

TECHNICAL REVIEW

النشرة التقنية - الشرق الأوسط

MIDDLE EAST

Vol 38/Issue Four 2022

ANNUAL MINING REVIEW

bauma 2022

The best solutions in
construction and mining

Supply chain management

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MINING IN SUPPORT OF CLEAN ENERGY
TRANSITION

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Power Generation
WETEX and Dubai Solar Show
Data Centres

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EDITOR'S NOTE

DEMAND FOR CRITICAL minerals continues to surge in support of the world's clean energy transition. In our Annual Mining Review (pages 16-20), Martin Clark analyses how major economies in the Middle East are taking the opportunity seriously, with mining often regarded as a means to diversify away from traditional oil and gas production.

With bauma 2022 set to open its doors soon, we have put together a preview of the event, featuring some of the solutions and innovations ready to drive the construction and mining industries forward. Please see pages 32-34.

On pages 36 and 37, we take a look at local and regional challenges that present great opportunities for development in the supply chain management of the region.

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



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TECHNICAL REVIEW

النشرة التقنية - الشرق الأوسط

MIDDLE EAST

SERVING THE REGION'S BUSINESS SINCE 1984

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Briefly

Injazat to help TAQA become a digital utility

INJAZAT, THE UAE'S home-grown technology champion in digital transformation, cloud and cyber security, has announced winning a digital transformation project for TAQA Group, the recognised low carbon power and water champion from Abu Dhabi that is a top 10 integrated utilities company in the EMEA region.

The contract was formalised during a signing ceremony with Ussama Dahabiyeh, the CEO of Injazat and Omar Al Hashmi, executive director of transmission and distribution, TAQA Group.

TAQA selected Injazat from a pool of competitive international bidders to lay the groundwork for TAQA to become a digital utility through modernised IT infrastructure. The programme's workstreams will address risks, deliver new capabilities, and up-skill staff on new technologies. Injazat will also create long-term value for TAQA by optimising their systems and enhancing customer experience.

Omar Al Hashmi, executive director of transmission and distribution at TAQA Group, said, "TAQA's partnership with Injazat on this programme is a major milestone in our journey to become one of the highest performing, reliable and efficient utilities leaders in the region. The best-in-class solutions offered by Injazat will help us drive digital transformation across our largest business line, creating additional value, resolving operational challenges, and enhancing customer experience."

Ussama Dahabiyeh, CEO at Injazat, said, "Injazat's commitment to providing superior technological services has allowed us to establish unique relationships with our loyal customers. I am honoured to see the increasing trust that is being placed on our talented team. Today's announcement is indicative of Injazat's growing capabilities and local expertise and it further demonstrates the strength of our ethos and principles in customer experience and co-innovation. We look forward to fortifying our already successful partnership with TAQA and help orchestrate a wider digital ecosystem that will accelerate TAQA's journey to becoming a digital utility of the future."

Etiihad gives ICAD its largest freight terminal

ETIHAD RAIL, THE developer and operator of the UAE National Rail Network, has completed connecting the railway freight terminal at the Industrial City of Abu Dhabi (ICAD), which is the largest inland freight railway terminal in the country, with the UAE National Rail Network. The company completed track laying and conducting successful tests on the new line, which extends from the borders of Saudi Arabia to the port of Fujairah, on the eastern coast, passing through the main manufacturing hubs and urban centres.

Upon the completion of stage two of the network, Etihad Rail will provide logistics solutions from the terminal.

Mohammed Al Marzouqi, executive director of rail relations sector at Etihad Rail, said, "This milestone brings us closer to achieving our goal of providing an integrated transport system that connects the industrial and manufacturing centres with freight terminals and ports across the emirates. The strategic location of the ICAD railway freight terminal will also drive value for all our customers as it is the largest indoor railway freight terminal in the UAE."

"We encourage companies to restructure their logistical operations and opt for rail logistics solutions, thereby cutting costs, increasing efficiency, and providing safer transportation of goods. This is exemplified by the trade agreements that we have made with some of the biggest companies in the UAE. Our network will have a positive impact on end users, as it will contribute to reducing trucks on roads and bring down their maintenance costs. It will further drive the sustainable development that we are witnessing across the UAE, by enabling a positive



Photo Credit : Etihad Rail

The line extends from the borders of Saudi Arabia to the port of Fujairah.

socioeconomic impact on industry, commerce, the environment, and more," he added.

Spanning just over 2.7 mn sqft, the new railway freight terminal will comprise over 22 buildings and major structures to support operations, processing up to nine trains each day. It will facilitate the distribution of goods across the countries of the GCC. In the UAE, it will connect quarries in the northern emirates to industrial centres in the Musaffah area, in addition to connecting Ruwais, Khalifa Port and the container companies in Dubai within Jebel Ali Port. The containers will be hauled by rail to and from other freight facilities following a road journey to the end-user location.

Operating 24/7, the terminal will offer a range of competitive advantages for businesses, at the highest levels of efficiency in terms of transport costs and sustainability. When fully operational, it will process over 15 mn tonnes of loose raw materials, 1.5 tonnes of general cargo, and around 116,600 20-ft shipping containers annually.

Siemens to upgrade ADMS and install smart meters

SIEMENS HAS BEEN awarded a contract to upgrade the distribution management system and establish an advanced metering infrastructure for Alexandria Electricity Distribution Company (AEDC) – Lot 1 of a JICA-funded loan.

As subsidiary of the state-owned utility Egyptian Electricity Holding Company (EEHC), AEDC is responsible for the distribution network of Alexandria Governorate. During the upcoming 30 months, Siemens will be implementing an ADMS control centre for the West Alexandria region and another to supervise all distribution control centres in Alexandria.

In addition, 300,000 smart meters will be supplied, including the necessary hardware and software to establish an advanced metering infrastructure.




Photo Credit : Siemens

Gaber El Dessouki, EEHC, and Frank Grunert, Siemens.

Following the partnership agreement signed with ESRI in July 2022, Siemens will also be delivering ESRI's Geographical Information System (GIS) within the scope of the project.

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MENA HSE Forum focuses on solutions to cut LTIs and optimise productivity

THE SEVENTH EDITION of the MENA HSE Forum, which took place from 6-7 September at the Grosvenor House, Dubai, was a resounding success.

The event delivered a well structured programme combining presentations and panel discussions to more than 150 delegates from the HSE community of the UAE, Saudi Arabia, Qatar, Oman and Bahrain. Senior HSE practitioners from the region's leading companies, including Dubai Municipality, ADNOC, Petrofac, EGA, Saudi Aramco, Drydocks World, Abu Dhabi Waste Management Centre – Tadweer, Be'ah and Dubai Holding came together to discuss current developments, share experiences and best practices as well as access the latest innovations to advance HSE.

"Our research with stakeholders from the oil and gas, construction and tourism sectors revealed that end users are seeking disruptive technologies that will continue to cut LTIs and optimise productivity. We identified a need to access the latest safety solutions for workforce across the board, which led us to create this exclusive platform for HSE companies, said Vinay T, head of business development at Alain Charles Events, the organisers of the Forum.

The programme commenced by exploring various aspects of safety management covering presentations by Saleh Albalushi, head of HSE, Drydocks World, on building shared commitment for safety within an organisation; and on achieving sustainable results through HSE culture transformation strategy by Sultan Karrani, senior engineer - HSE, ADNOC.

To help organisations strategise on occupational safety standards, Eng Mohamed Abdula Almarzooqi, Head of Accident Investigation Team - Health & Safety Department, Dubai Municipality, outlined the most common causes of accidents in Dubai industrial sectors, revealing that falls from height accounted for nearly 38% of the accidents in Dubai.

The audience also gained access to a case study on the crisis management planning and mitigation strategies adopted by DAMAC Properties, that led to optimal recovery from the pandemic.

The panel discussion on Day 1 further examined crisis and business continuity management through a debate on the need for agility and flexibility while having a structured approach in place, supported by clear strategies for communication and escalation in times of crisis.

Photo Credit : Alain Charles Publishing



The event took place at Grosvenor House, Dubai, from 6-7 September, 2022.

Digital transformation in the HSE sector was a key area of focus at the Forum, with discussions and presentations continuing into the second day. Lynn Hoballah, head of health & safety, Petrofac, demonstrated how her organisation is making use of social media and gamification for greater employee engagement.

The impact of disruptive technologies in solving HSE requirements was further debated by a panel that examined how these can be used to improve HSE operational efficiency and help in mitigating risks.

Lessons on occupational Health and Behavioural Safety during the pandemic were addressed by Dipl Ing Peter Michael Hamel, Department Head OHSE, Be'ah, quoting from his experiences in Oman during the lockdown.

The HSE Forum's focus on sustainability and the environment included diverse perspectives such as the value that ESG is creating in the aluminium industry. An update by the Dubai Municipality, delivered by Dr Jasminka Jaksic, senior environmental specialist, gave the audience a peek into how the Dubai Municipality monitors conformance to air quality regulations. Dubai Municipality's interactive display on air quality, at the HSE Forum's Technology Showcase Hall invited the attention of delegates.

Sponsors of the event included Milwaukee, Next World, Dubai Municipality, Benchmark ESG, BSI, TSI, GTSC, intenseye,

iOmniscient, ITT-Innovations and MACS-G Solutions.

Other exhibitors present were Al Hoty-Stanger, ARASCA Medical Equipment, ITAC Safety and Environmental Consultants.

The forum was ably chaired by Dr Rahaf Ajaj, senior cluster lead for climate change and public health at Abu Dhabi University. She summed up, "During the forum, we explored the function of HSE leadership in crisis and business continuity management, as well as the significance of a safety culture that is maximised. And how we may implement the HSE culture transformation strategy to produce positive and long-lasting outcomes. We also learned more about process safety and its framework in a variety of settings. We learned about the future of digitalisation in health and safety.

"Thank you to everyone who helped make this event a huge success. The passion and good attitude contributed to this. Special thanks to the organising team for inviting me to chair this important forum."

Dr Eng Hani Hossni, EHS director, Abu Dhabi Waste Management Centre - Tadweer said, "The HSE Forum provided immense opportunities for networking and sharing knowledge as well as ideas.

Naveen GV, global development officer & managing director, Benchmark Digital Partners LLC summed it up well when he said, "The MENA HSE Forum 2022 covered all aspects of the HSE spectrum, discussing critical issues and the latest trends."



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Briefly

thyssenkrupp and CCC awarded EPC contract for Qatar blue ammonia facility

QATAR FERTILISER COMPANY (QAFCO) awarded an EPC contract valued at nearly US\$1.06bn for a blue ammonia train, to a consortium of thyssenkrupp Uhde and Consolidated Contractors Company (CCC).

The Ammonia-7 project, planned to be completed by the first quarter of 2026, will be the world's largest blue ammonia facility, according to QatarEnergy, whose affiliate QatarEnergy Renewable Solutions is developing the project along with QAFCO. Using uhde ammonia technology, the single-train plant, which will be located in Mesaieed Industrial City will have a record capacity of 3,500 metric tonnes per day.

Saad Sherida Al-Kaabi, the minister of state for energy affairs, chairman and managing director of Industries Qatar said, "Ammonia-7 is a landmark project for Qatar and for the industry as a whole. It builds on our expertise in installing, operating, and maintaining conventional ammonia plants to produce fertilisers. We are also building on our unique position in the renewables and carbon capture and sequestration space, as well as on our ideal logistical capabilities and advantages to supply differentiated, low carbon products and fuels to the world."

Martina Merz, CEO, thyssenkrupp AG, commented, "With our proven technology and innovation expertise we are laying the foundation towards sustainable solutions jointly with our customers."

Blue ammonia is produced when the CO₂ generated during conventional ammonia production is captured and stored. It can then be used to produce low carbon electricity.

QatarEnergy Renewable Solutions will develop and manage integrated CCS facilities capable of capturing and sequestering around 1.5 million tonnes of CO₂ per annum, to cater for the new Ammonia-7 plant.

The investment in blue ammonia and the expanded CCS facilities are part of the steps QatarEnergy is taking to deliver on its sustainability strategy.

Dragos and Emerson expand agreement to protect industries against cyber risk

DRAGOS INC, LEADER in cyber security for industrial control systems (ICS) and operational technology (OT) environments announced the expansion of its global agreement with Emerson, one of the world's largest manufacturers of industrial controls.

With this agreement expansion, Emerson has validated the Dragos Platform within its DeltaV distributed control system (DCS), providing organisations with enhanced ICS/OT cyber security. This extended agreement builds on the initial global agreement between Dragos and Emerson to protect industrial control systems and operational technologies for power producers and water utilities to now include several other industries.

The Dragos OT Security Platform is focused on reducing cyber risk to industrial environments. It provides visibility into assets and vulnerabilities, detects cyber threats to industrial systems, and enables efficient response through forensic investigation and OT-specific playbooks.

In addition, Dragos is incorporating DeltaV DCS platform-specific capabilities into the Dragos platform, including protocol dissectors, asset characterisations, threat behaviour analytics, and investigation playbooks to expand Emerson's cyber security assessment capabilities and enhance threat detection and response for process industries.

With the expansion, customers can benefit from an improved threat detection and response, enhanced visibility into the OT environment which allows organisations to monitor and mitigate vulnerabilities and leverage traffic monitoring information to investigate issues as well as access a



Photo Credit : Dragos

Matt Cowell, vice president, business development at Dragos.

full range of OT cyber security services available through Emerson's global services.

Vice president of business development at Dragos, Matt Cowell said, "By growing our agreement and bringing industrial cyber security to an even wider group of industries, we are able to reach and protect a wider array of organisations in the process industry sector, many of whom are just embarking on the path of digital transformation and have immediate needs to reduce risk as they expand connectivity."

Alexandre Peixoto, cyber security business director of Emerson's process systems and software business, said, "We are committed to continuously strengthening out OT cyber security capabilities with best-in-class technology that allow us to proactively address the evolving threat environment."

Abu Dhabi DoE unveils decarbonisation policies and pathways for achieving net zero targets

THE ABU DHABI Department of Energy (DoE) revealed that it is working on new policies, including a hydrogen policy and regulatory framework to accelerate a carbon neutral future for the people of Abu Dhabi, and the UAE.

Speaking on a ministerial panel 'Collaborative policy blueprints to enable decarbonisation and inclusive energy security' on the opening day of Gastech 2022 in Milan, Italy, the DoE chairman, Awaidha Murshed Ali Al Marar, shared details of the Abu Dhabi 2035 integrated energy framework and the new hydrogen policy to drive the country's energy transition. The new hydrogen framework is expected to position Abu Dhabi as a global leader of low carbon



Photo Credit : DoE

DoE at Gastech Hydrogen in Milan, Italy.

hydrogen production, encourage new local industries and jobs, offer growth for existing firms, facilitate further research, and stimulate more foreign direct investment in the energy sector.

Mitsubishi Power-led consortium announces STEG's Rades C Power Plant completion

MITSUBISHI POWER AND Société Tunisienne de l'Electricité et du Gaz (STEG) announced the beginning of operations at the Rades C combined-cycle power plant in Tunisia, the nation's highest-efficiency plant.

Rades C adds 450 MW of electricity to the Tunisian national grid, supporting the country's growing energy consumption needs.

The Mitsubishi Power-led consortium provided power generation equipment and services to secure power supply and boost reliability and availability of the plant's operations.

