

TECHNICAL REVIEW

النشرة التقنية - الشرق الأوسط

MIDDLE EAST

Vol 38/Issue Five 2022

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BUYERS' GUIDE 2022

Decarbonisation

Hitachi Energy's new eco-efficient technology

The Mining Show

Showcasing innovations

ENABLING THE PATH

TO A CARBON-REDUCED FUTURE

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EDITOR'S NOTE

AS THE PRESSURE for greener power generation continues, there is great emphasis on cleaner alternatives for use in generators, see pages 26-27.

With the race to carbon reduction intensifying and the climate crisis pressing for immediate action, we bring insights on Hitachi Energy's pioneering technology for reducing emissions in high-voltage power transmission (page 28).

Elsewhere in the issue read about the MENA HSE Forum organised by Alain Charles Events, witnessing the participation of the HSE community across the region. See page 8 for a review.

Dubai will once again host the Mining Show in November, showcasing the latest developments in mining and quarrying (Page 10).

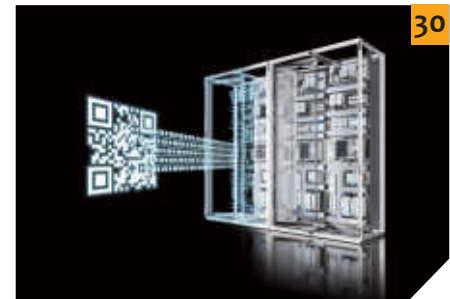
At Technical Review we always welcome readers comments to trme@alaincharles.com



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SERVING THE REGION'S BUSINESS SINCE 1984

TECHNICAL REVIEW

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MIDDLE EAST

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Briefly

Honeywell to help KAFD on smart city strategy

HONEYWELL AND KING Abdullah Financial District (KAFD) signed a Memorandum of Understanding (MoU) to help create a sustainable smart city experience at the prime business and lifestyle destination in Saudi Arabia. The strategic MoU between Honeywell and KAFD supports Saudi Arabia's Vision 2030 objectives related to smart city development and advances technology adoption to create energy efficient, intelligent buildings.

Honeywell's ready-now solutions will help optimise operational efficiencies and support KAFD on its smart city strategy focused on sustainability targets through the deployment of energy saving initiatives across its assets and facilities. It will provide direct technical support and act as a trusted and long-term technology advisor to KAFD, utilising smart solutions to optimise the experience of tenants, visitors, businesses and city operations.

KAFD is a business and lifestyle destination at the heart of the Kingdom's capital. It is set to play a major role in the growth and diversification of the economy, as well as contributing to establishing first-class leisure, retail, and hospitality facilities to support a vibrant society.

"As Saudi Arabia sets new benchmarks in smart city development, we are honored to have the opportunity to collaborate on this ground-breaking project, implementing our advanced solutions to enhance the sustainable city experience," said Abdulla Al-Juffali, country president, Honeywell - Saudi Arabia and Bahrain. "This MoU furthers Honeywell's commitment to supporting the Kingdom's sustainability goals, building on our 70-year history in Saudi Arabia, with intelligent buildings deployed for the benefit of stakeholders. Honeywell is once again deploying smart city technology in the region, supporting complex technical requirements, and enabling a sustainable, world-class and integrated mixed-use destination." As one of the Kingdom's most ambitious projects, KAFD's smart city strategy will use smart city technologies to transform operations and customer experience.

Abu Dhabi Digital Twin project unveiled



Senior DMT management at the launch of the project at GITEX 2022.

Photo Credit : DMT

THE DEPARTMENT OF Municipalities and Transport launched the Abu Dhabi Digital Twin project at GITEX Technology Week 2022.

DMT unveiled details of the project at the Abu Dhabi government pavilion, which included 30 government departments showcasing several initiatives and programmes to improve services and life in the emirate.

Through the project, the department will be able to use 3D augmented reality to facilitate and support decision-making processes, which is a qualitative leap forward in the emirate's development of a digital and geographic information system.

The project integrates the most advanced technology, such as aerial photography, LiDAR scanning and game engines. It intends to promote the foundations and concept of smart cities and initiate and integrate augmented digital reality and metaverses for the emirate in accordance with the highest international standards.

The first of its kind in Abu Dhabi, the project aims to showcase a comprehensive and accurate representation of the emirate, including the exterior shapes of the buildings. In addition to supporting the real estate market and highlighting landmarks across the emirate, the project provides details of interior structure to enable internal navigation of the buildings to support the speed of

response in emergencies and support planning and decision-making processes.

Omar Al Shaiba, acting executive director, information technology affairs sector at DMT, said, "DMT's participation in GITEX Technology Week 2022 provides insight into the department's pioneering digital projects that contribute to the improvement of Abu Dhabi's quality of life which is in line with the directives of Abu Dhabi's leadership in making the emirate a global magnet for economic and industrial investments.

"By creating a complete visualisation of the emirate using 3D modelling, the Abu Dhabi Digital Twin project assists in data analysis, facilitates decision-making, monitors the appearance of the cities in the emirate, and uses virtual reality to highlight the most notable locations for the public."

The project will introduce a synchronous representation of the emirate, allowing users, such as planners, engineers, specialists, and public and private sectors, to explore the emirate's development in 3D and evaluate vast amounts of data. Additionally, it provides accurate data and measurements for planning and operations across critical sectors. It will offer spatial analysis tools for various urban planning scenarios for making the appropriate planning decision in each of these scenarios.

Etihad Rail completes tracklaying for main line in Sharjah and RAK

ETIHAD RAIL COMPLETED the tracklaying works of the main line in Sharjah and Ras Al Khaimah, as part of the last package of stage two of the UAE National Rail Network project. The project's main line extends from Ghuweifat on the border of the Kingdom of Saudi Arabia, and passes through the emirates of Abu Dhabi, Dubai, Sharjah and Ras Al Khaimah.

Moving full steam ahead, Etihad Rail continues the tracklaying works in the emirate of Fujairah within the upcoming weeks, bringing it closer towards the completion of the project as per the set schedule. This comes in line with the goals of the National Railways Programme, the biggest integrated sustainable transport system in the UAE, which seeks to connect the



Photo Credit : Etihad Rail

There was tremendous support from local government entities.

Emirates via rail and accelerate the country's sustainable economic development.

The line in Sharjah extends over 45 km and is part of the last package of the project, which is 45 km in length. Connecting the Emirate to the main line recorded more than 11.7 million work hours in 25 months.



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KEZAD Group to open advanced recycling facility

KHALIFA ECONOMIC ZONES Abu Dhabi (KEZAD) Group, an integrated trade, logistics, and industrial hub of Abu Dhabi, has signed an agreement with Renov8 Polymer Industries Ltd, part of leading manufacturer Just Right Inc, for the establishment of an advanced recycling facility at KEZAD's Polymers Park.

Renov8 Polymer Industries will invest US\$150mn to develop a 30,000 sq m facility in KEZAD's Polymer Park which will process mixed plastic waste and support Abu Dhabi's transition to a circular economy. This will be commissioned alongside a 38,000 sq m expansion plot adjacent to the primary facility.

Just Right Inc, through its subsidiary, Renov8 Polymer Industries Ltd, is expected to bring its best-in-class practices to Abu Dhabi to deliver one of the region's most sustainable polymer projects. In addition to supporting the broader UAE Net-Zero by 2050 strategy, the agreement seeks to advance the Abu Dhabi Industrial Strategy.

The facility will also benefit from Abu Dhabi's upcoming carbon trading exchange platform, set to be the world's first fully regulated carbon trading exchange and carbon clearing house.

Mohamad Al Khadar Al Ahmed, chief executive officer, Khalifa Economic Zones Abu Dhabi, KEZAD Group, commented, "In line with our wise leadership's industrial strategy, KEZAD Group is committed to supporting circular economy models in Abu Dhabi throughout our integrated business ecosystem. The new facility will be a pioneering showcase of innovation and sustainability in plastic production and the remanufacturing of plastic waste.

"The KEZAD Polymers Park continues to attract a wide range of manufacturing and value-adding companies to Abu Dhabi, owing to the easy access to raw materials that it provides, and the direct links



Photo Credit : Adobe Stock

The mixed plastic recycling plant will support Abu Dhabi's transition to a circular economy.

to global markets it offers. The project will add further value to the ecosystem while strengthening Abu Dhabi's position as a sustainable and competitive industrial hub."

Nilesh Jain, founder and CMD of Renov8 Inc, added, "The signing of this agreement represents a significant milestone for us in our efforts to develop the first phase of our circular economic model, which will feature one of the most technologically advanced recycling facility for Polymers.

"In our endeavour to develop a sustainable polymers industry, we will deploy advanced manufacturing processes at the KEZAD facility to deliver a comprehensive ESG-driven business model. Renov8 will greatly benefit from the integrated platform that KEZAD offers, with proximity to Khalifa Port providing greater access to global consumer markets."

NIS' Direct Power DC charging point ready for market

NIDEC INDUSTRIAL SOLUTIONS (NIS), part of the Energy & Infrastructure Division of the Nidec Group, has expanded its range of solutions for charging electric vehicles by presenting a charging point which is custom-tailored to end-users.

The product can reach a power output of 360kW and was developed to maximise service providers' ROI while optimising the user's experience. Developed and manufactured in Salzbergen, Germany, the new charging point is equipped with two DC cables and can charge two cars at the same time if required. Additionally, an AC socket can be added to serve all vehicles on the road.

It brings various benefits to service providers, such as connectivity, real time response, ease of installation and maintenance, remote diagnostics, compactness, and modularity – thanks to this, it can be calibrated according to market demand, and is therefore scalable over time.

Customers can purchase the basic version of the product which includes two



Photo Credit : NIS

The charging point is already available on the market and ready for purchase with all the features required for service stations.

60kW power modules and then add further modules should the average engine power of electric cars on the road increases.

The charging point can be customised with the service provider's colors and brand and at the top there is a giant screen where multimedia advertising material can be loaded – these spaces will be sellable to third parties, thereby giving the service provider another potential source of income.

As the first charging point custom-tailored to end users, it guarantees a simple but intuitive user experience. Ergonomically designed to ensure maximum accessibility for users of all

heights or disabilities, it is also equipped with a cable recovery system that bears most of the weight and prevents cables from lying on the ground. It also incorporates a multi-colored strip-led lighting system to inform the user at a distance of the status of the cables and of charging.

NIS CEO, Dominique Llonch, commented, "Our new DirectPower DC charging point, together with our other DirectPower PS integrated battery charging system, provides a charging system that will help speed up the implementation and use of an efficient and advanced charging infrastructure for today's and tomorrow's cars, which is central to the spread of more sustainable mobility.

"This is all thanks to the fact that, for the first time, a charging point has been designed not only to allow maximum customisation for service providers but also to guarantee maximum inclusiveness for users. With this new product, we are now able to offer a range of solutions to suit all charging needs."

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Aksa Dubai as regional headquarter, manages 6 branch offices which are located in Middle East and Africa region. Dubai office established on an area of 12,000 m² and has been been operating since 2003 with more than 80 employees who are experts in their fields just to keep lighting entire Middle East and Africa.



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Advancing HSE through solutions and optimisation at MENA Forum



The MENA HSE Forum, which took place on 6-7 September at the Grosvenor House, Dubai, was a resounding success.

