urban projects, sustainable buildings, and resilient infrastructure," said Fernando A Gonzalez, CEO of CEMEX.

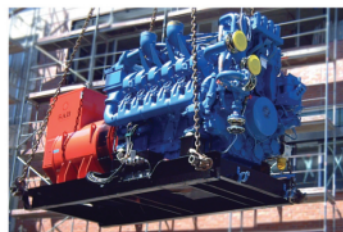
Vertua net-zero carbon concrete is possible due to an innovative geopolymers binder solution created by CEMEX's Research and Development Center in Switzerland.

This solution has a reduced carbon footprint of up to 70% without sacrificing performance. The compensation of the remaining CO₂ is achieved by participating in reforestation projects, among other initiatives. CEMEX aims to deliver net-zero CO₂ in all its concretes globally by 2050.



S·A·B

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Liebherr presents the new generation of articulated dump trucks

LIEBHERR-HYDRAULIKBAGGER GMBH UNVEILED the new articulated dump trucks, within the framework of a digital product presentation, making it a full-liner in the earthmoving area. The TA 230 Litronic, with a new design, represents maximum quality and reliability, while providing the utmost comfort.

It is primarily designed for overburden transport and the mining industry and useful for larger infrastructure projects. Due to the optimal structure gauge, it can also be used for special applications, such as tunnel construction.

The clever machine concept of the TA 230 Litronic provides maximum performance in challenging off-road applications, with the new designs in the front end area creating maximum ground clearance.

A powerful six-cylinder construction machinery engine with 12 l displacement and 265 kW / 360 hp installed in the TA 230 Litronic complies with the requirements of exhaust emissions standard V.

The new Liebherr dump truck combines driving performance and enormous pulling force, with maximum safety due to optimal adhesion. Numerous improvements have been made for quick and efficient loading and unloading, as well as for safe transport



Photo Credit: Liebherr

The new TA 230 Litronic with specially developed components, sophisticated technology and modern design.

of the material.

The spacious operator's cab provides conditions for comfortable and safe working. A touch display with integrated rear camera increases visibility in the rear area.

The lighting concept with LED headlights ensures improved visibility and safety – both for the machine operator and everyone in the outdoor area.

The modern assist systems installed in the

new TA 230 Litronic support the machine operator, thus increasing safety and comfort during operation.

With the intelligent machine check-up and a service-oriented machine design, the machine boasts an optimised maintenance concept. The daily set-up times can be reduced, costs can be saved and the durability of the components can be extended.

Metso Outotec launches compact large-capacity primary crusher

METSO OUTOTEC IS launching an extension to its primary gyratory crusher range, the SUPERIOR MKIII 6275UG, suitable for different types of applications, providing large capacity with significant savings in CAPEX and operating costs.

"We are very excited about the SUPERIOR MKIII 6275UG. As a direct response to the market demand, we've designed a more compact primary gyratory crusher reducing CAPEX that is applicable to both underground and above ground applications for the mining industry. We think that we have achieved our goal and upheld the superior standards we are known for," said Jim Bathie, VP Mining Crushers at Metso Outotec.

The crusher was born out of a need for a high capacity underground primary crusher that did not require a primary feeder, scalper, and the associated infrastructure. Minimising the need for high cost stationary grids to control topsize underground was a requisite, and the large topsize acceptance was met with the UG design. The 6275UG MKIII met the additional requirements of the ability to transport the components down shafts with spacial restrictions, assemble the crusher with minimal need for welding and hot works, and to

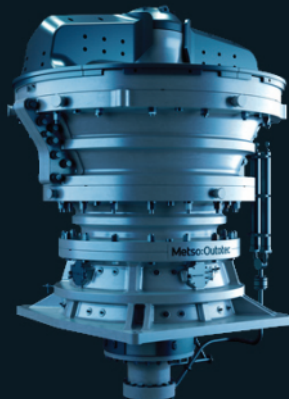


Image Credit: Metso Outotec

The SUPERIOR MKIII 6275UG is designed to be a part of a SmartStation.

feed the crusher from 360 degrees around the feed opening.

The 6275UG crusher's feed opening is 15% larger than in similar crushers, with up to 30% more capacity than comparable crushers. The up to 10% reduction in station height translates into a remarkable reduction in the CAPEX costs, reaching even 20%. In MKIII UG, downtime can be reduced by up to 70% thanks to concave replacements with Metso's Rotable Topshell.

The SmartStation concept

The SUPERIOR MKIII 6275UG is designed to be part of a SmartStation, where productivity and availability are optimised with sophisticated automation in each phase of the process.