STEG CEO, Hichem Anene, said, "The Rades C power plant will play a key role in accelerating Tunisia's growth for decades to come. We want to thank Mitsubishi Power and all consortium partners for this project that will help us meet our energy demand today with reliable, clean and efficient power across the country, and aiming to facilitate our energy transition with industry-leading solutions and decarbonization technologies."

Kaspersky and Microsoft partner to deliver threat intelligence

KASPERSKY THREAT DATA Feeds have integrated with Microsoft Sentinel, to help Microsoft Sentinel users with actionable context for attack investigation and response.

With this integration, enterprise security teams can extend cyber threat detection capabilities and increase the effectiveness of initial alert triage, threat hunting or incident response.

According to global market intelligence firm IDC, "Threat intelligence programmes provide both qualitative assessments of the field and actionable, automated solutions that bolster existing security defenses."

Access to Kaspersky TI through Microsoft Sentinel empowers enterprises with the latest insights to counter cyberattacks. Actionable context in feeds includes threat names, timestamps, geolocation, resolved IP addresses of infected web resources, hashes, popularity or other search terms. With this data, security teams or SOC analysts can accelerate the initial alert triage by making informed decisions for investigation or escalation to an incident response team.

Kaspersky Threat Data Feeds are generated automatically in real time and aggregate high-quality data from multiple reliable sources around the world. This includes the Kaspersky Security Network covering millions of voluntary participants globally, Botnet Monitoring service, spam traps, plus world-renowned Kaspersky experts from GREAT and R&D teams. All the data is carefully inspected and refined with dedicated pre-processing techniques.

Microsoft Sentinel uses TAXII protocol and gets data feeds in STIX format so it allows configuring Kaspersky Threat Data Feeds as a TAXII Threat Intelligence source in the interface. Once it is imported, cybersecurity teams can use out-of-the-box analytic rules to match threat indicators from feeds with logs.

"We are thrilled to partner with Microsoft and help Microsoft Sentinel users to get access to the trusted and valuable threat intelligence from Kaspersky. Expanding integration with third party security controls makes it even easier for customers to operationalise our TI which is one of our key priorities. TI from Kaspersky is designed to be tailored to the needs of any organisation since we collect data from a great number of different and diverse sources to cover organisations in specific industries, geolocations and with specific threat landscapes. More than two decades of threat research helps us achieve this, while empowering global security teams with the information they require at each step of the incident management cycle," commented Ivan Vassunov, vice president, corporate products, Kaspersky.

"Threat attacks are on a continuous rise like never before and to remain protected, organizations need quick ways to detect these threats. With the Kaspersky and Microsoft Sentinel integration, customers will now have an easy way to import high fidelity threat intelligence produced by Kaspersky into Microsoft Sentinel using the industry standard of STIX/TAXII for detections, hunting, investigation, and automation," said Rijuta Kapoor, senior programme manager, Microsoft.



Photo Credit : Adobe Stock

Microsoft Sentinel uses TAXII protocol and gets data feeds in STIX format, configuring Kaspersky Threat Data Feeds as a TAXII Threat Intelligence source in the interface.

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“Pursuing sustainable economic development and building a better future for the current and next generations are strategic priorities of the UAE. We seek to achieve these goals through establishing an integrated legislative framework, coupled with initiatives and programmes that promote the transition to an inclusive green economy. Mainstreaming green urbanism practices and designing resilient cities are key enablers of climate change mitigation and adaptation drive and will contribute to achieving the UAE Net Zero by 2050 Strategic Initiative.”

Photo Credit : UAE Ministry of Climate Change and Environment



MARIAM BINT MOHAMMED ALMHEIRI

Minister of Climate Change and Environment

UAE Ministry of Climate Change and Environment

“Our new service with P&O Maritime Logistics marks our next expansion outside of Europe, and we are looking forward to growing our business in Africa and the Middle East. With continued growth in the containerised cargo business across the Red Sea, the new service will capitalise on the market opportunities.”

HUI KHOON

COO, network

Unifeeder FZCO

“Celonis is well aligned with QIA’s strategic focus on innovative, best-in-class companies that are shaping the global economy of the future. Celonis is providing clear added value for its customers by enhancing their operational efficiency and driving their performance. QIA looks forward to a long-term and productive relationship.”

MANSOOR AL-MAHMOUD

CEO

QIA

(On leading the cash equity series in Celonis, a global market leader in process mining)

“With the advent of the always-on economy, uptime and continuous access to critical data, applications and workloads have become front-of-mind concerns for the region’s technology stakeholders. As businesses move forward amid increased industry upheavals and competition from market disrupters, competitiveness hinges on the ability to remain operational even as external issues destabilise markets and supply chains. Backups alone will not deliver such capabilities. Rapid recovery requires strategy-focused infrastructure and solutions to work effectively. That is what Azure Availability Zones delivers.”

NAIM YAZBECK

General manager

Microsoft UAE

“We consistently look to evolve the Global Village experience based on the insights and feedback we receive from our guests and partners. With 90% of guests telling us they intend to return to Global Village, finding ways to take the customer experience to the next level is always a priority. We will continue to strive to ensure that we surpass guest expectations every time they enter our gates.”

MOHAMED SHARAF

Chief operating officer

Dubai Holding Entertainment

(On the new range of enhancements unveiled for Global Village guests)

“As Covid-19 continues to cast its shadow over the world, it is important to continue protecting the health and safety of all members of community especially the most vulnerable groups who are more prone to Covid-19 complications. Unfortunately, there is a community of patients for whom vaccination does not offer adequate protection. By collecting real-world data from the United Arab Emirates, we can better understand how AstraZeneca’s long-acting antibody combination Evusheld can protect immunocompromised patients and enable them to resume their everyday lives.”

EVA TURGONYI

Medical director, GCC and Pakistan

AstraZeneca

“Damac has been a respected and recognisable name in the Middle East for quite some time, but in the past few years we have been making waves globally, with projects in Europe, Canada and the US. More and more, we are demonstrating our various strengths in the global market. We are keen on diversifying our portfolio, especially when it comes to futuristic endeavours, so that we stay ahead of the curve.”

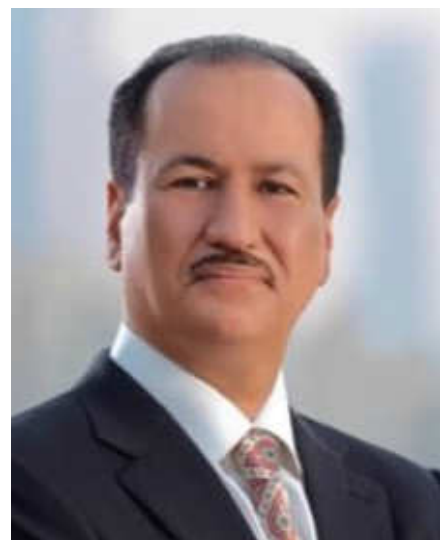


Photo Credit : Damac Group

HUSSAIN SAJWANI

Chairman

Damac Group

“As a tech brand, we are in an exciting period of growth and our launch in Bahrain is another milestone in our expansion plans which brings us a step closer in reaching the US\$100mn Average Recurring Revenue Club. I am delighted that our first signing in Bahrain is with Madeleine’s Preschool and we look forward to working with their team to provide a collaborative experience for their teachers, students and parents.”

Photo Credit : DMCC



NOOR BOODAI

CEO and founder
Bounce

“We are excited to partner with CyberKnight which has a strong presence in the Middle East and will play a key role in helping us to expand our international sales channels and IoT security and service offerings throughout this important economic region. This region is growing rapidly and many modern cities are incorporating ‘smart’ technologies and infrastructure in novel and exciting ways. However, anything that is smart is vulnerable to security threats, and we will be working closely with CyberKnight to make sure all private and public organisations throughout the region have full access to the most advanced xIoT security solution and platform in the world today.”

CHRIS ROULAND

CEO
Phosphorus

“A vibrant low carbon hydrogen production and consumption industry will place Abu Dhabi and the UAE at the global forefront of countries producing green energy. It can potentially increase low-carbon hydrogen production in Abu Dhabi to more than a million tonnes per annum by 2030. Locally produced hydrogen will act as a driver of innovation and economic diversification, allowing for the decarbonisation of the economy in line with UAE National Energy Strategy 2050. This is an opportunity for Abu Dhabi, with its abundant solar resources, to contribute to fulfilling a global need that will create new local industries and jobs, offer growth for existing firms, develop new skill sets, and facilitate more research. It will also stimulate more foreign direct investment in the energy sector.”

HIS EXCELLENCY ENG AHMED MOHAMMED BELAJER AL RUMAITHI

Undersecretary
Abu Dhabi Department of Energy

“We are pleased to announce our financial results for the first half of 2022, which reflects the company’s dedication and ability to adapt quickly in the face of adversity and ongoing challenges. At RAK Properties, we strive to continue developing world-class residential and hotel projects catered to local residents of the UAE, as well as the international market wishing to invest and relocate in the region. Our projects are renowned for meeting the needs of the real estate market, and providing exceptional value to residents and visitors. The sector is seeing significant growth potential, a trend which will undoubtedly continue into the future, providing best value for investors and shareholders alike.”

ABDUL AZIZ ABDULLAH AL ZAABI

Chairman
RAK Properties

“The automotive industry has been challenged since the pandemic and continues to be challenged globally. We are extremely proud of this outstanding achievement, and it is a true testament to the hard work and dedication of our team and partners across the region. The regional appetite for the VW Brand is clearly there and we remain positive about maintaining this momentum with exceptional models that deliver on design, comfort, safety, connectivity and technology.”



Photo Credit : RAK Properties

VICTOR DALMAU

Managing director
Volkswagen Middle East
(On Volkswagen Middle East clocking the best car sales in nearly seven years)

“It is our fundamental belief that social and environmental impact go hand in hand with economic development and the long-term growth of global trade. Our partnership with C3 on the DMCC Impact Scale-Up Programme ties directly into our mandate to attract and promote trade through Dubai.”

FERYAL AHMADI

Chief operating officer
DMCC

EXECUTIVES' CALENDAR 2022-2023

SEPTEMBER 2022

20-25	IAA Transportation	HANOVER	www.iaa-transportation.com
27-29	WETEX and Dubai Solar Show	DUBAI	www.wetex.ae

OCTOBER 2022

24-30	bauma	MUNICH	www.bauma.de
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NOVEMBER 2022

14-17	Saudi Elenex	RIYADH	www.saudielenex.com
14-17	Saudi Build	RIYADH	www.saudi-build.com
15-16	The Mining Show	DUBAI	www.terrapin.com

DECEMBER 2022

5-8	The Big 5	DUBAI	www.thebig5.ae
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JANUARY 2023

16-18	World Future Energy Summit	ABU DHABI	www.worldfutureenergysummit.com
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Readers should verify dates and location with sponsoring organisations, as this information is sometimes subject to change.

Egypt Infrastructure and Water Expo to launch in June 2023

IN LINE WITH Egypt Vision 2030, the Egypt Infrastructure and Water Expo is set to debut in Cairo, from 19 - 21 of June 2023, unlocking new business opportunities in the country. It will be co-located with The Big 5 Construct Egypt.

Organised by dmg events, Egypt Infrastructure and Water Expo aims to create an internationally competitive platform covering urban connectivity, water and waste, utilities, and smart technologies. The event is expected to attract 100 international and local exhibitors and more than 6,000 attendees including project owners, government officials, regulators, EPC contractors, consultants, and engineers.

Egypt is the most populous country in the Arab world with 95% of the total population concentrated in just 5% of the country's land area. Earlier this year at The Big 5 Construct Egypt, deputy minister of housing, utilities, and urban communities for national projects, Eng Khaled Abbas, discussed the challenge Egypt faces with a population that is increasing by 2.5 million citizens each year. He emphasised that the challenges posed by a surging population require a head start in infrastructural development.

"We are implementing the strategic plan developed by the State for Urban Development 2052, which aims to double the urban area from 7% to 14% by 2030," added Eng Khaled Abbas.

It is expected that there will be 30 new cities, with 15 cities currently at various construction stages. Ongoing projects include the New Administrative Capital, New Alamein City, East Port Said (Salam), New Mansoura, New Ismailia, El Galala, New Sheikh Zayed, October Oasis, West Beni Suef, New Mallawi, Nasser (West Assiut), West Qena and New Toshka. The plan will unleash major investment initiatives that will ultimately enable residents to have access to world class amenities and services, as well as creating employment opportunities to alleviate the pressures of a high population growth rate.

The expo provides an unrivalled international platform where the industry comes together to discuss the planning, engineering, smart building solutions, water and waste management requirements, and latest urban technologies available to propel the country's development. The Egypt Infrastructure Summit, an integral part of

the expo, will be a springboard to address the most pressing issues in the industry through the participation of a stellar line up of key decision makers and government.

"We believe Egypt is a country of unique investment possibilities, yet to be explored. The strategic timing of the exhibition launch will attract investors to support the government's vision to build sustainable cities to accommodate the nation's rapid population growth," commented Muhammed Kazi, vice president of construction at dmg events.

"The state is embracing a sustainable approach towards infrastructural development, magnified by Egypt's hosting of the UN Climate Change Conference COP27 this year. The government's pursuit of innovative techniques and technologies has enabled us to launch this expo with the proposition of exploring solutions to optimise the use of resources, especially water management," Kazi concluded.

For more information and to register your interest in Egypt Infrastructure and Water Expo visit, www.egyptinfrastructureexpo.com.

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

Rokbak celebrates rebrand anniversary

IT HAS NOW been 12 months since managing director Paul Douglas announced the surprise rebranding of Terex Trucks at an online launch event

Since the announcement, the company has reported multiple successes which has confirmed the decision to replace an established industry name with a new, unique one.

"We all had huge faith in the new brand and felt that its message of rugged reliability and strength, coupled with its strong hauling <https://www.technicalreviewmiddleeast.com/construction/>



Photo Credit: Rokbak

Rokbak is celebrating its one year anniversary.

Dubai Chamber of Commerce shares digital transformation best practices with DEWA and KHDA

DUBAI CHAMBER OF Commerce, one of the three chambers operating under Dubai Chambers, recently shared its digital transformation best practices during a recent virtual meeting joined by 22 representatives from Dubai Electricity and Water Authority (DEWA) and the Knowledge and Human Development Authority in Dubai (KHDA)

During the meeting, attendees discussed collaboration opportunities and various e-services designed to enhance customer happiness which remain a key focus area for Dubai Chamber of Commerce, as the Chamber continues to strive for excellence following its top ranking <https://www.technicalreviewmiddleeast.com/business-a-management/>

Kenera to manufacture and supply electrolysers leveraging technology

KENERA HAS ANNOUNCED the signing of a technical cooperation and sales agreement with Clean Power Hydrogen Plc (CPH2) that will enable it to manufacture and supply patented Membrane-Free Electrolyser units for hydrogen production

This agreement builds on the successful CPH2 IPO in February where Kenera was a cornerstone investor in the company. <https://www.technicalreviewmiddleeast.com/business-a-management/>



Photo Credit: Kenera

This agreement builds on the successful CPH2 IPO in February where Kenera was a cornerstone investor in the company.

ACT acquires new 700 tonne crane from Liebherr

CRANE AND HEAVY-LIFTING company ACT has received its first Liebherr LTM 1650-8.1 in Saudi Arabia

The new model outperforms its predecessor, LTM 1500-8.1, by 15 to 50% in terms of load capacity – depending on the equipment. "We wanted to have Saudi Arabia's first LTM 1650-8.1. ACT has always been a pioneer and has set standards in the crane business in Saudi Arabia. And we have now done this once again with the new 700-tonne crane," said Hassan Mohammed Rashid Al-Naimi, founder and president of ACT.