Photo Credit : Alain Charles Events

THE MENA HSE Forum executed a well-structured programme, delivering presentations and panel discussions to more than 150 delegates from the HSE community of the UAE, Saudi Arabia, Qatar, Oman and Bahrain, and was overall a resounding success. Senior HSE practitioners from the region's leading companies, including ADNOC, Petrofac, Dubai Municipality, 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.

"It has been our constant endeavour to create platforms which ensure value addition for all stakeholders in the region. The MENA HSE Forum this year was the culmination of over 20 weeks of work. Stakeholders from major industries identified the need new technologies that will continue to cut LTIs and optimise productivity. Our research also identified a need to access latest safety solutions for the workforce across the board, which led us to create this exclusive platform for HSE companies to display and demonstrate their services and solutions to key players in the region. Our efforts to ensure that this edition is of its highest quality has paid-off," 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, including 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 One 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.

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 Hobballah, 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 an insight 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 were 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, and ITAC Safety and Environmental Consultants.

The first day of the forum was ably chaired by Dr Rahaf Ajaj, research cluster lead for climate change and public health at Abu Dhabi University. She said, "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 event."

Dr Eng Hani Hossni, EHS director, Abu Dhabi Waste Management Centre - Tadweer commented, "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, who chaired the second day, commented, "The MENA HSE Forum 2022 covered all aspects of the HSE spectrum, discussing critical issues and the latest trends."

EGA identifies value in boosting the UAE's manufacturing capacity

EMIRATES GLOBAL ALUMINIUM has identified opportunities worth hundreds of millions of dirhams annually if companies shift to local manufacturing and sourcing.

Realising this potential could see the UAE step closer to the achievement of its Operation 300bn growth strategy and boost the local economy, the company believes.

Opportunities have been identified in materials, industrial equipment and spare parts required across industries but not yet manufactured in sufficient or any capacity in the UAE.

EGA's drive to bring material procurement onto a local stage is in line with Operation 300bn, which aims to more than double the size of the UAE's industrial sector by 2031.

The company's procurement spent totalled over AED 17 bn in 2021, with 46% procured from local companies. Most expenditures were on raw materials, some of which can only be produced internationally.

Borouge Materials to build water transmission system from Jubail to Riyadh

BOROUGE PLC, A leading petrochemical company providing polyolefin solutions, has contributed to one of the world's largest water infrastructure projects, providing materials to contribute to the construction of the Jubail-Riyadh water transmission line in Saudi Arabia.

The project, undertaken by the Al Rashed Group, utilised Borouge's Borcoat HE3450 materials to coat steel pipes. The materials guarantee long-lasting validity and are being utilised for various industrial applications.

The Jubail-Riyadh twin water transmission pipeline sees 824 km of pipeline, consisting of two 88"

pipes measuring 412 km in length. The entire system is capable of transporting up to 1.2 mn cubic metres of potable water per day.

"Our 'Made in UAE' innovative solutions for safe, reliable and durable pipelines are carefully developed using unique proprietary advanced technologies to withstand long operational durations.

"Aiming to support our partners in meeting the unique challenges of various industries, we have been able to further develop our Borcoat™ system and actively find new solutions that contribute to protecting long steel water pipes to extend its validity," said Khalfan AlMuhairi, senior vice president regional MEAE, Borouge.

Photo Credit: Borouge Materials



Borouge's Borcoat HE3450 is being used to coat sections of the 824 km pipeline.

JCB unveils world's first mobile hydrogen refueller

JCB, DEVELOPER OF the industry's first construction machines powered by hydrogen, has followed up its hydrogen range with another world first, a mobile hydrogen refueller.

The company is investing in a project to produce hyper-efficient hydrogen engines, and has already demonstrated working prototypes of a backhoe loader and Loadall telescopic handler, both powered by hydrogen.

Its new mobile hydrogen refueller provides an easier way for customers to refuel machines on-site. Approximately 97% of construction equipment has fuel delivered while working on-site. The refueller not only provides fuel in a more eco-friendly manner, but also eliminates emissions in constant fuel transportation to and from the site.

JCB chairman Lord Bamford, who is leading JCB's hydrogen project, said, "Since we became the first construction equipment company to



Photo Credit: JCB

The on-site unit is just one development in the project developing hydrogen-fuelled construction machines.

unveil machines powered by hydrogen, many have asked how they can be refuelled.

"Our new mobile hydrogen refuelling system allows hydrogen to be taken from on-site tube trailers and distributed to machines by our refueller as they work on the job site. This is no different to when diesel is taken in bowsers to refuel machines."

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EXECUTIVES' CALENDAR 2022

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

9-12	SteelFab	SHARJAH	www.steelfabme.com
16-18	World Future Energy Summit	ABU DHABI	www.worldfutureenergysummit.com

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

The Mining Show to showcase latest developments in mining and quarrying

THE FESTIVAL ARENA, Dubai will be host to the largest mining and quarrying event in the region from 15-16 November. Now in its 14th annual year, The Mining Show gives attendees the opportunity to meet buyers and capitalise on the development and change in mining across the Middle East, Africa and South Asian region.

Over two days, the event will bring insights from more than 80 mining and quarrying leaders across a series of presentations and panel debates. This year features more than 100 speakers from global mining, quarrying and mineral exploration companies, governments, ministries and tech leaders who will share their secrets, tips and lessons learnt.

The free to attend expo floor includes:

- **100+ exhibitors** – This year's exhibition will see a large number of exhibitors from across the region bringing cutting-edge

products and solutions, from mineral exploration to the development of operations, and more.

- **Heavy equipment exhibits** - Heavy equipment exhibits can be found outside of the venue entrance, on top of the hundreds of exhibits in the expo hall. REMA TIP TOP will be displaying their Dodge Ram Rebel service pick-up, while Hitachi will showcase the ZW310-5A Wheel Loader.
- **Face-to-face networking** – The Mining Show understands the importance of building strong relationships, thus it provides the opportunity to connect with peers onsite.
- **Start-up zone** – Attendees have the chance to meet innovative start-ups in the region and connect through networking.

For more information:

<https://www.terrapinn.com/exhibition/mining-show/index.stm>

The Mining Show will take place from 15-16 November.



Photo Credit: Adobe Stock

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

Trimble's TUD promoted the skills of Tekla users

TRIMBLE RECENTLY HOSTED its annual Tekla User Days (TUD) virtual event to advance the skillset as well as the expertise in Tekla software of several experts, users and construction



Photo Credit : Trimble

Paul Wallet, regional director of Trimble, Middle East and India, on the panel.

industry professionals across the Middle East and India. The event kicked off with Paul Wallet, regional director of Trimble Solutions, Middle East and India, giving an insight on the construction landscape in the region <https://www.technicalreviewmiddleeast.com/construction/>

HAMM's pneumatic-tyre rollers combine innovation and productivity

THE NEW GENERATION of pneumatic-tyre rollers from the HP series have been on the market across the world for several months and are showing what they can do in practice, according to the Wirtgen Group

The range of potential applications extends from soil stabilisation, cold recycling and landscape gardening, tight through to final compaction and surface sealing in asphalt construction.

For the HP series, HAMM has developed a uniform platform as the basis for all model variants in every market. Based on this, the company is also continuing to offer the pneumatic-tyre rollers in different basic versions.

<https://www.technicalreviewmiddleeast.com/construction/machinery/>

Bobcat launches Brushcat rotary cutter models and log grapple attachments

BOBCAT HAS LAUNCHED two new Brushcat rotary cutter models and a new log grapple attachment for the company's range of small articulated loaders (SALs)

The smallest Brushcat attachments offer cutting widths of 1,118 and 1,372 mm respectively, with the larger models offering cutting widths of 1,676, 1,829 or 2,032 mm. <https://www.technicalreviewmiddleeast.com/construction/machinery/>



Photo Credit : Bobcat

The new log grapple can easily clean up after cutting or trimming trees or bushes.

Elematic highlights sustainable hollow-core manufacturing solutions at bauma

ELEMATIC'S BOOTH (HALL B/323) at bauma is spotlighting floor-production machinery covering sawing, drilling, and transportation, as well as innovative solutions for recycling concrete and wastewater

Providing hollow-core manufacturers with a choice of technologies to enhance production efficiency and working conditions, Elematic strives to reduce operators' environmental impact. At the event, the company is revealing a new drillbeam and saw family, the latest technology in slab transportation, and solutions to optimise wastewater and concrete recycling.

Two of the three new saws unveiled at bauma offer an attractive solution to less-automated hollow-core manufacturers as they share the same frame and operating system <https://www.technicalreviewmiddleeast.com/construction/>



Peter Berghaus GmbH

Safety products for work zones

A unique experience: the digital construction site.

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berghaus-verkehrstechnik.de/en/



Click here to visit our digital showroom www.avs-showroom.com



“Today we are expanding our offering in the kingdom of Saudi Arabia with one of the leading regional companies in the automotive industry, Almajdouie Motors Company. I have the confidence that through this collaboration with our trusted partner the Citroën brand will thrive across the entire Kingdom providing our customers high standards of vehicles, service and customer care.”



SAMIR CHERFAN

*Chief operating officer
Stellantis Middle East & Africa*

“Dubai’s location provides easy access to vast opportunities in the emerging markets of the Middle East, Africa, Europe, and the CIS. With the growth of manufacturing in this region, our air, sea, road, and rail infrastructure seamlessly connect Dubai to markets all over the world. Dubai’s world-class business-enabling infrastructure, access to highly skilled talent pools and its ability to offer an array of strategic advantages make it one of the globe’s most growth-friendly business hubs. With the launch of GBC, we plan to be standard-bearers for ambitious high-growth companies from around the world and provide them the support needed to achieve their strategic ambitions.”

SULTAN AHMED BIN SULAYEM

*Group chairman and CEO
DP World*

“Cybersecurity has become an interactive contact sport, because adversaries are constantly changing their attacks and evasion techniques, which require a human threat hunting team to watch the network for indicators of an intrusion and take action to stop attacks before they lead to ransomware.”

HARISH CHIB

*Vice president, Middle East Africa
Sophos*

“The climate crisis has made it clear that we must unite efforts on a global scale, with each one of us having a role to play in mitigating the negative effects. Through ongoing collaboration between government, environmental institutions, and society, we believe we can drive real impact in securing a sustainable future for all.”

DR MOHAMED ASAAD

*Chairman of the board of directors
Green Planet*

“The stc Group launched Center3 to enhance the digital system, which in turn will contribute to enhancing the Kingdom’s position as a regional digital center. This launch is in line with our strategy to expand the scope and markets to achieve digital empowerment.”



ENG OLAYAN ALWETAID

*CEO
stc Group
(On the inauguration of Center3, which will be the owner of the digital infrastructure assets owned by stc)*

“Emirates SkyCargo is committed to being the leading player in the global air cargo industry providing our customers with the highest standards of products and services. Cooperating with United, who is a leading airline in its own right with strengths and a network that are complementary to our own, will allow us to add value for our customers and help them reach new markets more speedily.”

NABIL SULTAN

Emirates divisional senior vice president

Emirates SkyCargo

(On the MoU signed between Emirates SkyCargo and United Cargo that will deliver benefits to air freight customers and allow them access to more capacity on a larger combined global network)

“With the unveiling of our new property in Bahrain, Jumeirah Group is set to diversify the growing hospitality landscape in the Kingdom. As the darling brand of Dubai, Jumeirah will bring its considerable expertise and success to our neighbouring Gulf state, creating exceptional moments that deliver our promise to stay different.”