Incoming material analysis is done automatically with VisioTruck, and Metso Outotec Metrics provide analytical dashboards and condition monitoring to ensure optimal crusher performance. A consistent vault level is ensured with automatic crusher adjustments. VisioRock and control system is used for wear compensation.

Metso Outotec is a frontrunner in sustainable technologies, end-to-end solutions and services for the aggregates, minerals processing, metals refining and recycling industries globally.

Sandvik pushes the boundaries of mining automation

SANDVIK MINING AND Rock Technology has revealed its vision for autonomous mining equipment at the Innovation in Mining virtual event.

The autonomous AutoMine Concept vehicle based on the latest technologies, is equipped with new sensing capabilities and artificial intelligence to enhance mining operations. The AutoMine Concept perceives its surroundings and environment in 3D and reacts to it in real-time. These technologies provide clear customer advantages by allowing vehicles to adapt and plan their own routes, and to find the most suitable paths even in continuously changing environments. The obstacle detection, collision avoidance and 3D online mapping capabilities improve adaptability and increase flexibility.

“The AutoMine Concept is unique, because it has been designed ground-up for autonomous use. It is the world’s first fully autonomous underground mining machine built specifically for automation,” said Riku Pulli, vice president, automation, Sandvik Mining and Rock Technology. “This technology raises ease-of-use, effectiveness of asset utilisation and adaptability to a new level, resulting in higher productivity. These technologies will truly change the face and pace of



Photo Credit: Sandvik

The AutoMine Concept vehicle is equipped with new sensing capabilities and artificial intelligence.

autonomous mining.”

This game-changing platform is a foundation for using the AutoMine technology in various equipment types and can be applied to any vehicle. The AutoMine Concept vehicle has a completely new industrial design without a cabin, and with built-in components for high reliability and productivity. This autonomy platform allows for equipment design that is optimised for its primary production tasks without compromises. Being fully battery-electric, it drives sustainability in mining without carbon emissions.

Konecranes forklifts go electric

THE KONECRANES E-VER is a silent, productive vehicle with zero direct emissions, a fully electric driveline and the latest eco-efficient features.

“Electrically-powered lifting is well-established in Konecranes, but in this project, we are being innovative and raising electrification to the next level,” said Lisa Martinsson, senior project manager who leads the company programme to develop electric lift trucks.

The lithium-ion battery that powers the truck’s two motors saves time, taking just 45 minutes to fully recharge. When the truck is in motion, it adds braking energy to the charge. The Konecranes E-VER electric forklift needs less time and money for maintenance because it has common electrical modules and few moving parts. With no heat and less vibration, components can last longer.

Powerful and easily manoeuvrable, this electric vehicle runs on a motor that is more efficient than a diesel engine. The cabin features a wide, unobstructed view of the work area and an ergonomic console with a clear, graphic screen display for unparalleled visibility and comfortable control of the vehicle.

The electric forklift is equipped with redundant sensors for faster diagnostics and failsafe functioning. The Konecranes E-VER is a Smart Connected Lift Truck as well. TRUCONNECT Remote Monitoring follow the battery charge



Photo Credit: Konecranes

Konecranes E-VER electric forklift

status along with energy consumption and recovery.

“Fitted with our state-of-the-art Smart Connected technology, the new Konecranes E-VER electric forklift will benefit our customers by dramatically reducing their environmental impact while providing improved performance,” said Andreas Falk, senior vice president, Konecranes Lift Trucks.

The E-VER is a part of Ecolifting, Konecranes’ vision to minimise the footprint and improve the handprint of equipment for terminals and heavy industrial applications.

Eaton upgrades Eaton 93PM three-phase UPS

EATON HAS INTRODUCED the second generation of its market leading Eaton 93PM three-phase Uninterruptible Power Supply (UPS). The modular and scalable design of the Eaton 93PM G2 enables datacentre operators to grow capacity and power protection in line with business demand, while enabling the industry’s lowest total cost of ownership (TCO) in its class. Protection, security and business continuity are at the heart of the 93PM G2 UPS range. HotSync and Hot Swap features increase the system availability. It has built-in safety mechanism compliant with the latest IEC standards, to reduce electrical risk, as well as cybersecurity compliant remote monitoring capability.

“The second generation builds on the success of the earlier 93PM range by adding cybersecurity, hot swap power modules and Eaton’s EnergyAware solution that enables it to help support the drive to renewable energy and bring revenue back into the datacentre. Combined, these new features increase efficiency, availability and reduce the operating costs,” said Ashraf Yehia, managing director, Eaton Middle East.