When purchasing the LTM 1650-8.1, the company acquired both telescopic boom lengths in the process. <https://www.technicalreviewmiddleeast.com/logistics/>



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Advanced logistics hub to be launched in Abu Dhabi

AD Ports Group's Advanced Logistics Hub at KIZAD to bring 80,000 square metres of storage capacity.

AD PORTS GROUP, the leading facilitator of global trade, logistics, and industry, has announced that KLP21, its new advanced warehousing and logistics hub in Abu Dhabi, will be available in 2022.

KLP21 is situated in KIZAD, the Group's integrated trade, logistics and industrial zone located between Abu Dhabi and Dubai. It leverages UAE's strategic position as a gateway to Asia, Africa and the MENA region representing a combined marketplace of more than 4.5 bn consumers. KLP21 is strategically located next to the upcoming Regional Food Hub along the main E311 cargo corridor, ensuring direct connectivity to all major markets.

Comprising four warehouses with over 80,000 square metres of capacity, KLP21 will be one of the largest and the most advanced temperature-controlled logistics hubs in the region. Combined, the warehouses will be able to accommodate over 100,000 pallets across a network of chambers which can be independently configured to a range of sizes and temperatures, including -26°C to 25°C.

The facility is tailor-made to support critical regional industries requiring cold and ambient storage, including healthcare, food and beverage, fast-moving consumer goods (FMCG), and specialty chemicals sectors. Among the benefits for potential customers, the facility will offer a full suite of third-party logistics (3PL) and fourth-party logistics (4PL) services, regional logistics hub operations and value-added services including re-packing, specialty packing, labelling and others.

Backed by access to strategic multimodal transport capabilities, including direct access to two major world-class ports, five international airports within a 90-minute driving distance, congestion-free multi-lane highways and Etihad Rail's future rail link, KLP21 will offer potential partners and customers with direct and efficient access to



Photo Credit : AD Ports

key local, regional and global markets. Additionally, the hub will be served by a fleet of more than 400 transport vehicles supporting both domestic and cross-border road movements.

Developed by KIZAD, the facility will have two of its four warehouses, spanning 40,000 square metres operated by AD Ports Logistics. For AD Ports Logistics, this is in addition to over 350,000 square metres of logistics storage space, including its KIZAD-based 19,000 square metres cold and ultra-cold storage facility that has been the cornerstone of Abu Dhabi's global efforts against the COVID-19 pandemic.

Abdullah Al Hameli, Chief Executive Officer, Economic Cities & Free Zones Cluster, AD Ports Group, said, "The development of KLP21 builds upon our fully integrated offering under AD Ports Group's Economic Cities & Free Zones portfolio that brings together the entire scope of services required for industrial businesses to thrive in today's competitive market. The project responds to increasing customer demand for temperature-controlled storage

solutions in the emirate to support the safe and efficient distribution of climate-sensitive goods in the UAE and across the wider region.

KIZAD is committed to driving the sustainable growth of Abu Dhabi's trade and manufacturing landscape in line with the Abu Dhabi Industrial Strategy and continue to widen our offerings to support the priority industrial sectors identified by our wise leadership such as the life sciences and food sectors."

The project has been designed with the latest optimal solutions in mind, including the use of advanced insulation materials to reflect sunlight, the strategic application of skylights to reduce the need for lighting, recycling of water for irrigation, a centralised refrigeration system, and the use of primary, backup, and solar power supplies.

The state-of-the-art facilities have also been developed against the latest HSEQ and ISO standards, which assures customers that their products will be handled according to the highest levels of global regulatory compliance. ■

Memosens 2.0 – Cutting edge sensor technology

The next generation of Memosens digital technology enables simple, safe and connected liquid analysis. Tejas Shinde, product expert & BDM – analysers, Endress + Hauser Middle East, explains.

ALL MEASURING POINTS were analog before Memosens was invented. An analog measuring point consists of a sensor, a cable, an assembly, and a transmitter. A major disadvantage of this system is that changing one of these components influences the entire system and requires a recalibration. Furthermore, it forces calibration in the field since the transmitter and cable are often permanently installed. Would it not therefore make sense to combine the entire measuring chain in the sensor and transmit a digital signal that cannot be distorted? This is precisely what gave rise to the invention of digital Memosens technology.

New sensor electronics in Memosens 2.0

Memosens technology was revised as early as 2018 and the electronics redesigned. The new Memosens hardware developed on this basis is significantly more efficient and offers greater capacity for current and future innovations. The original concept of processing and storing data in the sensor has been adopted without any change. Backwards compatibility is also guaranteed.

The objective is to be able to provide more accurate information and forecasts in the future in relation to the condition of the sensor and thus support decisions around maintenance and replacement.



Sensor head of the new Memosens CPS11E with salt ring.

Photo Credit: Endress + Hauser

New concept for hazardous areas

Furthermore, a new concept for explosion-proof areas for CxSxxE sensors and transmitters that enables use of CM72/82 compact transmitter was implemented.

Product enhancements

More product enhancements in the new (CxSxxE) sensor generation were introduced, for example, the new ion trap and salt filling in pH sensors, faster temperature element in conductivity sensors.

Memosens 2.0 also provides the future-proof basis for predictive maintenance and enhanced IIoT services

From the enhanced, more efficient electronics module to the new software features and hardware improvements, through to a new Ex concept and standardised, flexible product structure, Memosens 2.0 underpins the Memosens success story precisely in the areas where the customer has added value. ■



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The mining industry is going through unprecedented change.

Middle East mining perfectly poised for growth

The mining sector in the Middle East is set for growth as clean energy transition sees world demand for critical minerals and other commodities soar. Martin Clark reports.

Demand for critical minerals - such as lithium copper, nickel and cobalt - continues to surge in support of the world's clean energy transition

THE MINING INDUSTRY, like others, is going through unprecedented change amid the ongoing impact of technology, a fast-changing socio-economic backdrop, as well as global market volatility.

Nonetheless, there are a few who would dispute the strategic importance of this sector across the globe and in the Middle East in the years ahead. The mining industry will continue to provide the raw materials for manufacturers and businesses, as it always has, whatever the economy of the future looks like. It remains a thriving industry despite the unsettled global economic picture. Demand for critical minerals – such as lithium, copper, nickel and cobalt – continues to surge in support of the world's clean energy transition.

New players are emerging and contesting the dominance of the larger mining corporations in these and other niches. The rewards for those companies who emerge as leaders could be immense.

According to a PwC report in June, the need for critical minerals is expected to grow over the next three decades, with some estimates suggesting that the annual demand from clean energy technologies will reach more than US\$400bn by 2050. That is a tremendous global opportunity for miners across the globe – including in the Middle East.

PwC also states that environmental and social governance (ESG) will be at the heart of this new-era mining industry.

Whether that's sustainable or realistic at a time of rising energy prices and growing shortages, eating away at economic productivity and driving poverty worldwide, is another question even in the face of the relentless drive to 'net zero' and other climate-related goals.

What is certain is that major economies of the Middle East are taking the opportunity seriously, with mining often regarded as a means to diversify away from

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traditional oil and gas production. Saudi Arabia sees metals and mining as a key enabler of the Kingdom's Vision 2030, identifying it as the 'third pillar' of industry alongside oil and gas and petrochemicals. The sector is one of 15 strategic industries singled out for support by Saudi's powerful Public Investment Fund (PIF).

Ma'aden on the march

State-owned miner Saudi Arabian Mining Company (Ma'aden) recently delivered its best-ever half year results underpinned by improved operational performance and favourable market conditions.

Its H1 2022 net profit increased by 232% against the same period last year to reach SAR6.2bn. Sales for the period reached SAR 20.8bn, an 80% improvement on the year before.

"This record performance was supported by favourable market dynamics, delivered while maintaining the highest safety standards and making progress towards our ESG goals," commented Ma'aden chief executive Robert Wilt.

He said the growth was driven by increased production volumes from new projects and improved efficiency in existing operations.

Ma'aden's Ammonia III project ramped up production, contributing to overall sales. The plant has an output capacity of 1.1 mn tonnes per annum (mtpa) and is part of an ongoing expansion that will strengthen the country's position as one of the top producers of phosphate fertilisers in the world. Production at Ma'aden Wa'ad Al Shamaal Phosphate company also continued to ramp up, leading to a 15%

Ma'aden continues to invest in long-term growth and is on track to increase its current gold mining capacity by 70% with a new plant in Mansourah Massarah.

increase in phosphate fertiliser sales volumes at the plant compared to Q2 2021.

It's positive for Ma'aden's bottom line, but comes at a time when some markets are turning away from chemical fertilisers in support of other climate-influenced policies, such as the promotion of organic farming.

In Sri Lanka, an abrupt ban on fertilisers decimated crop yields sparking a mass uprising earlier this year.

Mansourah Massarah

For large mining organisations like Ma'aden, there are still plenty of other opportunities. The groups aluminium business also continued its strong performance, on the back of stable operations and increased sales.

Ma'aden continues to invest in long-term growth and is on track to increase its current gold mining capacity by 70% with a new plant in Mansourah Massarah, which is now in the commissioning phase.

It will be the largest gold project in the Kingdom and comprises two open pit mines under development in the country's central region.

The consortium executing the project is led by India's Larsen and Toubro, alongside Qutote, although the roll out has also

included a wide range of international and local contractors.

One interesting aspect is the hybrid energy plant that will feed power to the mine complex, which integrates solar and thermal technology – thought to be the first-of-its-kind for the Saudi mining sector.

It will comprise a hybrid-concept 56MW power plant encompassing six Wärtsila 20V32TS engines that enable and prioritise the use of photovoltaic (PV) solar power.

Reliability is key for any mine site for securing uninterrupted operations, but the dedicated power plant will also help to improve the project's economic and environmental profile through its integrated solar-themed make up.

In June, Ma'aden signed a separate deal to facilitate a study to develop the first solar stream project in the Kingdom to decarbonise its alumina refiner, another step in boosting its eco credentials – a common thread among the mining sector in 2022. When complete, the 1,500MW solar stream facility will cut carbon emissions by over 60,000 tonnes annually. This represents more than a 50% reduction at the alumina refinery and 4% of Ma'aden's overall carbon footprint.

Regional potential

The search is on for other mineral deposits and resources as well in Saudi and beyond, in order to expand and grow the region's mining industry further. The World Bank estimates that about three quarters of mining exploration investment is still concentrated in just a dozen or so countries – the likes of Canada, Australia, Chile and the USA –and this does not include any Gulf states.

There's no doubt, however, that there is ample scope for development across the Gulf region, away from these major global mining poles. As well as new Saudi mining laws, which have been well received by the industry, Riyadh is investing US\$250mn into the Saudi Geological Survey to identify new mineral resources, accompanied by a geological database with 80 years worth of information.

The Ministry of Industry and Mineral Resources is currently looking to offer more



The largest gold project in the Kingdom will comprise two open pit mines

Photo Credit : Adobe Stock

The Ministry of Industry and Mineral Resources are looking to offer more than 5,000 mine sites to attract more local and foreign capital into the sector

than 5,000 mine sites after new laws were passed to attract more local and foreign capital into the sector.

Saleh Al-Okapi, Saudi Industry and Mineral Resources Ministry Undersecretary, reckons these sites have mineral potential worth more than 5 trillion Saudi riyals. Some experts even reckon Saudi Arabia could emerge as a regional hub for the Middle East, and even Africa, as a key mining centre.

At a Future Mining Forum in Riyadh in January, Peter Leon, a partner at law firm Herbert Smith Freehills, who advised on the drafting of Saudi's new mining law, said the kingdom's relative stability was attractive given that a lot of minerals worldwide are located in challenging countries, often with rule-of-law issues.

Achieving its long-term objectives will, of course, mean attracting huge private sector investment as well, and there are signs of this already.

Companies taking part in the recent Riyadh forum included Ivanhoe Mines, Barrick Gold and Komatsu Mining Corporation.

Al Masane Al Kobra Mining Co. (Amak) is a private Saudi company already active, working in various segments, including gold, with its Guyana open-pit mine.

It began commercial production of copper and zinc concentrates in 2012 and is looking to massively hike output by as much as 80% by the end of 2023.

Intensifying focus

Saudi Arabia is by no means alone in looking to exploit its mostly untapped mining and minerals potential.

In the UAE, the list of minerals mined ranges from copper and gypsum to the extraction of metals and precious stones – the country is also regarded as one of the world's leading diamond trading hubs.

Given the current emphasis on the net-zero agenda, it is likely that the focus on finding new and additional sources of minerals will intensify, sucking in the countries of the Gulf as well as more traditional mining territories elsewhere.

Other mineral deposits are being searched for in Saudi Arabia in order to grow the nation's mining industry.

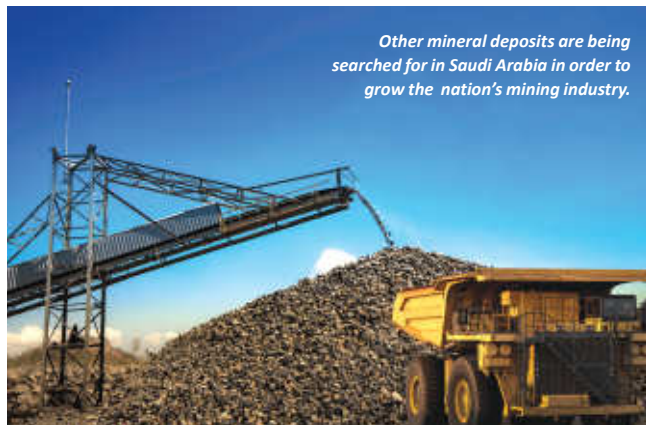


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A new World Bank Group report finds that the production of minerals, such as graphite, lithium and cobalt, could increase by nearly 500% by 2050, to meet the rising demand for clean energy technologies.

It estimates that more than 3 billion tonnes of minerals and metals will be needed to deploy wind, solar and geothermal power, as well as energy storage, required for achieving a below 2°C future.

That's a whole heap of pressure on the global mining industry to develop and there's no doubt that new markets, like Saudi Arabia, the UAE and others, will come into greater prominence.

Oman is another territory with plenty of potential for mining sector expansion, on top of a strategic location connecting the economies of the Gulf with Asia and Africa.

Similarly, it has prioritised the sector as part of wider, long-term economic goals.

In 2020, a royal decree dissolved the former Public Authority for Mining (PAM) and transferred its powers to the newly-created Ministry of Energy and Minerals to increase sector transparency and competitiveness.

In August 2021, the Ministry announced that it was setting up large concession mining sites, and smaller ones too, for local and international investors to bid on.

There is plenty already to build on with Oman the world's largest gypsum exporter by weight, shipping over 9 mn tonnes in 2019 mainly to Asia.

The production of minerals could increase by nearly 500% by 2050, to meet the rising demand for clean energy technologies.

There are also large deposits of chromite and copper, among other minerals.

Attracting investment

Opening up some of this potential to major international mining firms could help regional states like Oman, Saudi Arabia and others to build critical mass in the industry.

The ongoing development of the geological database is a key stepping stone.

For Oman, as in Saudi Arabia, part of the process entails mapping existing and known resources to help steer investments and guide strategy.

In April, Sander Geophysics Limited landed a two-year contract with Minerals Development Oman (MDO) to conduct airborne geophysical surveys covering approximately 21,480 sq km.