THOMAS MEIER

*Interim chief executive officer and chief operating officer
Jumeirah Group*

“Johnson Controls and Etihad Esco share common objectives for energy efficiency. We are excited to support this ambitious project to cut carbon emissions in the UAE leveraging our extensive experience in digital solutions. We are confident our combined expertise with Etihad Esco will yield positive results in enabling Dubai Municipality to efficiently achieve its energy savings targets.”

MOHAMMAD KHALID

Vice president and GM

**Johnson Controls (Middle East and Africa)
(On the strategic agreement signed with Etihad Esco, to deploy its major energy saving measures across Dubai Municipality facilities in the emirate)**

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Safety in waste management

Dr Eng Hani Hossni, EHS director, Abu Dhabi Waste Management Centre (Tadweer) discusses the organisation's OHS system and policies and how it ensures safe behaviour in the workplace.

Technical Review Middle East (TRME):

What are Tadweer's EHS mission and vision?

Dr Eng Hani Hossni (HH): Our EHS vision is to ensure an incident and injury free workplace, protect occupation health, to manage environmental impacts, and continuity of critical operations and services in case of disruption, emergencies, crisis and disasters.

Our EHS Mission is to develop environmental OHS and BCM world-class systems in line with the latest local standards, regulations, international standards and best practices. It also involves training and developing the necessary EHS and BCM competencies, support systems implementation, monitoring and measuring the effectiveness and continual improvements to achieve Tadweer's vision, as well as to regulate the waste sector in line with the Abu Dhabi OHS System Framework (OSHAD SF3.0).

The Abu Dhabi Waste Management Center is committed to fully complying with EHS regulations, legal requirements and international standards to prevent EHS incidents and associated losses to the valuable human life, human health, damages to the properties as well to the biodiversity as a whole.

TRME: How does Tadweer's OHS management system tie in with national and international standards and regulations?

HH: The Abu Dhabi Waste Management Center (Tadweer) is committed to providing the highest quality waste management services in the Emirate of Abu Dhabi, in line with the best international standards and global practices to achieve sustainability and integrated waste management. We also ensure adopting the most effective methods of public health pest control that align with the directives and vision of Abu Dhabi 2030 to improve e-services in various fields and promote the digital transformation of government agencies in the UAE.



Dr Eng Hani Hossni, EHS director, Abu Dhabi Waste Management Centre (Tadweer).

Tadweer's Occupational Safety and Health (OSH) policy highlights the importance of putting preventive measures in place to avoid and mitigate occupational health and safety risks. It also outlines the company's commitment to reviewing, monitoring, evaluating and improving our OSH performance. The centre follows the ISO45001:2018 Occupational Health and Safety international standard for health and safety, and all other relevant laws, regulations, and requirements such as the UAE Federal OHS Policy Framework and NCEMA 6000:2016 Standard.

TRME: How important are safety leadership and management commitment in maintaining high standards of health and safety?

HH: This is of the utmost importance for our leadership and management teams. During our operations, we ensure that EHS is embedded with our daily activities and we are safeguarding the health, safety and welfare of our employees and the public, and always guarantee that our operational activities are effectively controlled with regard to the protection of the environment

and ensuring health and safety for our employees and everyone working on our behalf. Our top management is ultimately responsible and accountable for a sound EHS performance and for developing a positive EHS work culture.

TRME: What are the main risks associated with the EHS management, and can you explain your procedure for identifying and controlling risks?

HH: Some challenges in EHS management include pollution and excessive noise, improper handling of material, health issues, and more. At Tadweer, we develop the required systems for managing waste including collection, transport, treatment, safe disposal and pest control services through the use of environmental service providers and technology, to preserve the environment.

We have also set a list of health and safety requirements for our contracts, to limit any potential risk caused by waste management. For example, the contractor and subcontractors are required to supply all workers with the personal protective equipment (PPE) needed to protect them from any potential risks. These include a safety hat, safety footwear, coloured overall indicating the company's name, high visibility vest, eye protection, and gloves. In addition, all the workers on site must attend an EHS induction by the contractor. We make sure that all our contractors comply by our EHS requirements, through controlling noise, displaying safety signage, having storage for hazardous material, and preventing pollution.

We have the highest safety procedures in place which involve hazard identification, where we identify who can be harmed for such hazard, human, assets, process, public; analyse and evaluate the risk; where we use a defined risk matrix through measuring the impact level and likelihood level of the risk; apply the risk controls; that works through the standard hierarchy of control and monitor and review the outcome. ■



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The 32nd International Trade Exhibition for construction materials, building and environmental technologies.



Saudi Arabia is witnessing an unprecedented construction and urban mega projects boom.

Photo Credit : Adobe Stock

SAUDI BUILD IS one of the largest construction trade exhibition and attracting thousands of international manufacturers, exporters and businessmen, as well as tens of thousands of regional engineers, importers and industry professionals to connect and engage with the latest technology that Saudi Arabia's largest sector has to offer.

Saudi Build Trade Fairs, have offered reliable B2B platforms for the last 31 years. The 32nd edition will offer opportunities to meet sector decision makers, according to organisers. Distributors, trade buyers, project owners, consultants, architectural engineers, specifiers and other stakeholders will be able to source their post-Covid needs at the Saudi Build 2022.

The event aims to bring industry professionals, solution providers and suppliers together.

Saudi Build 2022, will showcase building solutions and technologies, that will enable more sustainable developments and

healthier environments. Saudi Build 2022, will showcase building solutions and technologies, that will enable more sustainable developments and healthier environment. The sector leaders event will be held from 14 – 17 November 2022 at the Riyadh International Convention & Exhibition Centre.

The Kingdom of Saudi Arabia is witnessing an unprecedented construction and urban mega projects boom that will reshape the future of the Kingdom and the region.

Saudi Build 2022 will showcase the latest building technologies, interiors and finishing materials, building tools and materials, heavy equipment and machinery, concrete products and technologies, stones and ceramics, building technologies and innovations, lighting and electrical accessories and technologies, electro-mechanical solutions and technologies and air-conditioning, cooling and ventilation.

It presents a leading platform to present

the latest technologies, solutions, services and innovations. Saudi Build 2022 promises to showcase building solutions and technologies, that will enable more sustainable developments and healthier environments.

The show makes it possible to meet more local, regional and international organisations on a single platform. It also provides opportunities to discover the latest innovations, technologies and advancements in the realm of buildings and construction. Networking with industry influencers, decision-makers and professionals is another benefit that visitors can look forward to.

It provides opportunities to schedule face-to-face meetings with leading names in the industry, and to capitalise on business prospects emerging in the construction sector.

The event will be held from 14 – 17 November 2022 at the Riyadh International Convention & Exhibition Centre. ■



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A number of innovations are helping the scaffolding industry overcome challenges.

Photo Credit : Adobe Stock

Leading edge solutions

A look at some innovations and developments bringing change to the industry.

THE CONTINUOUS MOMENTUM in construction has opened up vast opportunities for scaffolding as well as formwork suppliers. The momentum witnessed in the GCC is expected to continue for some more time with fast-track construction projects.

As the scaffolding industry continues to be faced with a variety of challenges daily, here is a look at some innovations that are helping overcome these.

Scafftag, a Brady company, offers a software tool called SafeTrak that provides an automated report for scaffolding inspection. Inspections can be initiated with an RFID handheld that helps locate the equipment up for inspection, and supports the inspection itself. The software guides the inspector through a number of steps and captures any information entered, including pictures, to auto-generate a complete report. This report is shared instantly with predefined stakeholders.

Inspectors can be briefed automatically on their smartphone via Safetrak about which scaffold or equipment is up next for inspection.

Brady Corporation is a manufacturer of solutions that identify and protect people, products and places.

Al-Futtaim Engineering & Technologies is

associated with the execution of some of the most prestigious buildings throughout the Middle East. The division has established itself as an access solution provider in the Middle East by applying a diverse approach in offering traditional scaffolding, formwork, engineering design, and cradle and winch systems, all of which can be taken on a contract hire or sale basis.

The company now offers training courses Scaffolding & Access Solutions Division now offers training courses.

Murali S, managing director of Al-Futtaim Engineering & Technologies elaborates, "AFE Scaffolding & Access Solutions is well-known throughout the UAE for providing the highest standards of

Brady's software tool, SafeTrak provides an automated report for scaffolding inspection.

safety and quality when it comes to working at height. Now, we further enhance our reputation by offering PASMA approved training courses from our facility in central Dubai and throughout the UAE. In doing so, it strengthens our service offering and contributes to our strategic business objectives."

Alimak Group, in partnership with PERI, launched the Alimak STS 300 Scaffold Transportation System .

This product for the construction industry is making the scaffolding process as efficient and safe as possible. The Alimak STS 300 Scaffold Transportation System, is an innovative scaffolding transportation system offering a range of features which enhances safety in combination with efficiency. It provides scaffolders more productive erection and dismantling time, as well as better ergonomics, and it also supports horizontal movement on the ground level which makes it more user friendly and efficient.

The Alimak STS 300 is designed to fit perfect PERI UP scaffold. PERI UP scaffold secures scaffolders are always in a guarded position when installing or dismantling scaffold. Lifting tools do negatively impact this safe position of scaffolders, except when using the Alimak STS 300. ■

NeoR lightweight formwork is a step up from the modular one

THE NEOR LIGHTWEIGHT formwork combines the benefits of the proven modular universal formwork and the LOGO.3 wall formwork system, while at the same time offering all the system properties of modern lightweight formwork.

NeoR can be used universally and is therefore ideally suited for the construction of foundations, beams, columns and walls.

The panels of the NeoR lightweight formwork have a maximum weight of just 41.3 kg on the element 90 x 150 cm. It can easily be assembled and moved in twos and smaller panels solely on site by hand, without a crane or other transport aids. At the same time, the NeoR lightweight formwork boasts significantly higher fresh concrete pressure absorption of 50 kN/sq m.

A further advantage of the new formwork system is the low overall height of only 7.5 cm, which ensures particularly low storage and transport volumes. PASCHAL is expanding the LOGO.pro wall formwork range with the panel height of 340 cm for even faster forming of large areas.

For almost three years, LOGO.pro wall formwork with one-sided anchor technology has been significantly optimising time and cost expenditures on the construction site with impressive results.

In order to further optimise the panel sorting of the LOGO.pro, the product portfolio has now been expanded to include the new panel height of 340 cm.

The formwork panels offer the advantage of being able to shutter even larger wall heights without the additional extension of



Photo Credit : PASCHAL

The panels of the NeoR lightweight formwork have a maximum weight of just 41.3 kg.

segments or needing only two panels to reach a height of up to 6.80 m, for example.

Due to the large dimensions, there are fewer panel elements per wall surface and therefore also fewer accessories – and in particular connecting parts – to be mounted. This significantly reduces not only the shuttering times, but also the cost of the materials used.

In addition to the new large-size panel 240 x 340 cm, the LOGO.pro formwork panels are available in panel widths of 135, 90, 75, 60, 45 and 30 cm as well as matching inside and outside corner posts.

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Cat showcases new 789 mining truck

MINING INDUSTRY GIANT Cat has launched their new 789 Mining Truck which promises to deliver the same legacy of proven performance as their previous machines.

CAT mining truck The new Cat 789 Mining Truck promises to live up to the company's performance legacy. (Image source: Cat)

The design offers a weight advantage to haul more material every load and deliver a cost-per-ton advantage. The 789 moves more material with less fuel, offering up to 9% reduced fuel consumption compared to the Tier 2 design.