Eaton’s Energy Saver System improves efficiency levels to above 99%, while the Variable Module Management System helps to achieve high efficiency even when UPS load levels are low, which is typical in redundant UPS systems.

Epiroc launches Office TeleREMOTE

EPIROC’S OFFICE TELEREMOTE, has been designed for increased safety, efficiency and productivity. “With Office TeleREMOTE, a single person can control multiple drills in a productive and efficient manner,” said Mayya Popova, product manager, automation, Epiroc.

Remote drilling, together with AutoDrill and Auto-Rod Handling System features, boost productivity as the drill rigs can work almost continuously without breaks.

“The Office TeleREMOTE operator is less exposed to the harsh work site environment. The operator spends every single work day running equipment in an improved working environment with high comfort,” explained Popova.

It is designed to remotely operate surface drill rigs in open pit mines or quarries only.



اكتمال بناء محطة نقل وتوزيع المياه في ميناء خليفة بن سلمان بتمويل سعودي

التي تعد جزءاً من المرحلة الأولى من مشروع تطوير شبكة توزيع المياه. وبحسب وكالة أنباء مملكة البحرين، يهدف المشروع إلى زيادة وتعزيز السعة التخزينية وضخ المياه إلى محطة نقل وتوزيع المياه في ميناء خليفة الخاصة بها: وفيما يلي جدول بالمناقصات وقيمتها والقطاعات

عدد المناقصات التي تم إرساؤها	قيمة العطاءات التي تم إرساؤها (دينار بحريني)	القطاع
134	188,538,306,575	قطاع الطيران
162	265,014,330,667	قطاع الإنشاءات والاستشارات الهندسية
231	177,274,991,278	قطاع المواد والمعدات
134	277,372,981,962	قطاع النفط
361	96,380,668,726	قطاع الخدمات والمناقصات (المزادات) والاستثمار
1022	1,004,581,279,208	الإجمالي

* البيانات صادرة عن مجلس المناقصات والمزايدات في البحرين - الجهة المنظمة للمشتريات الحكومية في البلاد.

مفكرة الفعاليات 2021

يناير/كانون الثاني

13 - 16 معرض الكويت للبناء الكويت

مارس/آذار

17 - 20 معرض مشروعات مصر القاهرة

أبريل/نيسان

5 - 7 القمة الدولية لطاقة المستقبل أبوظبي

مايو/أيار

24 - 27 معرض بيع فايف السعودي الرياض

أما بالنسبة لهيئات الشراء، فقد تصدرت شركة تطوير للبتروول قائمة أعلى قيمة إجمالية للمناقصات الصادرة بقيمة إجمالية قدرها 711,7 مليون دولار أمريكي (267,6 مليون دينار بحريني)، وجاءت شركة طيران الخليج في المرتبة الثانية بعد ذلك، حيث قامت بترسية عطاءات بقيمة بلغت 488 مليون دولار أمريكي (183,5 مليون دينار بحريني)، وتبعتها هيئة الكهرباء والمياه، ثم وزارة الأشغال وشؤون البلديات والتخطيط العمراني، ثم وزارة الإسكان التي منحت ما مجموعه 343,6 مليون دولار أمريكي (129,2 مليون دينار بحريني) و254,3 مليون دولار أمريكي (95,6 مليون دينار بحريني) و240,4 مليون دولار أمريكي (90,4 مليون دينار بحريني) على التوالي.

أما مجلس المناقصات والمزايدات البحريني فهو هيئة تنظيمية مستقلة لممارسات المشتريات الحكومية في مملكة البحرين. ويعمل هذا المجلس على تعزيز ممارسات وأنظمة المشتريات الحكومية الفعالة والكفاءة من خلال آلية تنظيمية صارمة مصممة لضمان أقصى درجات العدالة وتكافؤ الفرص.

اكتمال بناء محطة توزيع المياه

في ميناء خليفة بن سلمان

أكملت مملكة البحرين بناء محطة نقل وتوزيع المياه في ميناء خليفة بن سلمان (KBSP) في منطقة الحد الصناعية بتمويل من الصندوق السعودي للتنمية (SFD) ضمن برنامج التنمية لدول مجلس التعاون الخليجي.

ويشرف على المشروع شركة موت ماكدونالد، ومقرها المملكة المتحدة.

هذا وقد قامت شركة بانوراما عبر الخليج للمقاولات ذ. م. م. ببناء جميع مرافق المحطة بموجب عقد بلغت قيمته 28,1 مليون دولار أمريكي (10,6 مليون دينار بحريني)، كما زودت الشركة المشروع بأحدث المعدات الميكانيكية والكهربائية والتحكمية والاتصالات.