MDO was established in 2017 to invest in the Sultanate's mining sector. The survey work will obtain geophysical data – including magnetic, radiometric, electromagnetic and gravity – to enhance knowledge at surface and depth leading to better target mineral anomalies which will then be further tested to identify mineral ores.

Copper, chromite and other strategic minerals are all being targeted in the survey work, according to MDO's chief executive Nasser Saif Al Maqbali. As well as building a more comprehensive geological database, Maqbali also called it an "important step" in efforts to attract direct foreign investments and secure mining partnerships.

Most of the major mining houses will already be well versed in the region's potential, but will be guided by strict investment thresholds. Drawing in investment from more dynamic junior mining firms could also help mobilise some of these potential resources into actual projects.

Like in its oil and gas sector, Oman has already successfully attracted a number of smaller international players as part of efforts to upgrade the industry. Among them is Australia's Critical Resources Limited which has just extended its Block 4 and Block 5 exploration licenses, in Northern Oman, for the Sohah copper project, until June 2023.

The blocks are located within the copper-rich Ophiolite belt, which hosts clusters of high-grade copper deposits with gold and silver credits.

In Saudi Arabia, London-listed KEFI is exploring for gold through its Gold and Minerals Limited (G&M) joint venture, which pairs it with Abdul Rahman Saad Al Rashid and Sons Ltd.

Its primary target is the Jibal Qutman project, where it has already identified resources totalling more than 700,000 ounces of gold and demonstrated the strong economics of development via an open cut, heap leach operation.

The joint venture also holds the Hawiah project, which was discovered in September 2019 and now ranks in the top three base metal projects in Saudi Arabia.

These are still early days, but nurturing junior firms like this, and drawing in more private investment from overseas generally, could help provide the uplift the sector needs.

Although these companies represent only a tiny part of the industry for now, it bodes well for long-term growth and reflects well on the vibrancy of the region's mining sector. ■



Both large and small commission mining sites are being set up to attract investors to bid on.

Photo Credit: Adobe Stock

How radar aids efficiency of operations in mining

Radar level measurement instrumentation enables precise readings that improve performance.

IN THE MIDDLE East, especially in the UAE, some of the materials mined vary from copper and gypsum to a vast variety of minerals that are found in the region. Spread across the northern emirates, one such material is limestone with quarries that produce a variety of products like sand, road base and aggregate variants that serve a variety of uses in the building and construction industry.

The nature of the industry, much like the recent forecast in the UAE, is engulfed in dust amid a loud environment. The many processing stages at quarries consist of crushers, conveyors and stone bins which create harsh environments that require instrumentation capable of functioning and producing accurate readings that ensure the overall process is efficient and smooth running.

Limitations of ultrasonic level measurement

In the case of level measurement in stone bins, ultrasonic sensors enabled non-contact measurement that signaled speeding up or slowing down in relation to levels within the bins. When a threshold is reached (with the specific parameters being set), an alert is sent, whereby the entire process comes to a halt until the issue is addressed. The start and stop of processes can cause wear and tear of the bins as the solid medium is of heavy and rugged nature with harsh impact such as the crusher being choked.

Ultrasonic transmitters worked with the principle of sound waves travelling through air (the medium it requires to do so) being emitted and received back to make calculated readings.

Within dusty environments such as the stone bins, the air very quickly becomes polluted with tiny dust particles that acts as a barrier for the sound waves to travel through there by producing errors in level measurement readings. Along with dust particles in the air, there is always the case of buildup on the sensor's face, with time and constant contact with the dust within the bins, builds a physical barrier that can throw off readings due to sound wave interference. The consequences following this spans delays, damage and expensive repairs and replacements.

Radar requires no medium to travel through unlike ultrasound that requires air.

Radar – the obvious choice for precision readings

Radar on the other hand, requires no medium to travel through unlike ultrasound that requires air. Radar works on the principle of radio waves that travel through vacuum and are reflected back to the transmitter to make precise readings. Physical factors or



adverse conditions do not affect its transmission and reception capabilities as it surpasses these hindrances to produce the readings that it is set up to do.

VEGA's radar level measurement instrumentation range has proven to be the better option in terms of performance and adaptability to conditions of varying nature, dust or no dust. With its 80 GHz transmission frequency, a reliable and focused measurement is produced eliminating the aftermath of inaccurate readings, which becomes a thing of the past and a smooth operating facility is at its most efficient state.

THE 6X®, the latest innovation by VEGA is a versatile new radar level sensor that adapts to its requirements, be it bulk solids or liquids, was built to be a culmination of the best qualities of its predecessors. Built for precision, robust performance and security. ■

Grove introduces new jib option for crane

GROVE IS OFFERING a new heavy-duty jib extension for the Grove GRT9165 rough-terrain crane that increases the crane's utilisation abilities. It provides a competitive edge for setting precast concrete panels, as it's easier to transport and faster to set up than competitive cranes for tilt-up work.

The jib is 12.5 feet long and designed with two sheaves, for up to four parts of line, and is hydraulically offsettable from 0° to 50°. The compact but stout jib has a max lifting capacity of 68,600 lbs. The new jib has up to 20% greater capacities on average than its closest competition. The two-hook design gives operators tight precision when positioning panels, with the hydraulic jib controlled via an in-cab switch for faster operation and convenience.

The heavy-duty jib was designed to meet the fast-changing precast concrete panel market, one of the most common off-site techniques used during construction. This type of work is expected to grow 5.6% annually over the next five years alone. Its benefits include efficiency, cost reduction, speed, and more consistent quality. Precast concrete yields added environmental benefits, too, as the hollow core uses half the amount of concrete without compromising on strength. This results in up to a 25% reduction in a building's CO₂ construction footprint.

Wisconsin-based design-build contractor Miron Construction Co (Miron) is the first customer to use the new jib on its GRT9165. Miron's clients are rapidly shifting to precast concrete for healthcare, warehouse, manufacturing, and higher education builds across the country. The size of concrete panels is growing in tandem with demand, averaging 12-ft wide and over 24-ft in height, and weighing upwards of 60,000 lbs.

"It takes a larger crane to lift and rotate the concrete panels and vertically set them in place. Our precast jobs have a short duration and we wanted to minimise transport and setup costs," said Pete Klosterman, executive vice president, field resources for Miron.

Grove's new heavy-duty jib option for GRT9165



Miron Construction made its maiden lift with the jib in June.

Photo Credit: Grove

ALEC establishes strategic projects and developments division

ALEC, A CONSTRUCTION company operating in the GCC and Africa, has established a new division that will specialise in alternative engagement models – design and build, construction management, and turnkey developments – with the aim of delivering comprehensive value to clients from the project definition stage onwards.

Outlining the market drivers that prompted ALEC's decision to establish its strategic projects and developments division, Sean McQue, operations director at ALEC, said, "As we focus our efforts on pioneering a more sustainable future for our industry, we recognise that this requires the constant evolution and enhancement of our solution portfolio to deliver the most comprehensive value to our clients."

"After a rigorous cause-and-effect analysis of decisions made throughout a project's life cycle, we found that a

disproportionate amount of value can be created if the right decisions are made in the first 10% of the project's life cycle. Additionally, a collaborative environment and elimination of outdated practises, can further enhance this value," added McQue.

The single-point of contact delivery solution will be offered to clients as a means to add value and speed, from the outset of the project life cycle. In keeping with the company's focus on digitalisation of the sector, this solution will follow a digital-first approach with all stakeholders working in a common BIM and data environment. It will not only enhance efficiency, productivity and knowledge transfer resulting in a more streamlined construction process, but more importantly, it will create a smooth transition into handover and asset management by providing a digital twin of the asset.

The new division will be headed by Severin Tenim who said, "The launch of the new division aligns with ALEC's focus on steering the construction industry towards a sustainable future. Research has shown that tremendous value can be created across the entire project lifecycle if the right decisions are made in the critical early stages. Our aim therefore is to serve as the strategic delivery partner from the onset with the objective of de-risking asset delivery and as a result, enhancing overall investment performance."

While the fundamental principles of the division's solution are transferrable across multiple asset classes, Tenim and his team intend to specialise in owner-operator models, build-to-rent assets, mixed-use hospitality, and projects that lend themselves to a high degree of modularity including serviced apartments, residential apartments and mid-sized villas.

HAMM presents new generation earthwork rollers for all markets

HAMM'S NEW HC series – a new generation of earthwork rollers for all markets, achieve a high level of compaction power while simultaneously achieving a reduction in CO2 emissions. All models in the HC series are digital-ready since they can be equipped with various interfaces for the digital construction site.

At bauma 2022, the manufacturer is bringing together the two previous compactor series from HAMM – the 3000 series (Tier 3) and the H series (EPA Tier 4/EU Stage V) – with the HC series on one platform together with models with an operating weight of 11–25 t. The diesel engines comply with the regional requirements, and their power varies between 85 and 160 kW, depending on the weight. On all models, the drum width is 2140 mm. In addition to the previously known sales variants, in future, there will be CR machines with reinforced components for applications on difficult terrain and special equipment for applications on rocky ground.

The HC series is recognisable from the new, athletic design and the view channel in the engine hood. A new frame concept also guarantees increased tank volume; in particular, in future, the heavy compactors



The models sport high-level compaction power while reducing CO2 emissions.

will be delivered to the construction site with a 336 l fuel tank.

In comparison to the predecessor models, HAMM has increased the compaction power. The manufacturer has increased the centrifugal force by up to 15%, and the static linear load is as high as 80.6 kg/cm. There are innovations when it for the steering: A new cast articulated joint with articulated joint lock allows for a greater steering and swing angle with improved kinematics. Thanks to the optimised weight distribution in combination with the Traction Control, the gradeability has also been further improved. Furthermore, the front vehicle and the scraper have been redesigned. This has resulted in significantly increased clearance on the drum.

FP McCann adds Rokbak articulated hauler to its fleet

FP MCCANN, ONE of Northern Ireland's largest quarry operators, added a second Rokbak RA30 articulated hauler to its fleet in March. "All our haulers work long hours but have proven their worth over the years as tough and dependable, so there was never any real incentive to change brands," said Chris McCloy, quarry manager at FP McCann's Knockloughrim Quarry.

The 28-tonne capacity Rokbak RA30 includes ZF's EP320 fully automatic gearbox, which offers the opportunity to extend oil maintenance intervals from 1,000 to 4,000 hours with the use of long-life transmission fluid. The transmission also enabled a 5% improvement in fuel efficiency. With its 8F/4R gears offering a higher overall gear ratio spread, equal ratio steps between gears and optimised, smoother gear shifting with partial load

shifts, maximum speed has increased from 50 km/h (31 mph) to 55 km/h (34 mph), enabling faster cycle times and improving manoeuvrability around the quarry to deliver a lower cost per tonne.

Other interval periods between services have also been extended to their optimum level.



Rokbak RA30 comes with a fully automatic gearbox among other features.

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Azelio and Elum Energy collaborate for energy storage solutions

AZELIO AND ELUM Energy have partnered to deploy a solution to maximise the penetration of renewables and develop efficient control solutions for installations combining solar PV and long-duration energy storage. Bringing together both companies' advanced technologies, the solution sees Elum's monitoring and control working with Azelio's thermal energy storage system.

Elum Energy is a monitoring and control solutions provider for solar plants. Its ePowerControl MC is a controller used for microgrid applications with an energy storage system. It maximises PV penetration and the seamless integration of energy sources like PV with diesel generators alongside with a grid.

"We are very excited to partner with Azelio. Elum's ePowerControl technology will truly bring integration flexibility and standardisation robustness to demanding installations," said Cyril Colin, CEO of Elum Energy.

Azelio's TES.POD system makes renewable energy accessible and affordable at all hours of the day. The system stores energy, for example from solar PV, as heat in recycled aluminum. Stored energy is

dispatched on demand for supply of electricity and usable heat, with zero emissions. As a 100% fossil replacement, the system can be widely used to secure cost-effective and reliable clean energy.

"With industries and consumers around the world lacking a dependable and sustainable energy supply, Azelio's solution is ready to meet a critical need. We are proud to be partnering with Elum Energy, a market leader whose expertise in monitoring and control solutions will further optimise our system with solar PV," said Azelio's CEO, Jonas Wallmänder.

Where grid connections are unreliable, expensive and fossil-based, coupling the advanced control algorithm of Elum's ePowerControl MC with the innovative energy storage technology of Azelio's TES.POD system, provides stable and reliable energy. End users can maximise PV penetration by making solar power available around the clock, and thereby reduce diesel fuel consumption during night time.

One of the key applications for the Azelio-Elum partnership is off-grid agriculture, where long-duration energy storage is a must. In contrast to the diesel

generators currently used, the joint solution design aims to cover 80% of power needs with renewable sources and long-duration energy storage. The goal is to significantly reduce the fuel consumption of the project to provide more savings and price stability for the customer over time.

Azelio and Elum Energy are committed to deploy projects in the Middle East, Africa and the US.

Azelio specialises in energy storage with electricity and heat production. The technology is revolutionary in that the energy becomes dispatchable, making renewable energy available around-the-clock. The energy is stored in recycled aluminum and converted into electricity and heat with a total efficiency of up to 90%. The solution is scalable, sustainable, and cost-efficient from 0.1 MW up to 20 MW.

Elum Energy is an energy and automation company that supplies monitoring and control solutions for solar standard and hybrid energy systems. The company's energy management systems (ePowerControl) are turnkey, plug and play, brand-agnostic, and suitable for solar power generation facilities coupled with diesel generators and/or energy storage.

One of the key applications for the partnership is off-grid agriculture.



Photo Credit : Adobe Stock

The AFP audio frequency probe completes BAUR's range of cable solutions

MEASUREMENT ENGINEERS NOW get a much faster and satisfactory answer to both of these questions as BAUR has now added the AFP audio frequency probe to the protrac system to provide valuable functions for cable fault pinpointing and tracing with audio frequency.

The AFP audio frequency probe has a three-dimensional space coil, which simplifies handling and delivers more accurate results. This in turn speeds up both the cable tracing and the pinpointing short-circuits between phases. In fact, the audio frequency probe has four coils – the fourth coil is used for the depth measurement, which can be done as a direct measurement or by the 45° angle method. Using these two measurement methods, it is possible to reliably determine the laying depth, even in difficult conditions. This reduces the risk of imprecise, lengthy excavations and potential cable damage.

The AFP is easy to operate – there is no need to manually align coils or the receiver, and all important information can be captured and verified in a single sequence. Operators are able to use the minimum, maximum, C-Max or twist and minimum distortion methods process to carry out their task. Assistance is provided during tracing by the tracing compass function and the deviation alert, which indicates interference (for example, by overhead lines), avoiding leaving the correct route.

The BAUR 3D History Track is another innovative and helpful display function. It presents the data of the three coils over the lapsed time period, simplifying the twist and minimum measurement and thus the determination of lay length, joint or fault positions.

The new BAUR AFP audio frequency probe completes the available range of tracing and cable fault pinpointing solutions. With the CU control unit, AGP acoustic ground probe, new AFP audio frequency probe, SVP step voltage probe and optional Bluetooth headphones, the protrac system now offers everything the operator needs.

The clearly uncluttered set supports acoustic/magnetic pinpointing with



The AFP has a 3D space coil, which simplifies handling and delivering accurate results.

Photo Credit : BAUR

surge voltage generator; twist method for locating short-circuits in three-phase cables; minimum distortion method for locating short-circuit faults in coaxial cables; tracing with all known methods (minimum, maximum, C-Max), and measuring probe for locating sheath and earth faults.