An advanced powertrain increases engine life by 12% and offers the highest horsepower in its class, meaning the mining truck features 10% more payload and is more than 5% faster on grade than competitors.

Delivering long-life reliability, the new Cat 3516E engine features design modifications to the camshaft and piston for optimal fuel efficiency, and the structural improvements to the cylinder head and crankshaft deliver 12% more durability than previous engines.

The 789 allows a choice of numerous body style configurations to meet specific site needs. The High-Performance Body maximises payload by reducing the weight by 2-5 tons. The Mine Specific Body excels in mature mines, while the Combination Body combines features of high volume and optional liners to haul both ore and overburden.

The more ergonomic cab also improves operator efficiency and productivity, with a 17% wider design with adjustable centre console offers 34% more operator space, 11% more legroom and 19% more



Photo Credit : Cat

The new Cat 789 Mining Truck promises to live up to the company's performance legacy.

shoulder room. The cab also offers 40% less Sound Pressure Level (SPL).

The new telematics platform promotes greater data acquisition, and faster transmission to locally hosted or cloud-based applications such as Cat MineStar Solutions. Available MineStar Fleet, Detect and Health Equipment Insights, along with standard haul roads analytics, help to improve operator performance, maintenance and machine life.

Superior braking and retarding control for the 789 is delivered by Caterpillar's patented, oil-cooled, multiple disc brakes to provide immediate, fade-resistant braking and retarding.

The 789 next generation mining truck replaces the current 789 Stage V/Tier 4 Final model.

Advanced radar and sensor solutions for challenging environments

DESIGNER AND MANUFACTURER of commercial radar solutions, Navtech Radar, showcased its latest innovations in radar localisation at this year's bauma exhibition in Munich.

The system, Teran360, is a single sensor radar localisation solution that uses Navtech's millimetre wave radar technology to reliably position a vehicle in its surroundings, particularly in harsh working environments such as mining and construction.

Currently, autonomous vehicles in these two sectors rely on GPS sensors to report their location, in order to reliably maintain centimetre level positioning required for autonomy, especially within developments with tall infrastructure, deep pits or at high latitudes where reliable signals can be naturally compromised.

Teran360, on the other hand, draws on high resolution radar technology which penetrates the atmospheric and weather conditions to constantly deliver highly accurate, centimetre level location data.

Delivered in partnership with autonomous vehicle software specialist, Oxbotica, Teran360 is certified to IP67 standard, meaning the sensors are completely protected from water and debris, ensuring constant operation and minimal maintenance to enable 100% visibility of assets at all times. Oxbotica's world-class localisation algorithms are combined with Navtech's ruggedised industrial radar sensors to provide a package that is resilient to weather and harsh environments.

Sam Wood, business development manager for Navtech Radar, said, "When Navtech was formed 20 years ago, we were tasked with solving one of radar's most challenging applications – answering the question of 'where am I' in industrial automation

and autonomous vehicles operating in harsh environments. Teran360 is that answer.

"Autonomy is becoming more and more prevalent in mining and construction, partly due to the surge in remote operations caused by Covid-19, but also out of a need to improve safety. On construction sites, the loss of location information for autonomous vehicles or equipment poses wider risks to the public. Additionally, with increases in GPS attacks through jamming and spoofing, basing an autonomous operation on GPS alone is becoming commercially risky. Teran360, and other examples of innovation developed by Navtech, aims to address these challenges."

According to Global Data, the number of autonomous haulage trucks in the mining industry rose by 39% in the period May 2021 to May 2022, particularly in Australia and Canada.

Teran360 has been designed to enable GPS denied navigation in mission critical applications where ultra-high availability is essential. The solution works independently of GPS or additional infrastructure and can provide a 3DoF (x,y and yaw) positional information to centimetre level accuracy across a wide range of environments and applications.

Teran360 is modular in design and intended to be integrated into a wider autonomy stack with the ability to fuse with existing positioning sources such as GPS. Using radar technology the solution is robust to adverse weather conditions and does not require cleaning or maintenance. It comprises of a 360-degree imaging radar sensor that is mounted on the outside of the vehicle and a small edge processor that is integrated into the vehicle body.

Manitowoc unveils the 70 t Grove GMK4070L four-axle all-terrain crane

IN A MOVE that is sure to strengthen its portfolio of four-axle all-terrain crane solutions, Manitowoc took to bauma 2022 in Munich, Germany, unveiling its new Grove GMK4070L.

The 70 t GMK4070L model is set to offer the strongest load charts and the longest boom in its class, at 60 metres. At its full extended boom length, the crane will have a lifting capacity of 4.4 t, while, at up to 49 metres, operators will be capable of load picking up to 8.3 t. At its maximum radius of 46 metres, the model will have the ability to lift up to 1 t.



Photo Credit: Manitowoc

The new model bolsters Manitowoc's four-axle range.

A maximum tip height of up to 78 metres is available when pairing the 60 metre main boom with its 15 metre swingaway jib option. This ability is more commonly associated with higher capacity rangers, allowing the GMK4070L to tackle jobs that would typically require larger models.

"The Grove GMK4070L offers improved engineering design and adopts several latest technologies to deliver a new level of performance, operation, serviceability, and fuel efficiency," said Andreas Cremer, vice president of product management for mobile cranes at Manitowoc.

"It's a crane that will be a true game changer, surprising many customers with just how much more a 70 t all-terrain crane can achieve."

The model will also offer operators a choice of travel options. At a configuration of 16.5 t per axle, the crane will carry up to 17.8 t in counterweight, just short of its full capacity 19 t complement. If requiring up to 12 t per axle, it will carry up to 13.3 t, while 10 t per axle configurations will guarantee 5.3 t of counterweight.

The GMK4070L is one of the first cranes from Manitowoc to integrate the new Grove CONNECT digital platform, providing owners and operators real-time access to fleet data. Fleet managers will be offered instant insights into the crane's performance with a couple of screen taps. Service technicians are also supported with remote and optimal troubleshooting, reducing required onsite trips and bolstering maintenance programmes.

MYCRANE unites the market with free Marketplace rollout

MYCRANE HAS LAUNCHED a global sales portal for cranes, spare parts, rigging, career vacancies and more, MYCRANE Marketplace.

The platform does not charge listing fees or sales commission for Marketplace users.

The Dubai-based digital crane and construction firm launched the free marketplace to equip worldwide operators with the ability to quickly and easily buy and sell new and used lifting equipment and more.

Available on the MYCRANE Marketplace are various types of cranes, rigging equipment, spare parts and auxiliaries, along with global job vacancies and crane-related roles.

Cranes available include mobile cranes, crawler cranes, tower cranes, boom trucks, aerial platforms, manlifts, mini cranes, and hydraulic gantry systems.

Photo Credit: MYCRANE

Marketplace is supported by the new MYCRANE Inspections application, which provides comprehensive real-time reports and high-quality images of cranes listed for sale wherever it is in the world.

Andrei Geikalo, CEO and founder of MYCRANE, said on the launch, "Thanks to our global network of franchisees and owned offices, MYCRANE has subject matter experts around the world that can connect customers with real buyers and achieve the best price for the equipment. It is this on-the-ground presence that enables Marketplace to combine digital technology with personal relationships.

The Marketplace also provides a link to the platform's crane rental tool.

Providers can post any of their previously registered cranes for sale in the Marketplace, without needing to re-input data.

The evolution of human-centricity in design and construction

The right drainage system will enhance quality of life for occupants and maximise profitability for building owners, says Adam Smith, managing director, Polypipe Middle East.

THE RAPID POPULATION growth, affluence, abundance of natural resources, and diversifying economies have created attractive prospects for investing, working and living in the GCC member states. Consequently, cities in the region have realised the pressing need to meet the growing market demand in a safe and sustainable way.

The focus in the construction industry has therefore shifted. Maximising speed and minimising costs are no longer the sole driving forces. Creating human-centric buildings and neighbourhoods that enhance quality of life has become a top priority for those operating in the industry. With 30% of homeowners willing to pay more for such spaces, achieving this can greatly enhance sales price, capital value, and client satisfaction.

Enhance safety while maximising ROI

According to the World Health Organisation, ensuring safe and reliable drainage systems is “a simple public health measure which is often overlooked, but can be addressed at minimal extra cost.” The right drainage systems can significantly reduce the transmission of infectious air-borne diseases and the spread of hazardous fumes such as ammonia and methane.

Properly designed drainage systems are engineered to minimise the risk of leaks, eliminate odours, and reduce the build-up of harmful bacteria and pathogens. In office spaces, the resulting improvements to indoor air quality can generate substantial long-term financial gains. In one study, a 90% improvement in indoor air quality resulted in approximately 40% of employees feeling more productive, along with lower levels of sick leave.

But air quality is not the only way in which drainage can impact productivity in the workplace. Distracting noises decrease productivity by up to 60%, while also increasing the risk of stress, headaches, high blood pressure, and even strokes. Despite the role of acoustic comfort in drainage often being overlooked, ignoring it can be detrimental to the value of the property.

Acoustically engineered systems, such as Polypipe Middle East’s Terrain Q, are specifically designed to retain the sound of water within the pipe by acting as a sound absorbent against shocks and vibrations. Multilayer technology creates a durable, fire resistant and insulated network of pipes made from mineral-reinforced plastic. The innermost layer is treated with anti-fouling properties to minimise encrustation build up, preventing sudden changes in flow direction that can increase the propagation of noise. Through innovative engineering, Terrain Q limits noise levels to just 20dB - equivalent to a whisper.

High-performing systems such as Terrain go the extra mile to enhance the surrounding indoor environment. It is important to acknowledge that a ‘one-size-fits-all’ approach is rarely successful in



Photo Credit : Polypipe Middle East

One of the biggest challenges with delivering skyscrapers is the supply and management of water.

construction. A smarter approach is to collaborate with suppliers that deliver fit-for-purpose systems, whose value extends beyond the product.

Bespoke suppliers offer a 360° approach, from planning and design through to installation, operation, and maintenance. Present in every stage of the process, they can offer optimisation solutions (such as maximising lateral space) and boost property values.

No compromise on quality

Specialised solutions are even more essential when it comes to high-rise and super high-rise buildings with their unique architecture and project requirements.

Renowned for its abundance of skyscrapers, the GCC faces frequent challenges when constructing buildings this tall, one of which is the supply and management of water. The taller the building, the higher the water pressure in places, and the greater the need for specially designed, durable water supply and plumbing systems. Compromising on quality in such instances runs the risk of failures, with the potential to damage the building, endanger occupant safety and tarnish the developer’s reputation.

Human-centricity is leading the way forward in design and construction, with a focus on high-quality, bespoke solutions that place health and safety at the core of plans for urbanisation. Developers cannot simply wait for a disaster to happen to make a change. Prevention is, in fact, the best protection and selecting the right drainage solution for your specific needs is just one way the construction industry can protect public health. ■

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Aksa Power Generation: Connecting the world to life

AKSA POWER GENERATION, founded as an electrical motor factory in 1968, manufactured its first generator in 1984 and became an expert in machinery and hardware for electrical energy supply within a short period of time. Aksa, a leader in the generating sets market, is among Turkey's largest 100 industrial companies and exporters.

Aksa manufactures gasoline, diesel, natural gas and marine generating sets ranging between 1 kVA to 3.125 kVA, as well as lighting towers and generator hardware. With three manufacturing facilities in Turkey, China, the USA and two trade centres in the Netherlands and the UAE, the company is a pioneer in the industry.