وتفقد وزير شؤون الكهرباء والمياه بالمملكة، وائل بن ناصر المبارك، والرئيس التنفيذي لهيئة الكهرباء والمياه، الشيخ نواف بن إبراهيم آل خليفة، المنشأة



قطاع الإنشاءات البحري فاز بـ 162 مناقصة

البحرين تبرم عقوداً بقيمة ٢,٧ مليار دولار عام ٢٠٢٠

منحت مملكة البحرين 1022 مناقصة في الأشهر التسعة الأولى من عام 2020 بقيمة بلغت 2,7 مليار دولار أمريكي، وفقاً للبيانات الجديدة الصادرة عن مجلس المناقصات والمزايدات البحري - الجهة المنظمة للمشتريات الحكومية في البلاد. وقد حصل قطاع النفط على نصيب الأسد، من حيث قيمة العقود، من خلال إرساء 134 مناقصة بقيمة 733,8 مليون دولار أمريكي (277,4 مليون دينار بحريني) و يليه قطاع البناء والهندسة، حيث فاز بمقدار 162 مناقصة بقيمة إجمالية بلغت 704,8 مليون دولار (265 مليون دينار بحريني)، مما يؤكد بوضوح التزام الحكومة المستمر للتدفقات الكبيرة لمشاريع البنية التحتية الرئيسية، والتي تقدر قيمتها حالياً بنحو 32 مليار دولار أمريكي.

الأداء القوي إلى التزام مملكة البحرين وقدرتها على أن تظل منفتحة للأعمال التجارية حتى في أوقات الأزمات. وتجدر الإشارة بشكل خاص إلى القيمة العالية المستمرة للعقود في قطاع الإنشاءات والهندسة المزدهر في المملكة البحرينية، وهو دليل على الفرص الثرية المعروضة نظراً للتدفقات الكثيرة من المشاريع، والتي تبلغ قيمتها عدة مليارات من الدولارات».

حصل قطاع الخدمات على أكبر عدد من العقود وهو 361 عقداً. وتعليقاً على الأرقام الجديدة، قال الشيخ نايف بن خالد آل خليفة، رئيس مجلس المناقصات: «على الرغم من التحديات الاقتصادية العالمية المستمرة، فقد شهدت الأشهر التسعة الأولى من عام 2020 إرساء مملكة البحرين أكثر من 1000 عقد بقيمة تزيد عن مليار دولار أمريكي للشركات في جميع القطاعات وفي جميع المجالات. ويشير هذا

تبع قطاع البناء والهندسة قطاع الطيران وقطاع المواد والمعدات، وأخيراً قطاع الخدمات الذي حصل على مناقصات بقيمة إجمالية بلغت 501,3 مليون دولار أمريكي (188,5 مليون دينار بحريني) و 471,5 مليون دولار أمريكي (177,3 مليون دينار بحريني) و 256,1 مليون دولار أمريكي (96,3 مليون دينار بحريني) هي قيمة المناقصات التي تم إرساؤها على التوالي. وأثناء الارتقاء بالأخير من حيث قيمة العقود، فقد

المحتويات

القسم العربي

تحليلات

البحرين تبرم عقوداً بقيمة 2,7 مليار دولار عام 2020



التشييد والبناء

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فيينا اشوات، يارفين سي بي، مانوج كومار، نونالينكا نونجروم، سمائنا باين، ديلينا روي .

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المكتب الرئيسي:

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University House, 11-13 Lower

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الوكيل البريدي بالولايات المتحدة: النشرة التقنية - الشرق الأوسط
Technical Review Middle East ISSN 0267 5307
تشرها ست مرات في العام، لقاء 99 دولاراً أمريكياً، شركة آلان تشارلز للنشر
Alain Charles Publishing , University House, 11-13 Lower Grosvenor Place, London, SW1W 0EX, UK
يتم سداد فني المجلات لدى: Rahway, NJ

مدير البريد: أرسل التصحيحات إلى: Alain Charles Publishing Ltd, c/o Mercury
Airfreight International Ltd, 365 Blair Road, Avenel, NJ 07001, US
Agent: Pronto Mailers International, 200 Wood Avenue, Middlesex, NJ 08846

الإنتاج: سريندي شيكارز، نلي مينديز، باكشيت شيفاكومار
بريد إلكتروني: production@alaincharles.com

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رئيس مجلس الإدارة: دريك فوردهام

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عقوداً بقيمة
٢,٧ مليار دولار
عام ٢٠٢٠

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