For more information, visit: <https://www.baur.eu/en/protrac>



The AFP has a fourth coil for depth measurement.

Photo Credit : BAUR

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Potential of digitalisation

Technical Review Middle East spoke to Feras Juma, IoT & integration solutions director MET at Software AG, on the risks and rewards of implementing digital strategies in power generation.

Feras Juma, IoT and integration solutions director, MET, Software AG.



Photo Credit: Software AG

Technical Review Middle East (TRME): With the energy transition becoming a top priority, what are the positive trajectories for investments, technologies and new areas of growth which help accelerate ambition to reality?

Feras Juma (FJ): With increasing demand for cleaner energy, it is essential for organisations within the energy sector to improve reliability through predictive maintenance, reducing their overall cost by enabling supply chain visibility and increasing workforce efficiency through digital enhancement.

This has led organisations to activate their digital transformation initiatives such as adopting various programmes including Asset Performance Management as well as Predictive Maintenance. These programmes will enable organisations to better monitor and control their energy footprint, identify possible reductions, and accelerate their overall investments. Our showcase at GITEX Global this year will demonstrate several IoT led programmes and use cases for the sector.

“The core of the digital transformation programme is establishing a digital backbone, comprising different capabilities.”

TRME: What is the role of digital transformation and IoT in UAE's net zero ambitions?

FJ: The core of the digital transformation programme is establishing a digital backbone, comprising different capabilities around business processes, IT portfolio management, hybrid integration, IoT, analytics, API management and mainframe evolution. Having this digital backbone in place, will enable an

organisation to be truly connected, with enough room to innovate and implement its future plans.

The UAE announced its intention to reach net zero by 2050, as part of the UAE Net Zero 2050 strategic initiative, becoming the first Middle Eastern and Gulf country to do so. Having an IoT Platform is an example of capability as a core enabler for UAE's net zero plan, for the various government organisations such as electricity and water providers, transportation authorities, infrastructure, and others, to be able to continuously monitor and reduce their emissions footprint and establish alternative and cleaner energy sources.

TRME: What challenges are companies in the Middle East facing in executing digitalisation?

FJ: There are many challenges that can delay the adoption of a digital transformation programme. For example

- An organisation not being able to understand its existing integration obstacles, having inconsistent connectivity between systems, too many data islands created by the inability to easily combine data from automation systems, robots, and machines.
- Organisations not being able to quantify their expected ROI, calculating the actual cost versus benefits for adopting the transformation programme for establishing the new innovative capability.

TRME: What is the statistical impact of digitalisation currently?

FJ: Those organisations from the Utilities & Energy sector who implemented an Asset Performance Management programme for example, were able to implement a majority of reliability and restoration best practices, with a SAIDI 'System Average Interruption Duration Index' 7% below average and a SAIFI 'System Average Interruption Frequency Index' 22% below average. It has also been noted that implementing a predictive maintenance as part of an Asset Performance Management programme allows on average 25-30% reduction in maintenance costs, 70-75% elimination of breakdowns, and 35-45% reduction in downtime. ■

ABB and Hydrogen Optimised expand hydrogen partnership

ABB HAS SIGNED an agreement for investment into Key DH Technologies Inc, the parent company of Hydrogen Optimised Inc (HOI), the technology innovator unlocking green hydrogen production at scale. The investment aims to accelerate the fast-emerging green hydrogen production segment.

Hydrogen produced with low-to-zero carbon dioxide emissions is widely recognised as essential to achieving net zero emissions by 2050.

By accelerating the strategic collaboration between ABB and HOI launched in 2020, the two companies are advancing the deployment of economic large-scale green hydrogen production systems to decarbonise industries including – energy, metals, cement, utilities, ammonia, fertilisers, and fuels for aircraft, ships, trucks and rail.

The companies will leverage their respective capabilities and resources to rapidly commercialise HOI's patented RuggedCell high-power water electrolysis technology for the world's largest green hydrogen plants. Water electrolysis is the process of applying electrical energy to split water into hydrogen and oxygen. RuggedCell technology converts renewable electricity such as



Hydrogen produced with low-to-zero carbon dioxide emissions is widely recognised as essential to achieving net zero emissions.

hydro, solar and wind power into green hydrogen for industry.

“We look forward to building on our companies’ two-year working relationship to pursue the enormous global opportunity of green hydrogen,” said Joachim Braun, division president, ABB Process Industries. “Following a rigorous validation of the RuggedCell technology, we are confident that, in combination with ABB’s high-power rectifiers, it can become a category leader in the large-scale green hydrogen segment.”

“This agreement positions us

for success in the large-scale segment with customers requiring installations in the hundreds of megawatts to multi-gigawatts,” said Andrew T B Stuart, president and CEO of KEY and HOI. “ABB’s global footprint, commercial relationships and technology leadership in high-power rectifiers, distributed control systems and manufacturing automation provide us with the market reach and capabilities to achieve our company’s goals.”

Global electrolyser capacity will reach an estimated 3,100 gigawatts by 2050, according to a June 2022 report published by

DNV. The group forecasts that electricity-based green hydrogen will be the dominant form of hydrogen production by the middle of this century, accounting for 72% of output.

The proceeds of ABB’s investment into KEY, led by ABB Technology Ventures (ATV), will be used to advance HOI’s intellectual property development, build up corporate capabilities for increased business activity and introduce automated manufacturing and robotics. This will accelerate the rollout of gigawatt-scale electrolyser manufacturing.



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At the forefront of sustainability

WETEX and Dubai Solar Show (DSS) take place from 27-29 September 2022 at the Dubai World Trade Centre.

DUBAI ELECTRICITY & Water Authority (DEWA) is organising the 24th WETEX and DSS under the directives of HH Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, and under the patronage of His Highness Sheikh Ahmed bin Saeed Al Maktoum, chairman of the Dubai Supreme Council of Energy.

WETEX and Dubai Solar Show offer a platform to display the latest technological advancements and discuss the trends related to energy, water conservation, saving natural resources and building a sustainable environment. They provide an ideal opportunity for local and international companies and organisations to share and showcase their products and services, along with offering a forum to share best practices and experiences with exhibitors from around the world.

The annual exhibition witnesses major participation from regional and global companies promoting their products and services in the fields of energy, water, sustainability, green technologies, renewable and clean energy, conservation, green buildings, electric vehicles and other vital sectors. Last year's event attracted 1,200 companies from 55 countries, 61 sponsors and 10 country pavilions. Sponsors and participating companies this year include leading names such as ACWA Power,

WETEX and DSS consolidate Dubai's position as a global platform for the latest technologies for water, energy and the environment.



Photo Credit: WETEX

WETEX is the largest exhibition for water, energy sustainability and innovative technologies in the region.

Siemens, SWCC, Jeddah Cables Company, Masdar, Hyundai, Metito, Etihad Water & Electricity, Ducab and EGA.

HE Saeed Mohammed Al Tayer, MD and CEO of DEWA, founder and chairman of WETEX and DSS, said, "The continued support of the wise leadership for WETEX and DSS has made it the largest exhibition for water, energy, sustainability, and innovative technologies in the region, and one of the largest specialised exhibitions globally. The exhibition is a forum for experts and specialists from around the world to discuss innovative solutions for countering challenges in the clean and renewable energy sectors as well as water, oil, gas, green economy, smart grids, and sustainability, among other sectors.

"WETEX and DSS consolidate Dubai's position as a global platform and a role model for providing the latest technologies for water, energy, and the environment. It also promotes the Emirate's position as a global hub for clean energy and a green economy. Moreover, the exhibition supports DEWA's efforts to

achieve the Dubai Clean Energy Strategy 2050 and the Dubai Net Zero Carbon Emissions Strategy 2050 to provide 100% of Dubai's total power capacity from clean energy sources by 2050."

The exhibition provides visitors with the opportunity to participate in a wide range of specialised seminars and workshops run by prominent experts and specialists from around the world. Last year's topics covered sustainability; renewable and clean energy; green hydrogen; water desalination using clean energy; carbon capture; circular economy; renewable energy production and storage; turning waste into energy; Artificial Intelligence (AI); emerging technologies in utilities; smart meters and networks; post-COVID-19 innovation, and other topics.

DEWA is organising several field visits, showcasing its key projects and the latest innovations in sustainability, clean and renewable energy, including the Mohammed bin Rashid Al Maktoum Solar Park, and DEWA's Innovation Centre. ■

For further information see www.wetex.ae.

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'The world needs more diverse solar panel supply chains'

ENSURING A SECURE transition to net zero emissions will require increased efforts to expand and diversify global production of solar panels, the IEA said in a new special report.

Global manufacturing capacity for solar panels has increasingly moved out of Europe, Japan and the US over the last decade and into China, which has taken the lead on investment and innovation. China's share in all the key manufacturing stages of solar panels exceeds 80% today, according to the report, and for key elements including polysilicon and wafers, this is set to rise to more than 95% in the coming years, based on current manufacturing capacity under construction.

Annual additions of solar PV capacity to electricity systems around the world need to more than quadruple by 2030 to be on track with the IEA's pathway to reaching net zero emissions by 2050. Global production capacity for the key building blocks of solar panels – polysilicon, ingots, wafers, cells and modules – would need to more than double by 2030 from today's



Photo Credit: Adobe Stock

Annual additions of solar PV capacity to electricity systems around the world need to more than quadruple by 2030.

levels and existing production facilities would need to be modernised.

Governments and global stakeholders have begun to pay increasing attention to solar PV's manufacturing supply chains as high commodity prices and supply chain bottlenecks have led to an increase of around 20% in solar panel prices over the last year. These challenges – particularly apparent in the market for polysilicon, a key material for making solar panels – have resulted in delays in solar PV deliveries across the globe and higher prices.

The report examines solar PV supply chains from raw materials all the way to the finished product, covering areas such as energy consumption, emissions,

employment, production costs, investment, trade and financial performance. It finds, for example, that the electricity-intensive manufacturing of solar PV is mostly powered by fossil fuels today because of the prominent role of coal in the parts of China where production is concentrated – but that solar panels still only need to operate for four to eight months to offset their manufacturing emissions. This brief payback period compares with the average solar panel lifetime of around 25 to 30 years. The special report assesses the opportunities and challenges of developing solar PV supply chains in terms of job creation, investment requirements, manufacturing costs, emissions and recycling. It finds that new solar PV manufacturing facilities along the global supply chain could attract US\$120bn of investment by 2030. And the solar PV sector has the potential to double the number of PV manufacturing jobs to 1 mn by 2030, with the most job-intensive areas in the manufacturing of modules and cells.

Trina Solar launches advanced PV panels in ME and Africa

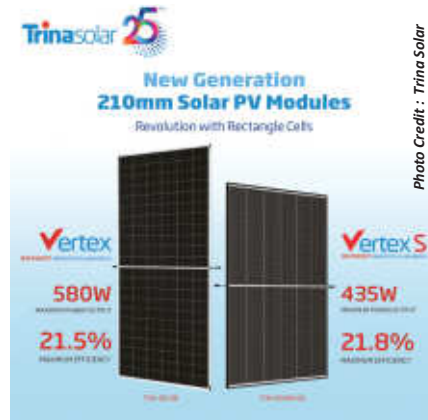
TRINA SOLAR, A global provider of photovoltaic (PV) modules and smart energy solutions, are announcing the availability of the new next-generation photovoltaic vertex panels to the Middle East and Africa region.

Trina Solar's Vertex modules are the latest innovative upgrade to the 210mm Vertex technology platform with rectangular cells – the first-ever non-square cells – and a lower number of cells with better hotspot performance, producing both an optical and electrical performance of 2-3%.

The new Vertex 580W technology consists of next-generation PV cells that provide up to 580W maximum power output, 21.5% module efficiency and string power with high density interconnect technology. The new Vertex S series provides up to 435W maximum power output, 21.8% module efficiency and string power with high density interconnect technology.

With this year's new PV installation estimated to exceed 200GW, the aim of launching Trina Solar's new Vertex modules is to create higher value to customers of each market segment and promote continuous innovation of the industry.

The upgraded Vertex module's innovation



The next-generation platform comes with rectangular cells.

lies in its high efficiency, better reliability and more energy yield. Its revolutionary features include innovative low voltage and high string power leading to reduced BOS (balance of system) cost, and shorter payback time, also generating a huge amount of energy even in a limited space.

It features an optimal size and weight, making it economical and easy to handle for transporting with diverse installation solutions and is suitable for applications below 20kW. It involves multi-busbar (metallic strip)

technology for better light trapping effect, lower series resistance, and improved current collection resulting in a model with a higher return on investment (ROI).

The module is also characterised by high customer value and reduced labour costs with its lower LCOE (levelised cost of energy). Moreover, it has the lowest guaranteed first year and annual degradation and is designed for compatibility with existing mainstream system components.

Furthermore, it reduces the installation cost with a higher power bin and efficiency while boosting performance in warm weather, with its lower temperature coefficient (-0.34%/°C), and operating temperature.

Lastly, the module has a mechanical performance of up to 5400 Pa pressure positive load and 2400 Pa negative load, and the unique design provides optimised energy production under inter-row shading conditions.

Trina Solar's products and systems are recipients of multiple ISO certifications across several functions including quality management, environmental management, greenhouse gases emissions, and occupational health and safety management.



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BARCO

The heartbeat of industry: bauma 2022

The 33rd edition of bauma is returning to Munich to showcase the best of the international construction, building materials and mining machinery industry.

More than 3,000 exhibitors will be showcasing their portfolios at the trade fair.

FROM 24-30 OCTOBER 2022, the Trade Fair Centre Messe München, Germany, will open its doors once again for the world's leading trade fair for construction machinery, building material machines, mining machines, construction vehicles and construction equipment.

When the last edition came to a close – just before the outbreak of the pandemic in 2019 – more than 620,000 visitors had wandered around the show which covered a staggering 600,000 sq m of exhibition space. After achieving an overall rating of 95%, excitement is building for the acclaimed event this year as industry professionals regain their appetite for in-person networking following several years of doing so through virtual platforms. At bauma this year, attendees will get the chance to investigate products and solutions which are being displayed by more than 3,000 exhibitors from 58 countries – a unique opportunity not to be missed.

At the new Innovation Hall bauma LAB0 keynotes, podium discussions, exhibitor presentations and individual talks will explore the most pressing issues facing businesses today and serve as a platform for thought leadership and knowledge transfer. Alongside the Science Hub, Start-up Area, and Machines in Construction 4.0 stand in the Innovation Hall will be the bauma Forum running from the 24-28 October. Each day will be dedicated to one of the event's five key topics including:

Construction methods and materials of tomorrow: Exploring the key challenges facing the industry today and the construction

machinery innovations and new materials being developed to solve them;

The way to autonomous machines: Exhibitors and speakers will discuss the many milestones to be achieved before full automation is reached within construction and mining equipment;

Mining – sustainable, efficient, reliable: Focusing on the questions of the future for the mining industry complete with live demonstrations and the presentation of new research findings;

Digital construction site: Showcasing real-life examples and presentations of the latest developments within digital planning and construction;

The way to zero emissions: Unboxing the vision of 'zero emissions' and investigating how the construction and mining industries can reduce their impact on the environment.

This supporting programme, which also includes facets such as the International bauma Innovation Award and the THINK BIG! Career event for students, will ensure that everyone who attends the event will come away with the most up-to-date information and opinions shaping the working environment today.