Aksa has carried out many successful projects around the world with the solutions it offers to healthcare, construction, mining, data centres and many other industries. Within this direction in data centre power systems, Aksa Power Generation has been approved by the Uptime Institute for compliance with TIER III and TIER IV standards in 61 different models produced for data centres.

The company continues to increase its investments in technology to remain the pioneer of change in manufacturing soundproof, environmentally-friendly generators with lower fuel consumption.

Middle East and Africa

Aksa Dubai as regional headquarters, manages six branch offices located in the Middle East and Africa region (South Africa, Algeria, Ghana, Kenya and Sudan). The company provides complete services at its 12,000 sq m facility operating since 2003 and has more than 80 employees who are experts in their fields.

Aksa Power Generation will be participating in several upcoming industry events and exhibitions including the Annual Future Data Centres and Cloud Infrastructure Summit in Dubai, the Construction Technology Festival KSA and the Middle East Energy in March 2023 in Dubai.



Aksa manufactures gasoline, diesel, natural gas and marine generating sets ranging between 1 kVA to 3.125 kVA

Photo Credit : Aksa Power Generation

Azelio and Elum Energy collaborate for energy storage

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 the advanced technologies of both companies, the solution sees Elum's monitoring and control working with Azelio's thermal energy storage system.

Elum Energy's ePowerControl MC is a controller used for microgrid applications with an energy storage system.

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 TES.POD system can be widely used to secure cost-effective and reliable clean energy.

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

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 the night.

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 USA.

MWM RAM and TPEM can monitor gas generators remotely

THE NEW ONLINE status monitoring system MWM RAM (Remote Asset Monitoring) is now also available for MWM gas generator sets with the digital power plant control TPEM (Total Plant & Energy Management). The MWM gas generator sets are delivered ready for MWM RAM activation. Existing plants can easily be upgraded with a retrofit kit.

Secure digital monitoring of the CHP plant operation in real time around the clock from any location—this is possible with the MWM online status monitoring system. MWM RAM enables the generation of reports with the output, operating hours, as well as the current and historical performance. This saves the user a lot of work.

All plant parameters, such as the engine and generator data as well as information about plant peripherals, appear on a display. Up to 1,000 parameters can be logged and displayed. The user interface provides access



MWM gas generator sets are delivered ready for MWM RAM activation.

to the data collected over a period of 13 months, enabling the operator to conduct detailed analyses. MWM RAM is suitable for all gas types and gas applications.

"The combination of MWM RAM with the digital power plant control TPEM enables our customers to improve the operation of their plants. Using this solution, they can optimise the maintenance and servicing of the gas generator set, even remotely," said Uwe Sternstein, head of service and spare parts. No additional installation work, hardware, or complex wiring is required. Only activating the RAM online will do.

Multi-layer security mechanisms enhances protection against unauthorised access. Regular online updates make sure the entire system is secure and up to date. Connectivity options include the existing TPEM Ethernet connection or a cellular connection. That way, gas generator sets or the entire fleet can be remotely monitored.

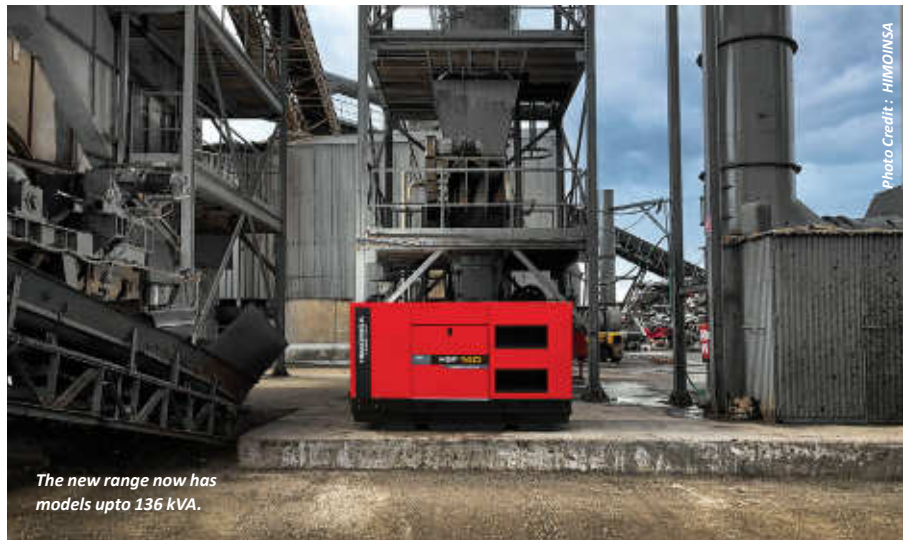
HS-Stationary Range expands to include 50 and 60 Hz

NEW MODELS, HSF95, HSF110 and HSF140 generator sets are now available under the HIMOINSA's Stationary range. The extension also includes single-phase versions of the HS40 canopy models (generator sets from 60 to 85 kVA).

The range consisted of generator sets starting from 10 to 90 kVA, which now includes models up to 136 kVA. This range extension boasts HS50 canopy models as well as the development of single-phase versions for HS40 canopy models. HIMOINSA's R&D team, however, is continuing to work on the development of new models that will allow extension to higher power ratings.

The new models expand the product portfolio to both 50 and 60 Hz in single-phase and three-phase versions. To date, the HS range features five different canopy sizes designed to accommodate the various models, all powered by either a Yanmar or an FPT engine, depending on the power range.

The HS Range has been designed to guarantee a user-friendly installation of the generator set. That is why it incorporates anchorage points for the installation of standardised lifting rings. It also features an extraction kit that facilitates the handling of the genset during checks, maintenance work, or the installation of the different fuel tanks without the need for a bridge crane.



The new range now has models upto 136 kVA.

The lifting and extraction kits are optional, as are the lifting skids for forklifts.

The new design includes fully removable doors to provide full access to the interior of the machine to carry out maintenance and to clean the internal components; at the same time, this makes it possible to reduce the space required during the installation process when the generator set is located inside a room and/or a building.

HS generator sets incorporate two distribution cable entries that provide easy connection and operation; a lower front entry that reduces the genset's footprint

and an alternative lower side entry to facilitate connections in accordance with the specifications and conditions of each installation. Both include a protective aluminium cover to prevent the entry of elements from the outside.

The canopy features self-extinguishing polyurethane foam and high-density rock wool. The HS range proposes a new silencer design which ensures comfortable sound emission levels in industrial environments and offers the possibility of installing a sound attenuation kit, depending on the project's requirements.

Kohler's HVO provides a cleaner, low emission alternative to diesel generators.

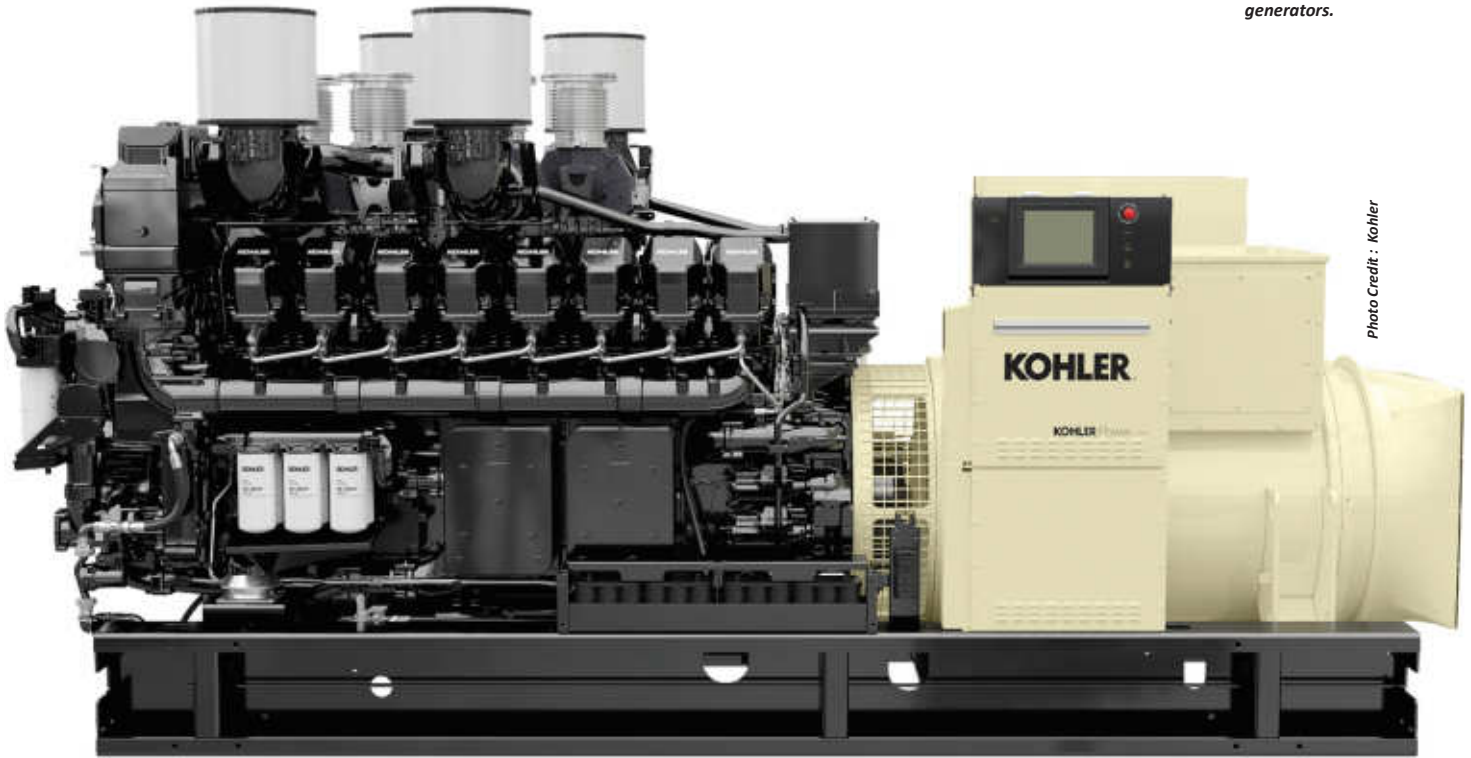


Photo Credit : Kohler

Kohler urges immediate need for **clean fuel generators**

The pressure to be greener is necessary, but change does not need to come at the cost of reliability, which is where HVO can represent a truly drop-in solution. Hervé Prigent, vice president, marketing power systems at Kohler, elaborates.

SINCE THE START of the industrial revolution, humanity have been utilising our planet's reserves of fossil fuels at an alarming rate. Crude oil and gas were formed millions of years ago by the compression of small creatures and plants that had fallen into the seabed, however we are on track to burn through the entire reserve within a few centuries. Resource extraction has more than tripled since 1970, including a 45% increase in fossil fuel use, according to the United Nations.

More urgently, the emissions of carbon dioxide, methane and other greenhouse gases are leading to dramatic temperature rises, causing extreme weather fluctuations, habitat destruction, and rising sea levels.

Given the nature of the irreparable destruction these factors will have on our world, we must act now to find solutions. This includes improving the efficiency and cutting the emissions of today's machines and systems, until green alternatives can be developed sustainably.

For mission-critical power, the diesel generator is the most common solution. While this is a proven, reliable technology, diesel gensets emit carbon dioxide among other harmful gases.

The users of mission-critical power systems are under substantial pressure to reduce emissions from their generators. This includes regulations to adopt cleaner alternatives. At the same time, these users

demand that there is no impact on the reliability of their emergency power systems, and that any cost increase is minimised.