While the supporting presentations and discussions will be sure to hold the attention of any visitor arriving in Munich, it is the exhibitors that will form the impressive spine of bauma 2022. Across the enormous exhibitor area, the host of companies will showcase their products, solutions and innovative designs ready to drive the construction and mining industries forward.

Caterpillar



The company will present under the theme 'Let's Do the Work'

A familiar face for any bauma veteran is Caterpillar, who are once again returning to the international trade fair to display their formidable offering. The company will present under the theme 'Let's Do the Work' and its overarching message will expand beyond the equipment to highlight its broad range of technology, services and sustainability solutions.

Caterpillar's exhibit will feature more than 70 pieces of Cat equipment and attachments from Caterpillar Construction Industries and Caterpillar Industrial Power Systems Division will display multiple Cat engines from its diverse product range.

Among these will be the new Cat 336 hydraulic excavator which offers high production and low-cost operation. Its new 1000-hour oil and fuel filters extend service intervals and reduce parts and labour costs. Alongside this new release are the recently introduced Cat 906, 907 and 908 wheel loaders. These models feature a re-engineered operator's station that leverages exclusive Caterpillar technologies to improve

operator experience and the new Cat 2.8 engine with an upgraded drive and powertrain for faster roading speeds and drivetrain performance. With these representing just the tip of the iceberg of the Cat portfolio at bauma, the industry goliath is surely putting on a show to make sure there is something for everyone who visits.

Bobcat



Photo Credit : Bobcat

The new 500 and 600 Series compact loaders were introduced to strengthen the company's position in the MEA region.

At bauma this year, Bobcat will be showcasing a range of new MEA products which are being shown for the first time at the show. Amongst this offering are the new 500 and 600 Series compact loader models which were introduced to strengthen the company's position within the Middle East and Africa (MEA) region.

The loaders have been designed to provide operators with increased performance, enhanced comfort and optimised maintenance requirements to maximise job site efficiency – for example, every new model has a cloth suspension seat option to improve operator comfort in hot weather and on slopes and inclines. Another option is the auto ride control option which improves operator comfort while driving with a load in the bucket on rough terrain.

Gaby Rhayem, regional director Middle East and Africa at Doosan Bobcat EMEA, commented, "The new 500 and 600 Series introduce a fresh look for our market-leading loaders in MEA. In the new S510 and S530 models, the compact size is maintained but customers also benefit from the higher torque and performance of a new Interim Tier 4 engine."

Wirtgen



Photo Credit : Wirtgen

At bauma 2022, Wirtgen is showcasing numerous slipform pavers innovations and a world premiere.

Alongside its slipform pavers offering numerous innovations and its complete paving train for fully reinforced concrete paving, Wirtgen is bringing a world premiere of its SP 20(i) offset paver to bauma this year.

With the new machine, Wirtgen offers its customers the ideal combination of productivity and mobility. Despite the large paving widths and heights it offers, the machine has a low transport weight and compact dimensions. The production of concrete safety barriers with a height of up to 2m and the paving of flat surfaces with widths of up to 2.5m are typical applications for the SP 20(i) offset paver.

This will be presented alongside the veteran SP 15(i) which has been delivering outstanding performance in a wide range of applications around the world for many years. In Munich, it can now be seen in a version fitted with a 'Curb Depressor Mould'. This enables the automatic paving of lowered curb profiles, such as, for access to driveways. The paving process can proceed without interruption, and the need for manual reworking is significantly reduced.

Manitowoc



Photo Credit : Manitowoc

Potain MDT 489.

Two Potain tower cranes will be introduced by Manitowoc at bauma 2022: a luffing jib crane and a topless crane. The company has stated that they will be sure to deliver trademark features such as quick and easy transport, fast assembly, impressive capacity, fast and precise hoists and productivity on-site.

"There is so much focus on infrastructure right now that we want to show how Potain offers solutions for all applications," said

Thibaut Le Besnerais, vice president for brand and product management, tower cranes at Manitowoc.

Shouldering the new releases will be a range of other Potain cranes at the booth. There will also be an extensive Potain Customer Centre, containing videos and interactive exhibits to highlight the range of lifetime customer support services and technologies that Potain customers can access.

Liebherr



Photo Credit : Liebherr

Numerous new products and developments will be on show.

Few will be surprised to see Liebherr making another appearance at bauma 2022 and, at this year's edition, the company will be offering visitors unique opportunities to discover first hand the latest developments in construction machines, cranes, material handling technology, mining and components.

Numerous new products and developments will be on show and interested parties can find out more about new products from the comprehensive programme of Liebherr tool attachments / implements and quick coupler system.

Among the solutions and equipment on display, Liebherr will present its new mixing plant generation – the new edition of Betomix which will be available from 2023 in Germany, Austria and Switzerland with the global market launch to follow soon afterwards. The new Betomix and Mobilmix mixing plant series can be flexibly combined using prefabricated modules and replace several predecessor series. This means, for the customer, more freedom when configuring the plants, shorter delivery times, faster assembly and increased parts availability.

Described as 'the heartbeat of our industry', there will be few problems or challenges within the mining and construction world which cannot be addressed by the innovations and solutions on display at this year's bauma. ■

Goldhofer to present next generation solutions at bauma



Photo Credit : Goldhofer

At bauma 2022, visitors can look forward to various advanced and optimised solutions.

AT BAUMA 2022, Goldhofer will be presenting the world premiere of a completely new vehicle concept – the »FT SERIES«. With a focus on outstanding operational flexibility, it combines simple handling with the versatility needed to meet a wide variety of transportation needs. Another product that visitors can look forward to is the latest addition to its STAR family – the »TRAILSTAR«. This three- to five-axle air-suspension trailer has a range of features for optimum use of the loading area and centre of gravity plus superb maneuverability. Another big attraction will be a further model from the proven »STEPSTAR« line, the new force-steered »STEPSTAR«Z.

The company's latest heavy haul solution will not be unveiled until the start of the trade show. "With our »FT SERIES« all customers will get exactly the transportation solution they need. What's more, a retrofit-friendly design is the key to extremely flexible and future-proof working, so that customers can configure their fleets on a variable basis for many years to come," revealed Matthias Ruppel, CEO at Goldhofer AG.

The Goldhofer stand will also feature other attractions in the form of advanced and optimised Goldhofer transportation solutions:

Trailing dolly for transporting concrete beams and bridge elements

The »BLADES« plus trailing dolly has been highly successful as a blade carrier for the wind power industry. Driven by the wind, the concept has now been optimised and extended for use in the construction industry in general, for example for transporting concrete beams, structural components or entire bridge elements. For this purpose, the air-suspension trailing dolly is used in combination with a 2-axle front dolly with a turntable. Such versatility guarantees a fast ROI for the trailing dolly and makes it all the more popular with customers.

Stable and safe in wind with the FTV 850

The blade carrier for extra-long and heavy turbine blades is

mounted on a four-axle, self-propelled PST/SL-E split combination (1/2+1/2) widened to 4,010 mm. The new solution is designed for maximum stability and safety – even on the most challenging routes.

When the loads are really heavy – »ADDrive« 2.0

The heavy-duty module, which can be used as a towed or self-propelled unit, boasts a number of modifications – especially for highly complex and ultra-heavy transports. Its larger hydraulic pumps and additional drive axles mean increased tractive power and higher speeds. For maximum flexibility, the dedicated »ADDronic« synchronisation software allows several »ADDrive« modules to be used in combination with THP or PST modules.

Good, better, deeper – »CargoPlus«

In the world of heavy haul, a few centimetres in overall height are often decisive when planning the route. The »CargoPlus« low-profile tire is the ideal solution for avoiding detours. Developed in collaboration with HBI Tires & Wheels, the innovative tire delivers decisive savings in centimetres for the same axle load.

"Meeting the needs of every single customer at Bauma is a Herculean task. And we will achieve it – because our broad mix of vehicles, plus diverse fittings and accessories, cover the widest possible range of transportation operations. I am convinced that our product portfolio offers the ideal solution for everyone, from freight forwarders and heavy haul companies to building contractors and mine operators," said Robert Steinhauser, sales manager, Europe / North Africa at Goldhofer.

A strong partner

Under the motto 'Partnership for all transportation requirements', Goldhofer will also be providing information about its growing service and support offering.

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Effective management of any supply chain will ensure commodities are on the shelves at the right place and time.

Photo Credit : Adobe Stock

A region of supply chain management opportunities

For any supply chain to be efficient, it requires effective Supply Chain Management, says Tim Guest.

Local and regional challenges such as disparate workforce capabilities and diverse languages result in multiple issues that can hinder SCM.

SUPPLY CHAIN MANAGEMENT is the handling of every aspect of the production flow of goods from raw components entering a manufacturing process, all the way to the delivery of a final product to the consumer. A major brand company, for example, will establish a network of suppliers and distributors – the links in their supply chain – which move the product along from those who supply raw materials to those who deal directly with product end users.

But while supply chains in places like Europe and the US have implemented much automation and other latest technologies and software into their operations, thereby enabling increasingly effective SCM, the picture in the Middle East is somewhat different. Here, local and regional

challenges and contrasts, such as disparate workforce capabilities and practices, as well as diverse languages, result in multiple issues that can hinder supply chain efficiency and management.

However, while this set of conditions does mean supply chains and their management in the region are not always on par with those in other international markets, this state of affairs does present great opportunities for development of SCM in the region.

At the moment in the Middle East, an international brand owner wanting to do business in the region, such as Procter & Gamble, Unilever or Pirelli, to give just a handful of examples, will typically contract with a local trading company, which, in turn, gives the brand exclusive access to this market.

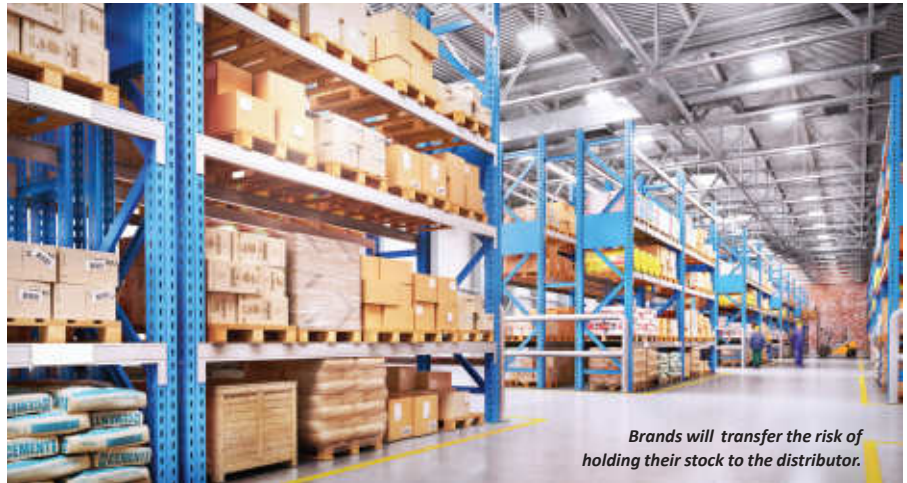
As part of establishing a relationship with the local distributor, the brand will invariably transfer the risk of holding their stock to that distributor, and the local distributor then effectively runs the market for those products through their own existing channels into the whole region.

However, the Middle East has long lead times, with much of the manufacturing for the market taking place in Asia or Europe and regional end users often have to wait longer than other overseas counterparts for their goods. There are some exceptions in the FMCG world, with the likes of P&G for which the Gulf is a key manufacturing base.

While this is a positive in some aspects, as the distributors handling the brands are typically exclusive, this results in their having to hold very large minimum order quantities (MOQs) in their warehouses, which adds to supply chain management constraints in the region. Long lead times, big MOQs, and service levels to the distributor's channels – all affect the distributor's inventory holding and any chance of effective SCM. And while the combination of long lead times and the need for large MOQs create their own set of challenges, others emanate from within regional supply chain capabilities themselves – they're simply not mature enough, as yet, and this typically comes through the adoption of latest software solutions.

One way around any regional supply chain weaknesses is to consider international expertise with local presence.

Certainly, the implementation of enterprise resource planning (ERP) solutions is taking place offering an accepted backbone to any distribution, or supply chain business, in turn supporting more effective SCM. But a lot of supply chain planning in the Middle East still takes place in silos rather than from an end-to-end perspective. This is unlike the US or Europe where manufacturers are also sometimes responsible for the management of their own supply chains from beginning to end; to do so they implement latest digitisation processes and software solutions to optimise SCM.



Brands will transfer the risk of holding their stock to the distributor.

Photo Credit: Adobe Stock

This is not yet seen a lot in the Middle East and, as a result, the current level of supply chain maturity in the region offers major opportunities for supply chain players with the right skills.

International expertise with a twist

One way around any regional supply chain weaknesses is to consider international expertise with local presence. One such case is that of franchisee, Mercurius, which recently set up its first franchise operation in the UAE for global furniture retail chain, JYSK.

What the JYSK brand needed was for its whole supply chain to Mercurius in the UAE to be established and managed, including sea freight, warehousing and logistics. For all these aspects they partnered with an international supply chain company, though one with regional presence and expertise, DSV, which gave all the advantages of a mature market supply chain player, but with that extra local advantage.

Working with DSV gave JYSK access to advice about local company registration and documentation, as well as having customs clearance, last-mile deliveries to stores, and even home delivery services with furniture assembly for the customer all handled and managed effectively.

But most importantly for JYSK, DSV, with some of the most advanced SCM software solutions in place, was able to manage and optimise JYSK's supply chain to keep costs down and help establish and build their brand presence and promise, locally. DSV in the UAE is now JYSK's official transport and logistics partner, providing English-speaking delivery staff, uniformed teams and branded trucks.

Local software expertise

When it comes to having access to latest supply chain software and consultancy expertise locally, a number of players

including SC Junction, PwC, IBM and others have, established presence in the region for many of the reasons stated above. Dubai, for example, has become the logistical link between east and west and some local supply chain leaders have said nothing could have been more impactful underlining the need to develop SCM in the region than Covid-19.

Images of empty shelves in malls and supermarkets led to executives across the region having a better understanding of their supply chains, what demand planning is and how important it is their supply chains operate using latest software.

For its part, international supply chain software company, SlimStock, with local presence in Dubai, is actively educating local supply chain professionals through industry networking and other initiatives about latest software solutions.

The company uses AI and machine learning in the development of its solutions, which optimise end-to-end operations and handle such processes as forecasting, demand planning and collaboration so businesses can overcome any supply-chain obstacles.

In Turkey, for example, where food retailer, Carrefour SA, regularly struggled with out-of-stock situations, it needed to optimise its supply chain. It already had experience with an SAP ERP solution, following evaluation of Slimstock's Slim4 complete supply chain optimisation platform, that's what the company chose; Slim4 offered everything Carrefour needed, including forecasting, demand planning, inventory optimisation and collaboration, and by implementing the software it succeeded not only in standardising, centralising and automating the replenishment of its channel and stores, but eliminating those out-of-stock situations, for good. ■

Building the supply chain catalog in the UAE

Technical Review Middle East speaks to Piyush Malviya, senior director (international operations) and head, MEA on how Moglix is reinforcing the manufacturing infrastructure in the UAE.

Technical Review Middle East (TRME): The manufacturing sector supply chain network is fragmented and the offline buying and procurement process of industrial goods is complex. How did Moglix overcome that hurdle?

Piyush Malviya (PM): The combinatorial effect of these features was that important information on purchase orders, best prices quoted by suppliers, and operational excellence metrics were lost in phone calls, paper records, emails, and instant messages. It led to every stakeholder working in a silo.

A paradigm shift was crucial, hence Moglix moved towards the transformation of 1000+ manufacturing enterprises and 3000+ plants through just-in-time delivery and efficient as well as economically viable and tech-led procurement mechanism. Our technology led approach brings together the best of all solutions to a single window. We offer one integrated solution in lieu of multiple disconnected solutions that do not talk to each other.

TRME: How are Moglix solutions bridging the gaps of procurement in the UAE in such a booming e-commerce market?

PM: UAE lies at the crossroads of the manufacturing supply chain routes that crisscross across the world. Technology penetration in the Middle East region has already attained a threshold level which is visible from the success of B2C e-commerce. So, technology adoption is not a challenge. Rather the challenges we have been resolving in the Middle East are those related to limited product assortment of suppliers, costs of distribution, warehousing, and logistics, and enabling manufacturers to realise their mandate for creating end-customer value.

Since launching in the UAE, we have channelled existing partnerships to secure symbiotic collaborations across manufacturers, suppliers, distributors,



Piyush Malviya, senior director (international operations) and head, MEA, Moglix.

Photo Credit : Moglix

specialists, and consultants. The B2B e-commerce platform, moglix.ae, provides a catalog of more than 500,000 industrial products spanning 50+ categories. It provides insights on metrics like the expected time of arrival, lead time, and the turnaround time. Such data enables agility at scale in procurement decision-making frameworks for customers, suppliers. They ensure that end-to-end supply chains can withstand macroeconomic shocks and disruptions.

TRME: Amid rapid changes across the supply chain and procurement sector, how has Moglix simplified the process and what is its impact on Customer Experience?

PM: The trajectory of digital transformation of supply chains, till very recently, moved in an incremental, snail-like manner. The events that have transpired over the last three years catapulted tech-integrations, with emphasis towards low-touch, seamless, and contactless dealings throughout any customer journey.

With Moglix-powered solutions, customers have end-to-end visibility into the journey from RFQ to RFP to PO. They can cherry-pick the most diligent and cost-effective suppliers and OEM brands from a

large assortment. Each supplier code and material code go through multiple rounds of data cleaning to ensure there is zero defect due to order-delivery mismatch. Further, the entire audit trail that enterprises require for 'fit for audit' data is simplified through 3-way matching of the purchase order, goods received notification, and supplier's invoice.

TRME: How is Moglix buyer's solution acting as a game changer? How does Technology-HANA Cloud Integration help with real-time inventory checks and multi-vendor management using a single platform?

PM: Many organisations operate without a robust, comprehensive, and resilient ERP system in place. A small, single-line cost item might not hurt the bottom line of a company, but if a recurring expense goes unchecked, it could potentially end dampening the company's earmarked working capital for OPEX. This is where Moglix's buyer's solution, powered by the HANA-cloud integration technology, intelligently works towards identifying and ultimately cutting down such costs.

Through a single portal, users can browse through the largest catalog of ARC items available in the market. Items selected are added to a cart and sent further up the chain for approval. Once approved, the HANA cloud integration kicks in and creates a purchase request in the ERP system. The purchase request – further down the chain – becomes a purchase order and culminates in payments to the supplier.

With Moglix's roster of suppliers, a firm has several options when it comes to choosing a supplier. An enterprise customer can opt for several suppliers for a large line-up of products or can opt to keep his procurements limited to one or two suppliers. The Moglix operating system introduces inter-operability and business flow in the manufacturing procurement supply chain. ■



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To make RFID driven efficiency possible in any unique workplace, Brady leverages its global manufacturing capabilities and services to customise each of the components in its complete RFID solution. Label read range can be adapted, as well as all other label properties that enable labels to stay attached to any user's asset selection in a wide range of industrial environments. Sensors can be embedded to capture environmental data including temperature or moisture levels. Scanners can be equipped with custom programmed apps that processes data to unlock the benefits a specific business needs, and Brady can integrate the entire solution with existing ICT infrastructure.

"Complete solutions from Brady that can be adapted to customer needs down to the last detail, now make RFID accessible to a wide range of businesses, even in environments that are considered challenging for most labels and readers," says Christophe Nelissen, regional manager, Middle East & Southern Africa at Brady Corporation.

A major leap in workplace efficiency

Well implemented, quality RFID solutions enable a major leap in operational efficiency for many industries. With a handheld RFID scanner, multiple assets can be located, identified, tracked and

Complete solutions from Brady that can be adapted to customer needs down to the last detail, now make RFID accessible to a wide range of businesses, even in environments that are considered challenging for most labels and readers.

Christophe Nelissen, regional manager, Middle East & Southern Africa at Brady Corporation



Photo Credit: Brady Corporation

With Brady Corporation's complete RFID solutions, assets in any industrial environment can be given unique digital identities just by applying a label.

traced from a 15m distance without needing line of sight. Fixed RFID scanners can even cover the entire workplace to considerably accelerate asset tracking. As a result, employees can quickly find any labelled asset they need, inventories can be automated, and outgoing cargo can be checked for completeness in seconds.

Business at your fingertips

Automatically collected data on all labelled assets can help inform strategic decision making on capital asset numbers, their locations, preventive maintenance and environmental elements. Decisions on stock levels can be supported by the latest data, all generated and collected automatically, to further drive business efficiency and profitability, all by giving assets a unique digital identity. ■

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Fibre routing in network infrastructure

Siemon is pushing the fibre optic boat out with a new solution offering easy installation and access.

S IEMON, A LEADING global network infrastructure specialist, is innovating fibre routing across the Middle East with the launch of its new LightWays system.

LightWays offers a fully-enclosed and flexible ducting system, ideal for protecting, segregating, and managing fibre optic cables across the data centre landscape.

Each component is specifically designed to protect fibre optic cabling from dust or dirt, while maintaining a proper bend radius, which is key to maintaining optimal levels of network uptime, performance, and reliability.

The most recent addition to Siemon's portfolio of advanced data centre solutions, LightWays offers a wide variety of straight, solid, and slotted duct, elbows, tees, crosses, reducers and outlets. Siemon offers four different sizes of each aspect.

Implementation is key to the solution's design, with the easy-to-assemble system designed to be highly flexible and allow any centre to custom-design protective fibre pathways across any turn or transition, to meet the needs of all emerging data centres across the Middle East.

LightWays utilises innovative toolless joiners, completely eliminating the requirement for any drilling, nuts, bolts, or other tools to connect or disconnect components during installation, maintenance or repairs. The joiners provide an audible 'click' upon connection, ensuring security and ease of removal and reuse throughout the system



LightWays offers a fully-enclosed and flexible ducting system, ideal for protecting, segregating, and managing fibre optic cables across the data centre landscape.

Photo Credit : Siemon

as and when required.

Easy-access covers and removable protective end caps guarantee the fibre optic cabling can be added or removed from any and all pathway sections at any time, without the need to disconnect system components, streamlining the installation, removal and maintenance processes.

The system's Waterfall Outlet can be easily placed anywhere along the sidewall of straight cabling sections, creating vertical drop-offs with full-bend radius control to safely route fibre cables to and from data centre racks and cabinets.

Additionally, the Waterfall Outlet's unique two-piece cover with hinged rear section offers easy access to add or remove fibre optics that bypass the outlet without disturbing those inside.

"Fibre has become the de facto network infrastructure building block across any size or type of data centre, from large hyperscale and cloud data centres, to colocation and enterprise. As emerging technologies and applications take data volume and bandwidth to never-before-seen levels, the amount of fibre in these spaces will continue to grow and we are already seeing large data centres with tens of thousands of fibre links," says Prem Rodrigues, director for the Middle East, Africa & India/SAARC at Siemon.

"LightWays makes it easier than ever to effectively manage and protect these critical links as they traverse between networking equipment, storage area networks and server clusters, while ensuring the capacity to support continued growth." ■

"Fibre has become the de facto network infrastructure building block. LightWays makes it easier than ever to effectively manage."

Prem Rodrigues, director, Middle East, Africa & India/SAARC, Siemon



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Looking Forward

VEGA

Briefly

Crosby BlokCam upgrades crane camera system range

THE CROSBY GROUP, a global supplier of lifting, rigging, and load securement hardware, has expanded its range of crane camera systems with the recent upgrade to its range of Crosby BlokCams.

The updates extend the original X2 and M3 systems, which have delivered clear enhancement of load handling in several sectors – notably in construction and renewable energy.

The X2 is marketed as the industry's first fully-modular system compatible with tower cranes, while the M3 is the first fully-modular camera for telescopic and mobile cranes.

The Crosby Group unveiled a series of additions and enhancements to the range, including new versions of the X2 and M3. Most of the benefits are shared between the two systems, such as a new transmitter that can connect to two sensors, a repeater that comes with a ball joint mount, a new sensor with integrated audio and video plugs, and assembly with an improved Wi-Fi signal.

X3L and M3L are also available, with a lithium-ion battery and charger, compared to the nickel-cadmium battery with the standard model. Key differences between the two include the lighter weight of the lithium-ion model, improved battery life, and a charger rather than a docking station. The lithium-ion battery also boasts a light-emitting diode (LED) charging status indicator.

Thomas Dietvorst, director of Crosby's Technology Solutions division, said, "The upgraded system is better, faster, and smarter. The game-changing BlokCam product range has been an excellent addition to the Crosby family and is a standout innovator in the portfolio, as recognised by LEEA [Lifting Equipment Engineers Association] giving us its Best Innovation Award last year. We are proud to bring these ongoing generational improvements to our growing customer base."

"In addition to construction and renewables, which are widely regarded as the technology's pioneering markets, we see continued adoption in transportation, offshore construction, nuclear, rail, mooring, and others."

Liebherr unveils new upgrade, modification and overhaul service

LIEBHERR, THE CONSTRUCTION machine specialist, has announced details on its new upgrade, modification and overhaul service.

Liebherr Transform offers a tailor-made solution for all customer needs, offering service upgrades, modification and overhauls to existing crawler cranes (up to 400 t), deep foundation equipment, and duty cycle crawler cranes.

The new service provides solutions responding to the continuously growing list of demands on today's industrial landscape.

Over time, it is inevitable that equipment becomes outdated over time, but Liebherr is aiming to change standard practice, and encourage operators to maintain, retrofit and service rather than replace. As Transform suggests, existing machines are transformed with affordable complete or partial overhauls, retrofits and upgrades. This not only saves operators the increased capital of investing in new machines, but also reduces the carbon footprint by avoiding the need for new equipment by extending service life.

A range of versatile upgrades, intelligent retrofits, entire machine overhauls, and long-term service modifications help breathe new life into customers' existing machines and extend the lifecycle of products. Upgrades can increase versatility and performance or help modify products to ensure compliance with growing regulations.



Photo Credit: Liebherr

The service offers upgrades, retrofits and entire machine overhauls to existing Liebherr machines.

The service allows operators to continue operations with existing equipment, benefit from their experience with it, and utilise the Liebherr's team of expert engineers who will take care of the entire planning and implementation of Transform projects, from consultation, through to installation, technical support, and service.

As companies are under more pressure than ever to increase volume and performance, widen scopes, and reduce emissions and costs, Liebherr Transform is designed to lighten the load through a range of structural, electrical, mechanical, ergonomic and digital modifications. Through the application of new technologies and expertise on existing equipment, the company is aiming to make its deployed products greener than ever and extend the lifecycle.

Saipem and Quantafuel to develop plastic waste solutions

Saipem and Quantafuel ASA have signed a memorandum of understanding (MoU) to collaborate on the industrialisation and construction of waste plastics chemical recycling plant.

The MoU positions Saipem to globally market and construct (under a Quantafuel technology license) industrial plants specialised in pyrolysis. This thermochemical process converts solid plastic waste into liquid or gas that can be reused as fuel or chemical raw materials for recycling.

Saipem will provide intelligent smart operation and maintenance services, as well as joint performance guarantees for the plants.

Scalable and modular solutions for waste plastics recycling plants will be developed, which will be easily adapted to the specificities of the different sites. The technological solution offered will allow users to increase the



Photo Credit: Adobe Stock

The solutions will convert waste into liquid or gas.

utilisation of mixed plastic waste in the production of a pyrolysis oil that can be reused for new chemical and plastics production.

The agreement will see Quantafuel strengthen its project implementation experience worldwide, adding the licensing approach to its existing business plan of building, owning and operating pyrolysis plants.