New technologies such as fuel cells and batteries are not yet sufficiently mature to deliver affordable mission-critical power at the scale required. While suppliers such as Kohler are making substantial improvements to the efficiency of their diesel gensets, this will not be enough on its own to reduce emissions.

Thankfully, this does not mean we need to adopt temporary or inadequate technologies until these new solutions are available. Biofuels such as hydro-treated vegetable oil (HVO) can provide an effective,

low emission alternative to diesel immediately.

Stable, efficient biofuel

HVO is typically made by the hydrogenation of vegetable oil, adding hydrogen to molecules, or by hydrocracking, using hydrogen to break big molecules into smaller ones. Also known as green diesel or renewable diesel, it reduces net CO₂ emissions by up to 90%.

It is similar in grade and quality to traditional diesel, meaning it can be used as an alternative for existing infrastructure, without modification or any need to buy new engines. It is entirely compatible with the standard mix of petroleum-derived diesel fuels, meaning it can also be blended with traditional diesel.

HVO is made from waste products and residues that do not impact agricultural land use, including vegetable oils, animal fats, and used cooking oils. It plugs into a sustainable supply chain, with the use of waste feedstock, encouraging more local production than first-generation biofuels, which eliminates the emissions that would be created via transportation.

Compared to traditional first-generation biofuels, HVO is a much cleaner-burning fuel, which helps reduce emissions across its lifecycle. It is a high cetane fuel, with a



Hervé Prigent, vice president, marketing power systems at Kohler.

cetane number of 70-90 compared to conventional biodiesel's 50-65 and fossil diesel's 40-55. High cetane has advantages such as better combustion, better cold start, and reduced emissions levels.

Currently, HVO is more expensive than fossil diesel. However, increased supply as new production plants come on-stream is likely to help in reducing the cost.

The journey starts today

For applications such as mission-critical generators, HVO provides a cleaner and more sustainable alternative to conventional diesel and biofuels. This

Photo Credit: Kohler

option is becoming increasingly important as companies decarbonise their operations as part of a transition toward zero carbon. In California and many European cities, legislators are incentivising the uptake of renewable fuels.

Kohler has responded by making many of its diesel generators fully 'HVO ready'. These include the advanced KD Series, which includes the latest technologies, such as optimised engines and after-treatment systems. Customers can now use HVO, regular diesel – or both – with no negative impact on performance. This means that Kohler generator operators can reduce their carbon footprint by as much as 90% almost overnight.

Immediate action is required

Emissions must be reduced rapidly, but change does not need to come at the expense of reliability for mission-critical power. Choice is essential to help the industry shift to more sustainable power solutions.

HVO's compatibility with existing diesel engines for generators provides end-users with genuine operational flexibility without losing performance and presents a risk-free solution. Its widespread adoption is set to accelerate the pace of decarbonisation rapidly, supporting organisations embarking on a longer-term journey to zero emissions. ■

A historic turning point towards a cleaner and more secure future

THE GLOBAL ENERGY crisis is causing long-lasting changes that have the potential to hasten the transition to a more sustainable and secure energy system, according to the latest edition of the IEA's World Energy Outlook (WEO).

Alongside short-term measures to try to shield consumers from the impacts of the crisis, many governments are now taking longer-term steps. Some are seeking to increase or diversify oil and gas supplies, and many are looking to accelerate structural changes. The most notable responses include the US Inflation Reduction Act, the EU's Fit for 55 package and REPowerEU, Japan's Green Transformation (GX) programme, Korea's aim to increase the share of nuclear and renewables in its energy mix, and ambitious clean energy targets in China and India.

In the WEO's Stated Policies Scenario, these new measures help propel global clean energy investment to more than US\$2 trillion a year by 2030. As markets rebalance in this scenario, the upside for coal from today's crisis is temporary as renewables, supported by nuclear power, see sustained gains. As a result, a high point for global emissions is reached in 2025. Simultaneously, international energy markets undergo a profound reorientation in the 2020s as countries adjust to the rupture of Russia-Europe flows.

"Energy markets and policies have changed as a result of Russia's invasion of Ukraine, not just for the time being, but for decades to come," said IEA executive director, Fatih Birol. "Even with today's

policy settings, the energy world is shifting dramatically before our eyes. Government responses around the world promise to make this a historic and definitive turning point towards a cleaner, more affordable and more secure energy system."

For the first time, a WEO scenario based on today's prevailing policy settings has global demand for every fossil fuel exhibiting a peak or plateau. In this scenario, coal use falls back within the next few years, natural gas demand reaches a plateau by the end of the decade, and rising sales of electric vehicles (EVs) mean that oil demand levels off in the mid-2030s before ebbing slightly to mid-century.

While clean energy investment rises above US\$2 tn by 2030 in the States Policies Scenario, it would need to be above US\$4 tn by the same date in the Net Zero Emissions by 2050 Scenario, highlighting the need to attract new investors to the energy sector. And major international efforts are still urgently required to narrow the worrying divide in clean energy investment levels between advanced economies and emerging and developing economies.

"The environmental case for clean energy needed no reinforcement, but the economic arguments in favour of cost-competitive and affordable clean technologies are now stronger – and so too is the energy security case. Today's alignment of economic, climate and security priorities has already started to move the dial towards a better outcome for the world's people and for the planet," Dr Birol said.

Cutting carbon emissions from high-voltage transmission

Hitachi Energy's new eco-efficient brand EconIQ™ will cut SF6-related CO₂ equivalent emissions by 99%.

AS PRESSURE GROWS to tackle the climate crisis, the energy industry needs to look at every aspect of the energy value chain in order to cut greenhouse gas (GHG) emissions. Hitachi Energy is helping pioneer a game-changing technology that eliminates the use of sulfur hexafluoride (SF6) in high-voltage switchgear equipment – enabling more sustainable electricity transmission over long distances.

Focusing on the release of carbon dioxide – the GHG mainly responsible for climate change – the International Energy Agency recently published its roadmap to carbon-neutrality. It stresses that there is a pathway to net zero carbon emissions by 2050, but it calls for immediate action across all sectors – including buildings, industry, transport, and electricity.

The electricity sector has been leading the decarbonisation effort. Electrification will be the key to avoiding the use of fossil fuels in heating and transport. Greater carbon-free electrification calls for increased electricity production, predominantly driven by renewable energy sources, such as wind and solar. But while decarbonising generation is often the focus, the industry must also examine how the transmission and distribution (T&D) part of the chain can contribute to GHG reductions.

Hitachi Energy, which has long been at the cutting edge of research and development in the sector, recognises the role that T&D has in the energy transition. Grids have to be expanded as more and more wind and solar come into the mix, since such generating sources are typically added in remote places. On average, power from a wind farm travels around five times the distance from the source to the user compared to a conventional generating source, where the power plant might be close to the city. This greater distance means the power has to pass through more substations and thus calls for each substation to have higher availability.

The role of substations in supporting a clean, sustainable environment is currently one of the most important areas of development within Hitachi Energy – and not just because of the need to expand a network that will increasingly be based on renewables.

Since its introduction in the 1950s, SF6, due to its superior qualities compared to air, has been the gas of choice for insulation and switching in high-voltage electrical equipment. Its use, however, has an environmental impact. Although it is not continuously escaping to the atmosphere, if leaked, SF6 still makes a small contribution to global warming. It accounts for less than 0.01°C of global temperature rise.

But as a greenhouse gas, it is approximately 25,000 times more potent than CO₂ and lasts in the Earth's atmosphere for 3,200 years. While leakage during the manufacturing and lifecycle of equipment is significantly small, the goal is to eliminate SF6 where possible.

An evolution in fluoronitrile-based insulation has led to the development of a game-changing technology that will accelerate the



Photo Credit - Hitachi Energy

The eco-efficient EconIQ™ live tank breaker LTA for 145-kilovolt.

transition to a sustainable power system beyond SF6. It uses a gas mixture that consists of fluoronitrile, CO₂, and O₂. The mixture is effective in insulation and switching and is more than hundred times less harmful from a global warming perspective. Following a landmark agreement between vendors, it is expected that the gas mixture will become a solution that the industry will likely converge upon.

Hitachi Energy has been a key player in this innovation and is now leveraging its decades of experience and expertise to design and develop a new portfolio of high-voltage switchgear that utilises the new gas that consists of a fluoronitrile/CO₂/O₂ mixture. The new eco-efficient brand launched in late April 2021 is known as EconIQ™ and will cut SF6-related CO₂ equivalent emissions by 99%.

The plan is to remove SF6 in the circuit-breaker and across the entire high-voltage switchgear range. A 145-kilovolt (kV) Gas-Insulated Switchgear (GIS) is already available, and the portfolio is

being extended to the highest voltage level in order to match an SF6 portfolio that has been built over several decades.

This past August, at the annual CIGRE Session in Paris, Hitachi Energy introduced the latest advancement in the portfolio—a 420-kV SF6-free circuit-breaker. The introduction of the EconiQ 420-kV SF6-free circuit-breaker is a breakthrough for the industry. The circuit-breaker is a key enabler of several high-voltage, eco-efficient switchgear applications that are needed for long-distance power transmission. The circuit-breaker has passed all relevant tests described in the IEC and IEEE standards for 63 kA, 5000 A, 50 and 60 Hz.

The first installation of the 420-kV circuit-breaker is slated for mid-2023, where it will be used in an EconiQ Dead Tank Breaker (DTB) at a 345-kV substation. The customer, US-based company Eversource, is New England's largest energy company and serves approximately four million customers across the region. The project will support Eversource's sustainability goals, including meeting targets to achieve carbon-neutrality in their operations by 2030. Using innovative technologies to replace or reduce SF6 in their 345-kV transmission system will be a key part of that effort. It will be the first 420-kV SF6-free circuit-breaker installed in the US and in the world.

For SF6 alternatives, the main challenges are to reach the same performance and scalability as SF6 at a similar size. Size is absolutely critical in modern high-voltage switchgear as installations tend to be near urban centers, where land and space are limited, and substations need to be as compact as possible. Due to their much smaller footprint – GIS substations using SF6 are about 70% smaller than an Air-Insulated Switchgear (AIS) substations, they are often installed indoors and in places where space is at a premium. GIS using the new gas has a similarly small footprint while being 100% as reliable as the conventional solution based on SF6.

Hitachi Energy has been leveraging its decades of experience and expertise to design and develop a new portfolio of high-voltage switchgear that utilises the new gas that consists of a fluoronitrile/CO2/O2 mixture.

Eco-efficient EconiQ technology is an area where Hitachi Energy has and will continue to invest in. Last year, the company unveiled a roadmap for the development and launch of an extensive range of SF6-free, high-voltage solutions which includes switchgear and breakers in various voltage levels. Hitachi Energy's recent EconiQ innovations also include EconiQ Retrofill, another world's first in replacing SF6 in existing high-voltage equipment and EconiQ gas-insulated current transformers. The objective is to have the technology in place across the widest range of high-voltage products before the end of this decade -- demonstrating the scalability of the EconiQ portfolio.

Additional EconiQ installations in action around the globe

In addition to Eversource, several other customers around the world are currently utilising (or have plans to utilise) technology from the



Photo Credit : Hitachi Energy

EconiQ portfolio in their projects. Some examples include:

- **EconiQ Live Tank Breaker (LTA)**

In Spain's southern region of Murcia, Hitachi Energy installed the country's first eco-efficient EconiQ high-voltage breakers as part of a substation refurbishment. The installation of EconiQ LTA for 72.5 kV and 145 kV will support the sustainable agricultural development of the region.

Hitachi Energy is also supporting Sweden's energy transition with the installation of EconiQ LTA for 145 kV at the Vattenfall Distribution substation in Skövde. Additionally, in Norway, the company has signed a frame agreement with BKK Nett to install EconiQ LTA for 145 kV in more than 10 substations. The project will enable the country to reduce GHGs from its grid operations and remain on path with its stated goal of cutting GHG emissions in half by 2030 and achieving carbon-neutrality by 2050.

- **EconiQ Gas-Insulated Lines (GIL)**

Hitachi Energy is supplying SP Energy Networks with EconiQ GIL to support the country's sustainable energy targets. As part of SP Energy Networks' plan to refurbish aging energy infrastructure, advanced technologies will be installed to better manage energy flow in the grid. For the project, we are supplying 1,500 meters of EconiQ GIL which contains no SF6.

- **EconiQ Retrofill**

In partnership with National Grid, Hitachi Energy successfully energised a pilot project, achieving the world's first SF6 replacement in installed high-voltage GIL with EconiQ Retrofill. The solution is developed specifically to reduce the quantity of SF6 without having to conduct any major changes or upgrades on the existing equipment. All work can be performed without opening and dismantling the installed GIL. There is no need to change installed sealings. Only the gas is replaced with some minor replacement, such as gas connections. For the project, National Grid has replaced SF6 from 420-kV GILs installed in 2016, eliminating 755 kilograms of SF6. The substation was successfully energised in 2020.

These projects, and others, are a testament to Hitachi Energy's commitment to eliminate SF6 from the global energy system. The company's EconiQ high-voltage portfolio is enabling customers and the industry as a whole to decarbonise and rapidly transition to eco-efficient alternative solutions, which will be key to realising a sustainable energy future for all. ■

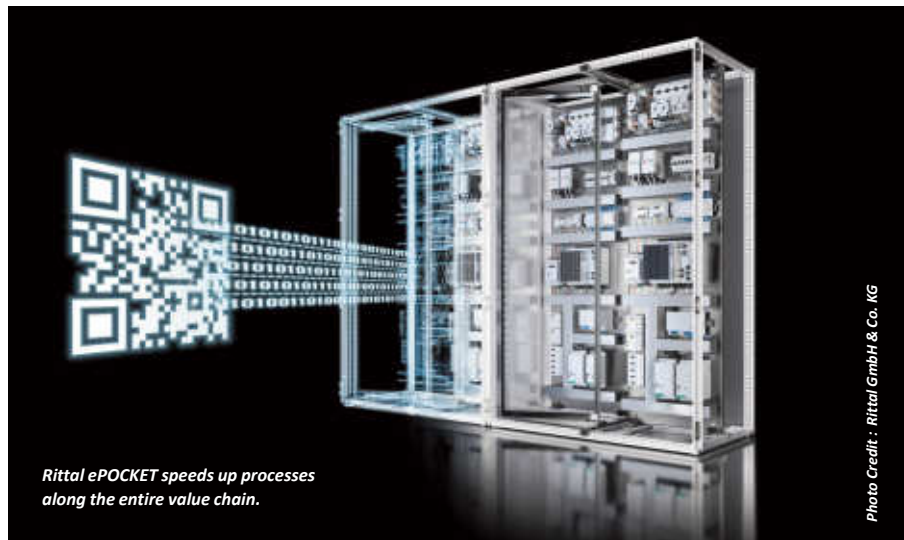
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Rittal ePOCKET speeds up processes along the entire value chain.

Photo Credit : Rittal GmbH & Co. KG

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- Permanent tracking by maintenance engineer and maintenance technician possible

Find out more at: www.rittal.com

Future Market Insights excerpts on Waste to Energy market

FUTURE MARKET INSIGHTS recently launched a report on Waste to Energy (WTE) market. According to this, the global waste to energy market is projected to reach a valuation of US\$82.49bn in 2032, with sales growing at a healthy CAGR of 7.3% during the forecast period of 2022 to 2032. Valued at US\$38bn in the year 2021, the waste to energy market will reach an estimated US\$ 40.77 bn in 2022. Escalating waste production is an immense concern. In addition to this, there is heightened demand for clean energy. Thus, the waste to energy technology is gaining mass recognition as it addresses two issues at the same time.

Rapid urbanisation and industrialisation have led to greater power requirements. With high power needs and emphasis on cultivating energy from renewable sources, the waste to energy market looks at bright market prospects. More and more countries are investing in renewable energy and reducing their dependency on fossil fuels which creates lucrative opportunities for the waste-to-energy sector. Elevated greenhouse gas emissions

have resulted in the implementation of strict government regulations.

This in turn induces manufacturers of green technology to continue to produce novel and innovative technologies that will aid in the production of cleaner energy. This fosters an environment of growth for the waste to energy market. Many governments across the globe increasing their investment in renewable energy sources to decrease their dependency on fossil fuels. This, too, contributes to the market expansion of waste to energy market.

Heightened demand for thermochemical waste to energy technology also fosters market growth for the waste to energy technology over the forecast period. Due to constant developments in waste treatment technology, thermal technologies are expected to dominate the waste to energy market. Waste is transformed into usable heat during thermal treatment and this heat or steam is then used to turn a turbine and produce power. This technology is being adopted by many companies around the world and is

likely to drive the waste to energy market.

“Government initiatives and policies coupled with developing waste treatment technologies will likely drive the growth of the waste to energy market over the forecast period,” says an FMI analyst.

Key Takeaways

- Constant advancements in waste treatment technology generate market possibilities
- By technology, the biological waste to energy segment is expected to dominate the market.
- The thermal waste to energy segment is predicted to account for 83% of the total market revenue in 2022.
- The European waste to energy (WTE) market is expected to reach a value of US\$ 16.5 Bn in 2022.
- The waste to energy market in North America will presumably grow at a 7.6% CAGR

These insights are based on a report on *Waste to Energy (WTE) Market by Future Market Insights*.



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Diving into next generation water solutions

Fergus Rooksby, commercial director, Bluewater Bio, in conversation with Fyna Ashwath about the company's technologies and projects driving growth in the region.

Technical Review Middle East (TRME): What technologies of Bluewater Bio were showcased at the WETEX and Dubai Solar Show?

Fergus Rooksby (FR): Headquartered in London, Bluewater Bio delivers advanced and environmentally-friendly water solutions and services to customers worldwide. At the WETEX and Solar Show, we focused on the advanced solutions impacting the water scarcity issues in the region. One of our technologies is FilterClear, the next generation multimedia filtration system which boasts high filtration rates of 25 m per hour and above.

It has a far smaller footprint and better product water quality than the conventional Dual Media Filtration (DMF) systems and is highly suitable for the Middle East's drive for better water recycling. The arrangement of four stratified filtration media enables a higher quality of filtered water than conventional sand and DMF filtration.

One reference for this technology is the reverse osmosis desalination plant serving the King Abdullah University of Science and Technology (KAUST) in Saudi Arabia.

Another technology showcased at WETEX and having a lot of success in the region is HYBACS, a wastewater upgrade technology, which has recently been used for large upgrades to Activated sludge plants in Saudi Arabia and Bahrain.

It offers a smaller footprint and lower capital cost, providing higher quality treated wastewater for reuse.

TRME: Bluewater Bio recently won the Queen's Award for Enterprise. Please shed some light on this achievement.

FR: Over the last three years, we have been the fastest growing water company in the UK and last year, Bluewater Bio was the fastest growing throughout Europe. A large part of this growth is brought about by our exports. The Queen's Award for Enterprise for International Trade is a prestigious



Photo Credit: Bluewater Bio

Bluewater Bio delivers advanced and environmentally-friendly technologies worldwide.

award given to a limited number of companies for driving export growth.

TRME: What are Bluewater Bio's major markets in the Middle East? Could you tell us about some projects in the region?

FR: The region has many ongoing projects with several major contractors. Our role is generally more as a technology provider to the main contractors for EPC projects though increasingly we are being asked to take on a more leading role.

The UAE and Saudi Arabia are Bluewater Bio's major markets in the Middle East, in terms of market size. We are also looking at opportunities in North Africa. Egypt is a strong growth area and we are looking at major projects and to position ourselves with main contractors and developers. Jordan is also of interest.

In addition, we are also looking at further wastewater expansion projects in Bahrain as well as a number of desalination projects in Saudi Arabia, especially along the Red Sea.

In terms of the key areas of focus for the region, as water is sourced largely from

desalination processes it's unit cost is far higher than in other parts of the world. Consequently, it's even more important for the region to maximise reuse and minimise consumption to lower costs to the consumer and reduce the environmental footprint of the sector. As highly efficient, high product water filtration processes like FilterClear can reduce unit water costs and maximise the potential for reuse, we are seeing significant levels of interest and uptake in the region.

TRME: How is Bluewater Bio differentiated from the competition?

FR: Bluewater looks to develop technologies that are a step change in approach. Our filtration technology gives three to four times the capacity throughput per unit area, as compared to conventional technologies. In broad terms, our wastewater technologies help double the capacity of an existing treatment plant without building new structures. This is again a step change in approach that the market needs. We look at producing high quality water with lower whole life costs and reduced energy use. ■

Briefly

New sintered NEG pumps

GAMMA VACUUM HAS introduced a new sintered NEG pump series for research, medicine, industry and analytics.

Unlike most vacuum pumps, NEG pumps are gas-capturing pumps that bind gases by means of sorption. This results in low energy consumption, little noise, and no vibration. NEG pumps have no moving components and are therefore maintenance-free.

With these attributes, they are predestined for a whole range of applications in research, medicine, industry and analytics. In these areas, they reach pressures of less than 1×10^{-10} mbar due to their operating principle. A critical requirement in such applications is the absence of dust particles as those badly influence the performance of the customers' applications. Sintered NEG material is widely believed to strongly reduce emission of such particles into the application.

"The increased pumping performance of this NEG series with respect to our conventional NP series and their superior hydrogen capacity in comparison to the other NEG pumps available on the market are additional benefits," said Dr. Stefan Lausberg, product manager for Gamma Vacuum.

The NEG series ranges from 50 l/s up to 400 l/s in pumping speed: 50NS, 100NS, 200NS, 300NS, 400NS, 410NS. All pumps are mounted on a DN 40 CF (2.75" CF) flange. NEG vacuum pumps can be used in a broad spectrum of scientific and medical applications, such as electron microscopes, research and medical accelerators or surface science. Due to their superior hydrogen pumping speed, they are especially well-suited in the ultra-high vacuum range where hydrogen is the dominant gas species.

After the NEG pump has been heated up, it does not consume any electricity until it is saturated.

"This makes it an energy efficient, vibration-free and noiseless pump," highlighted product manager Dr. Stefan Lausberg.

The pump can be installed and operated in any orientation, even in confined spaces, and provides a practical way to maintain ultra-high vacuum pressures over a long period of time.

Amarinth delivers orders for Iraq project

AMARINTH, A NET-ZERO designer and manufacturer of low lifecycle cost centrifugal pumps and associated equipment, has delivered two separate orders of API 610 pumps totalling US\$1.41mn for the West Qurna-2 expansion project in Iraq.

West Qurna-2, located approximately 65km north-west of the seaport town of Basra, Iraq, is one of the world's biggest onshore oilfields. The expansion project is expected to increase the production capacity from the current 400,000 barrels oil per day (bpd) to 480,000 bpd, with a target to achieve a total production capacity of 800,000 bpd by 2025.