Project Databank

Compiled by Data Media Systems

CONSTRUCTION AND REAL ESTATE PROJECTS, UAE

Project Name	City	Facility	Budget (US\$)	Status
Emaar Properties - Dubai Creek Harbour	Dubai	Mixed-Use Development	8,333,000,000	Construction
Wast Properties - Wast Gate - Phase 2 - Hillside Apartments	Dubai	Residential Development	3,000,000,000	Construction
Wast Properties - Wast Gate - Overview	Dubai	Mixed-Use Development	10,000,000,000	Construction
RTA - Shindagha Corridor Scheme	Dubai	Bridge	1,360,000,000	Construction
Emirates Steel Industries - Integrated Steel Complex - Phase 3 - Expansion	Abu Dhabi	Steel Plant	1,000,000,000	FEED ITB
Nakheel - Dubai Islands Development - Dubai Islands Boulevard	Dubai	Residential Development	1,300,000,000	EPC ITB
Modon Properties - Abu Dhabi Al Riyadh City - Overview	Abu Dhabi	Residential Development	1,800,000,000	Construction
Nakheel - Dubai Islands Development - Deira Mall	Dubai	Malls/Retail Outlets	1,600,000,000	Construction
Nakheel - Dubai Islands Development - Overview	Dubai	Beaches and Resorts	3,000,000,000	Construction
Emaar - Emaar Beachfront - Overview	Dubai	Mixed-Use Development	1,000,000,000	Construction
Etihad Rail - Trans - Emirates Rail Network - Overview	Abu Dhabi	Railway	11,000,000,000	Construction
MASDAR - Masdar City - Overview	Abu Dhabi	Mixed-Use Development	22,000,000,000	Construction
MAF - Dubai Tital Al Ghaf Community	Dubai	Residential Development	3,800,000,000	Construction
ICD - The Royal Atlantis Resort & Residences	Palm Jumeirah	Beaches and Resorts	1,600,000,000	Commissioning
Arada - Sharjah Masaar Community - Overview	Sharjah	Mixed-Use Development	2,200,000,000	Construction
Jubail Island Investment Company (JIIC)- Mafraa Al Jubail and Souk Al Jubail	Abu Dhabi	Mixed-Use Development	1,360,000,000	Construction
Jubail Island Investment Company (JIIC) - Jubail Island Development - Overview	Abu Dhabi	Mixed-Use Development	2,720,000,000	Construction
Etihad Rail - Trans-Emirates Rail Network Phase 2	Abu Dhabi	Railway	5,000,000,000	Commissioning
Miral - SeaWorld Abu Dhabi	Yas Island	Entertainment/Leisure Facilities	1,000,000,000	Construction
Arada - Sharjah Aljada Residential City	Sharjah	Mixed-Use Development	6,500,000,000	Construction
ADAC - SCADIA - Abu Dhabi Int'l Airport Expansion	Abu Dhabi	Airport	7,080,000,000	Commissioning
ADAC - SCADIA - Abu Dhabi Int'l Airport - Midfield Terminal Complex	Abu Dhabi	Airport	2,940,000,000	Commissioning
DCT - Saadiyat Island Guggenheim Museum	Abu Dhabi	Entertainment/Leisure Facilities	1,200,000,000	Construction
Miral - Yas Bay	Abu Dhabi	Mixed-Use Development	2,500,000,000	Construction
Shurooq - Eagle Hills - Sharjah Maryam Island	Sharjah	Mixed-Use Development	1,225,000,000	Construction
Damac Properties - Aykon City	Dubai	Mixed-Use Development	2,000,000,000	Construction
Dubai Holding - Dubai - Marsa Al Arab	Dubai	Mixed-Use Development	1,700,000,000	Construction
DAEP - Al Maktoum International Airport Expansion	Dubai	Airport	36,000,000,000	EPC ITB
ADPC - Khalifa Port and Industrial Zone Expansion	Abu Dhabi	Port	7,200,000,000	Construction
Tecom Group - Emirates Towers Business Park	Dubai	Office Buildings	1,400,000,000	PMC
Dubai Holding - Mall of the World	Dubai	Malls/Retail Outlets	22,000,000,000	PMC
DCT - Saadiyat Island Zayed National Museum	Saadiyat Island - Abu Dhabi	Convention & Exhibition Centres	1,000,000,000	Construction
Gulf Cooperation Council (GCC) - Pan GCC Railway Network	Various	Railway	30,000,000,000	Feasibility Study
Sharjah Holding - Uptown Al Zahia Development	Sharjah	Residential Development	1,500,000,000	Commissioning
MAG Lifestyle Development - MAG City	Dubai	Residential Development	2,000,000,000	Construction
Kleindienst Properties - The World - The Heart of Europe	Dubai	Mixed-Use Development	5,000,000,000	Construction
NREC - Reem Mall	Al Reem Island	Malls/Retail Outlets	1,200,000,000	Construction
Shaheen Chem Investments - Ethylene Dichloride & Caustic Soda Plant	Khalifa Industrial Zone of Abu Dhabi (KIZAD)	Caustic Soda	1,000,000,000	FEED ITB
Falconcity of Wonders	Dubai	Mixed-Use Development	1,500,000,000	Construction
Nshama Development - Town Square Development	Dubai	Mixed-Use Development	5,000,000,000	Construction
Block 7 Investments - Block 7 Innovation Hub	Abu Dhabi	R&D/Educational Institution	1,900,000,000	Design
DAEP - Al Maktoum Int'l Airport Expansion - West Terminal	Dubai	Airport	33,000,000,000	EPC ITB
Meydan Group - Meydan One Mall	Dubai	Malls/Retail Outlets	1,500,000,000	Construction
Etihad Rail - Trans-Emirates Rail Network - Dubai to Northern Emirates	Abu Dhabi	Railway	11,000,000,000	PMC
UPC - Zayed City (Formerly Capital District)	Abu Dhabi	Mixed-Use Development	1,000,000,000	Construction
Dubai Holding & Emaar Properties - Dubai Creek Harbour	Dubai	Malls/Retail Outlets	2,722,000,000	Feasibility Study

Project Databank

Compiled by Data Media Systems

Project Focus

Compiled by Data Media Systems

Emaar - Address Residences Dubai Opera

Name of Client	Emaar
Estimated Budget (US\$)	150,000,000
Contract Value (\$ US)	137,000,000
Award Date	2017-Q3
Main Contractor	TAV Construction
Facility Type	Residential Development
Status	Construction
Location	Dubai, U.A.E.
Project Start	2022-Q4
End Date	2023-Q1

Background

Local developer Emaar is planning to build a new tower in the famous downtown area next to the Dubai Opera House which is still under construction. The tower will also overlook the Burj Khalifa Lake and Dubai Fountain.

Project Status

Date	Status
Aug 2022	Emaar has confirmed that the project handover is slated for February 2023.
Jun 2022	The internal finishes are progressing with painting, carpentry, ceiling, and sanitary works. The construction works are 90% complete.
Feb 2022	The project has progressed to 88%. Structural works are completed. Internal, MEP, and external works are progressing at different stages.

Project Scope

The project scope includes:

- Development of two towers: namely A3 and A2 with heights of 260 metres and 230 metres respectively, one featuring 64 storeys, the other 56. The total number of apartments is 809 over a built-up area of 2.35mn sq. ft.
- An expansive podium offering a range of residential amenities, such as swimming pools, common living space, and health club; retail, and food and beverage areas
- The residences include a mix of premium one, two and three-bedroom serviced apartments, all with balconies and terraces

The scope of works includes the following:

- Land preparation
- MEP
- Structuring
- Engineering & Design
- Construction
- Exterior/Interior
- Utilities
- Infrastructure works around the property (access to and from and surrounding minor road works).
- Water proofing
- Raft

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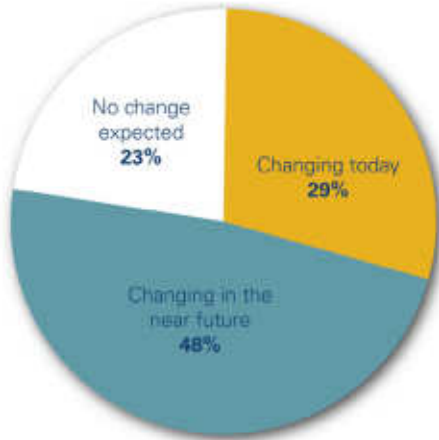
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دراسة عن التحول الرقمي وعمليات انتقال الطاقة



دراسة «إيتون» كشفت عن فجوة بين التحول الرقمي ووجود انتقال الطاقة

ويعطيها ميزة رئيسية بالنسبة لهذه الشركات الصناعية. - تواجه المرافق الخدمية تحولات هائلة في عمليات توليد الطاقة مع زيادة الاعتماد على مصادر الطاقة المتجددة جنباً إلى جنب لوجود حاجة ملحة لزيادة الذكاء الرقمي. لذا يُعد التحول الرقمي ضرورياً لنماذج الأعمال الجديدة ومصدر قوي لزيادة نسبة الإيرادات، بما في ذلك دعم المركبات الكهربائية (EV) وهذا ما أكدته 49 في المائة من المشاركين حول الاحتياجات الضرورية في مرافق البنية التحتية لشحن المركبات الكهربائية في حين أشار 45 في المائة من المشاركين في هذه الدراسة عن هذا القطاع إلى ضرورة وجود محطات شحن المركبات الكهربائية بعد ذاتها. يمكنك الاطلاع على النتائج الكاملة لتقرير «تقاطع عمليات التحول الرقمي مع انتقال الطاقة» وتعرف على المزيد حول كيفية مساعدة إيتون في تسريع التحول الرقمي وانتقال الطاقة.

نشرت «إيتون»، الشركة العالمية لإدارة الطاقة، مؤخراً نتائج دراستها البحثية التي تلقي الضوء على أهمية انتقال الطاقة وتضمينها في خطط التحول الرقمي للشركات ذات الأهمية الحيوية. حيث أعدت هذه الدراسة من قبل مؤسسة «إس أند بي» لأبحاث السوق (S&P Global Market Intelligence) بتكليف من «إيتون» وتم تلخيص نتائجها ضمن تقرير «تقاطع عمليات التحول الرقمي مع انتقال الطاقة».

المشاركين في هذه الدراسة. ومع ذلك، يشكك مالكو المباني من أن مبادرات الأبنية الذكية ستؤدي ثمارها في حال تطبيقها، لما تشمله من تحديات رقمية كبرى كحساب التكاليف وتحقيق العوائد المرجوة وذلك حسب ما أشار إليه 52 في المائة من المشاركين، في حين أكد 45 في المائة من المشاركين بوجود نقص في حالات الاستخدام الرقمي المُلمَّحة.

- تبنت مراكز البيانات جهود الرقمنة وتبحث الآن عن فرص رقمية من الجيل التالي إما لتبسيط العمليات أو لزيادة الإيرادات بهدف خلق مزايا تنافسية. وتتضمن أهداف المرحلة القادمة الاعتماد المتزايد على الطاقات المتجددة، وهذا ما أكدته 50 في المائة من مالكي مراكز البيانات، في حين أشار 47 في المائة من المستطلعين أن هناك خطأ أكثر للعمل على تحسين عمليات تخزين الطاقة، أما ما نسبته 34 في المائة فقد أكدوا رغبتهم جني الأرباح والعوائد الاستثمارية من بيع الطاقة الفائضة عن حاجتهم للشبكة العامة.

- ركزت القطاعات الصناعية جهود الرقمنة لمواجهة التحديات المستمرة ك معالجة فجوة نقص العمالة الماهرة. إلى جانب ذلك، فإن الرقمنة تعالج أيضاً عمليات انتقال الطاقة المتأخرة. فقد أشار 24 في المائة فقط من الشركات الصناعية إلى المخاوف المتعلقة بالطاقة كونها المحرك الرقمي الرئيسي الذي يقود عمليات التحول الصناعي. أما بالنسبة للصناعات التي ترغب في الحفاظ على الميزة التنافسية واكتسابها وأن يكون لها الكلمة العليا، فإن تطبيق التحول الرقمي عبر عمليات انتقال الطاقة سيكون له أثر كبير

ويشير التقرير أنه على الرغم من أن 77 في المائة من الشركات التي شملها الاستطلاع، تتوقع الانتقال بعيداً عن مصادر الطاقة الحالية، فإن نصف هذه الشركات فقط تطبق حالياً الاستراتيجيات الرقمية اللازمة في المضي قدماً نحو هذا التحول. أضف إلى ذلك، أن أقل من ثلث الشركات تتبع مقياس الاستدامة وذلك الطاقة الرئيسية، في حين أن أقل من 17 في المائة لديها أنظمة قديمة ممكنة رقمياً.

وتعليقاً على نتائج هذه الدراسة، قال أرفيند يارلاغادا، نائب الرئيس التنفيذي والمدير الرقمي الرئيسي لدى إيتون: «لقد حددنا فجوة كبيرة في كيفية تطبيق الشركات لجهود الرقمنة بهدف تخفيض الانبعاثات الكربونية، تعد هذه الدراسة بمثابة جرس إنذار يلقي الضوء على الفرص المتاحة للشركات لتركيز الاستثمارات وإحداث تأثير أكبر من خلالها». وأضاف يارلاغادا: (تحتاج الشركات إلى التحرك بشكل أسرع في تبني عمليات التحول الرقمي. فالخبر السار هو أن وقت العمل قد حان الآن، وأن الأدوات الرقمية كمنظومة «برايت لاير» (Brightlayer) تساعد الشركات على اكتساب رؤى أعمق للطاقة وهي ضرورية لتقييم الاستثمارات الجديرة بالاهتمام. كما تساعد مجموعات البرامج الخاصة بالصناعة العملاء بالفعل على مواجهة مثل هكذا تحديات).

شملت الدراسة 1001 مشارك منخرطين في جهود التحول الرقمي عبر أربع قطاعات حيوية في كل من الإمارات والولايات المتحدة والمملكة المتحدة وأوروبا، وشملت قطاعات المباني ومراكز البيانات والمنشآت الصناعية ومرافق الخدمات في تلك الدول. في حين تحدث ريتش كاربنسكي، كبير المحللين لدى «أبحاث 451» (Research 451)، وهي جزء من مؤسسة «إس أند بي» لأبحاث السوق، قائلاً: «حتى الآن، ركزت مشاريع التحول المؤسسي بشكل أساسي على تحسين العمليات التجارية، سيؤثر انتقال الطاقة القادم على أفضل الممارسات والعمليات الرقمية وسيثبت أنه عامل تميّز تنافسي مهم للشركات التي تتبنى هذا النهج بشكل استباقي».

وقيماً يلي نتائج البحث حسب القطاعات التي شملتها الدراسة:

- أوضح مالكو ومشغلو المباني أن رفع كفاءة الطاقة وتقارير الحوكمة البيئية والاجتماعية والمؤسسية (ESG) تعتبر من القضايا الحاسمة. فالاستدامة هي الهدف الأسمى لهذا القطاع، وتم منحها الأولوية من قبل 46 في المائة من

← مفكرة الفعاليات 2022

سبتمبر/أيلول

27 - 29 معرض ويتكس ومعرض دبي للطاقة الشمسية دبي

أكتوبر/تشرين الأول

24 - 30 معرض «يوماء» لألات البناء والتعدين ميمونج

نوفمبر/تشرين الثاني

15 - 16 معرض التعدين دبي

ديسمبر/كانون الأول

5 - 8 معرض بيج فايف دبي

دور رئيسي ينتظر قطاع التعدين في ظل التحول العالمي في استخدام الطاقة



المطلب العالمي لتحقيق صفر الانبعاثات يحتاج إلى المزيد من التعدين

تشير النتائج المالية لعام 2021 إلى أن إيرادات شركات التعدين قد حققت زيادة بنسبة 32 في المائة، وأرباحاً صافية تناهز 127 في المائة، وذلك وفقاً لتقرير صادر عن برايس ووتر هاوس كوبرز (PwC). والتقرير الصادر باسم Mine 2022 هو مراجعة سنوية تجريها شركة برايس ووتر هاوس كوبرز لأكثر 40 شركة تعدين، ويُعنى بدراسة التوجهات العالمية في قطاع التعدين.

قال درو ستيفنسون، رئيس قسم المرافق والموارد لشركة برايس ووتر هاوس كوبرز بالمملكة المتحدة: «قطاع التعدين يؤدي دوراً أساسياً في اكتشاف وتوفير المنتجات الأساسية التي لا تعزز فقط مسار نزع الكربون العالمي، وإنما تسعى أيضاً لاستحداث وإدماج طرق التعدين الأكثر نقاء ومراعاة للبيئة، وذلك باستخدام محركات تعمل بالكهرباء أو الهيدروجين إلى جانب تقليل النفايات».

ومن المتوقع أن يزداد الإقبال على المعادن الحساسة مثل الليثيوم والنحاس والنيكل والكوبالت التي برزت أهميتها الكبيرة على صعيد التحول في استخدام الطاقة خلال السنوات المقبلة، إذ تشير بيانات حديثة إلى أن حجم الطلب على تقنيات الطاقة النظيفة سيتجاوز 400 مليار دولار أمريكي بحلول 2050.

ويتطلب المسعى العالمي للوصول إلى نسبة صفر انبعاثات التوسع في عمليات التعدين، وفي الوقت نفسه، سيعتمد التوسع في استخدام أنظمة الطاقة منخفضة

الانبعاثات؛ مثل الطاقة الشمسية وطاقة الرياح والطاقة الكهربائية، لا محالة على المواد عالية القيمة. فمحطة الطاقة الشمسية - على سبيل المثال - تتطلب موارد معدنية أكثر ثلاث مرات من مصنع الفحم لإنتاج الطاقة، فيما تحتاج مزارع الرياح إلى موارد تبلغ ثلاثة عشر ضعفاً لتلك التي تتطلبها مصنع يعمل بالغاز.

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تحليلات

٤ دور رئيسي ينتظر قطاع التعدين في ظل التحول العالمي في استخدام الطاقة

٥ دراسة عن التحول الرقمي وعمليات انتقال الطاقة



ملخص محتويات القسم الإنجليزي

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قطاع التعدين سيلعب دوراً رئيسياً في تحول الطاقة



من المؤكد أن قطاع التعدين ستكون له الريادة في التحول في استخدام الطاقة إزاء التنبؤ بزيادة الطلب على المعادن الحيوية في الأعوام المقبلة