The first order, from Cannon Artes, was for seven super duplex API 610 OH1 pumps. The bespoke-designed pumps are for a low shear application and required specialist Plan 53B seal support systems incorporating air-cooled seals and stainless-steel accumulators. All electrical items were IECEx certified for use in an ATEX Zone 2 hazardous area. Despite the ongoing global Covid-19 pandemic during the design and manufacture, delivery was achieved in the required time of just 32 weeks from order.

The second order, from SICIM, was for three super duplex API 610 OH3 vertical in-line pumps for produced water treatment. The large pumps had impellers of over 500mm diameter and the casings that weigh 1.5 tonnes, were cast in a foundry in the United Kingdom. Plan 53B seal support systems were designed to fit within a constrained footprint and as the pumps were destined for an ATEX Zone 2 area, the motors, seal support systems, and instrumentation were



Photo Credit : Amarith

One of the Amarith API 610 OH1 pumps with specialist Plan 53B seal support system.

IECEx certified. Witness testing and inspection was undertaken by Bureau Veritas and a full legalised Iraq documentation package was delivered with the pumps. Once again, despite the global Covid-19 pandemic, delivery was achieved on 38 weeks.

Oliver Briggingshaw, managing director of Amarith, commented, "We are delighted to have delivered these pumps to the West Qurna-2 expansion project, further underlining our commitment to projects in Iraq and the Middle East. We have successfully delivered orders previously to Cannon Artes, but this was the first order Amarith has received from SICIM, and we look forward to undertaking further business with them in the future."

Armstrong Fluid Technology launches mobile app to optimise pump performance

ARMSTRONG FLUID TECHNOLOGY has announced the launch of a new mobile app that brings all of the value and benefits of the Pump Manager subscription service to users of Android and iOS mobile devices.

Pump Manager is a cloud-based subscription service that provides industry-leading pump analytics and performance insights along with alerts and notifications. The software provides industry-leading pump analytics and proactive performance insights along with early diagnostic warnings, web accessible trends and analysis, along with automated reports. Active Performance Management learns, predicts and enables optimization actions to be made based on these learning to ensure long-term efficiency based on data-driven responses.

By enabling predictive maintenance, the service reduces and mitigates risks of

equipment failure, resulting in around 51% in savings, in addition to maintaining optimum occupant comfort. Pump Manager can be optimised in line with data-based learnings to achieve energy savings of up to 30%.

Tunji Asiwaju, global manager, Cloud Services at Armstrong Fluid Technology, commented, "With this new app, service technicians, facility managers and operators can receive real-time alerts and performance data, wherever they are. Service contractors may have a service level agreement for a set retainer fee, so they can really benefit from efficiency improvements in service processes. They can check a mobile device and know immediately what issue a pump is experiencing."

The App is now available for download in the Google Play Store and Apple Store.

Five reasons to choose TruePix direct-view LED for your control room

HERE ARE FIVE reasons why TruePix LED technology is a great idea for your control room.

Reason #1

Accurate visualisation of critical content

Control room operators need to be able to view their video wall content with full confidence. They need to be sure that there are no missing details that can lead to slow or wrong decisions. Barco's TruePix LED platform ensures accurate visualisation of critical content in impeccable image quality through a combination of smart engineering and advanced image processing:

- A flat wall and seamless image, thanks to perfectly aligned LED modules and a self-regulating wall structure
- High-performance processing platform InfiniPix Gen2, which ensures colour accuracy and contrast at any brightness level
- Colour-critical accuracy in both dimmed mode and at full brightness with the same colour tone, colour bit depth, grayscale and level of detail

Reason #2

Improved operator well-being

Operators can easily get physically drained doing long shifts of focused work. This can cause a state of impaired alertness, which may result in slower reaction times. Driven by Barco's InfiniPix Gen2 processing platform, TruePix allows operators to see bright and sharp images for all types of content, with uniformed colours across the overview display. This offers the highest viewer comfort, prevents eye fatigue, and reduces stress levels.

Reason #3

Ready for 24/7 operations

Today's control rooms need a video wall that is up and running 24/7. TruePix is the best



Photo Credit : Adobe Stock

LED technology is ideal for control rooms due to accurate visualisation and impeccable image quality.

guarantee for efficient, uninterrupted service and maximum profitability.

- Redundancy of several critical components to maximize uptime in case one component fails
- A smart failover system to ensure an uninterrupted data flow
- High serviceability and easy module replacement, reducing service downtime to a minimum

Reason #4

Easy, risk-free installation

The installation of a video wall is critical because a faulty setup may result in clearly visible anomalies, such as large gaps between LED panels. TruePix is the first LED video wall platform that pays so much attention to a seamless, risk-free installation.

- A smart mounting structure that neutralises imperfections of the underlying wall surface
- A camera-guided module placement, reducing the risk of LED damage
- Full front and rear access, which makes installation easier and less intrusive.

Reason #5

Long-term supportability

A video wall is an investment for the long haul. Barco has been investing continuously in technologies and services that make LED a safe choice for many years.

- 10 years of dedicated support for your system
- Fast fixing with fully batch-compatible modules
- Remote video wall management
- Barco's EssentialCare and SmartCare services
- Solid network of regional service partners

The time is now for LED

There has never been a better time than now to invest in LED. With the introduction of Barco's revolutionary TruePix platform, the future looks bright for LED in control room applications. ■

Do you want to learn more? Then download our ebook '5 reasons to choose Barco TruePix' on www.barco.com/ebook-5reasons. is a great idea for your control room.

Three technology initiatives to transform supply chains

Technology solutions today are providing and improving intelligent data, product lifecycle management and data centralisation, explains Jason Pearce, IFS APJ & MEA chief technology officer.

IT IS IMPERATIVE for companies to show agility and adaptability to face the challenges of today and tomorrow. While these buzzwords are thrown around all too often, what has become evident is that data-driven insights that allow companies to obtain true visibility over their operations are the bedrock to make informed decisions when these obstacles arise.

Companies must understand the need for a centralised data infrastructure that allows them to have complete, aligned oversight across their processes in order to truly embrace the power of intelligent data.

With global supply chains impacted due to global conflict and sanctions, shortages of container and ship rotations, just to name a few, managing data and insights out of primary and secondary supply chains, is now absolutely vital.

As companies emerge from a prolonged period of uncertainty, how they perform over the next twelve months will be centred on finding operational efficiencies and their commitment to sustainability initiatives.

Intelligent data

While mining and manufacturing companies may initially feel impeded by sustainability regulations and investor pressure, there are ways for them to both increase their efficiency as well as their compliance through investment in intelligent data.

Adoption of data-based technology and data-driven insights will allow these companies to monitor entire asset lines in real-time, providing the basis for long term organisational objectives that will increase their capabilities to deliver on sustainability targets, while boosting revenue and profitability.

While some companies may feel that their current ERP, EAM and scheduling optimisation systems allow them to make informed analytics-based decisions, what is clear is that system fragmentation is the



single largest impediment to transformation and innovation for asset-intensive industries such as mining and manufacturing.

Global supply chains

There has been signs of slow recovery in global supply chains in late 2021. Global freight expert DHL's recent Export Barometer Report indicated that nearly two-thirds of local traders are expecting exports to rebound in the new year, and 59% are predicting export revenue will return to pre-pandemic levels by the end of 2022.

However, global supply chains will still be very fragmented for the foreseeable future.

Companies must adopt greater oversight on product lifecycle management, at every point of the supply chain, which has never been more disrupted. Insights drawn from intelligent data can allow companies to reap the benefits in the long run.

IDC predicts that manufacturers that are facing increased disruption will digitally transform and accelerate sustainable innovation to improve supply chain operations from concept to commerce, increasing revenue by 20% in 2025.

Centralised data

Companies must recognise the importance

of centralising data for better visibility across their operations to stay competitive in a recovering marketplace.

While many companies believe they have the right foundation, too many incorporate complex and disparate systems that are inefficient in gaining real-time oversight of processes. Given the complexities of solutions available to companies today, processes must be streamlined, and data centralized to optimise production, and reduce manual intervention.

Creating digital infrastructure that optimises efficiencies – such as AI/ML applications, ERP, S&OP, EAM and MES – can achieve greater transparency, while driving new efficiencies that extend product and asset lifecycles, reduce waste and provide feedback mechanisms to support the circular economy, that can only benefit in the long run on the road to recovery.

After tumultuous years, 2022 will hopefully be the turning point in the road to recovery. For companies to succeed, optimising performance – through greater visibility over their processes, and harnessing the power of insights driven by intelligent data – will be crucial both today and tomorrow. ■

The Middle East's growth in the IG sector is primarily due to regional demand and the increased need for self-sufficiency in these uncertain times.

Photo Credit: Adobe Stock

Middle East industrial gas growth and development

Across many sectors, the demand for industrial gases (IGs) is growing fast, with the Middle East no exception to the increasing hunger for gases. Tim Guest reports.

FROM OXYGEN AND nitrogen in medicine and healthcare, to inert gases in chemical and oil & gas industries, as well as many more gases and applications besides, IGs form a massive sector, which, in the Middle East, comprises leading international players as well as an increasingly homegrown list of companies emerging as regional nations strive for a greater self-reliance in many sectors of industry.

So, not only is growth in the region's industrial gas sector being bolstered by regional demands, but also by the recognition that countries across the Middle East must strive for increased self-sufficiency to ensure greater energy security in these uncertain times.

Growing market and green hydrogen foresight

According to leading analysts, the market for IGs in the Middle East/GCC is projected to exceed US\$79.35bn by 2032, with growing demand for such gases as carbon dioxide (CO₂) and oxygen, as well as specialty gases for use in a wide range of applications. Indeed, by 2027, the regional market, as projected by some analysts, will have achieved near exponential growth, in part due to several gas sub-segments, including helium – projected to hit US\$47.61mn in 2027 – and hydrogen.

This latter sub-segment, alone, is expected to reach US\$482.3 million by that time, which will likely be, in part, due to efforts by the recently-formed Abu Dhabi

Hydrogen Alliance, established last year with the purpose of making Abu Dhabi, (and the UAE as a whole), both a strong green hydrogen economy and a reliable supplier of low-carbon blue and green hydrogen to emerging markets as international focus on hydrogen and its market adoption as a new source of clean energy blossoms.

Investment companies ADQ and Mubadala, together with the Abu Dhabi National Oil Company, are the founding partners of the new hydrogen alliance, under the auspices of the UAE Ministry of Energy and Infrastructure, and through its burgeoning efforts, the use of hydrogen will also be encouraged among the three partners' own and affiliated companies in utility, industrial, mobility, medical,

educational and other diverse applications.

Underpinning the founders' opportunity to attract their respective captive customer audiences to the use of hydrogen in their operations, CEO of ADQ, H E Mohamed Hassan Alsuwaidi, said that forming the new alliance would 'deepen the hydrogen energy economy in the UAE, allowing it to meet the rapidly growing global demand for hydrogen worldwide.'

He said, "With Abu Dhabi's largest portfolio of energy and utilities investments, ADQ will play an important role in the transition to cleaner energy while shaping the future of this economic cluster leading to Abu Dhabi's longer-term sustainability. Additionally, as ADQ continues to develop key clusters in the local economy, including mobility and logistics, we are well-placed to drive local adoption in sectors with high energy demand."

Sights on Saudi hydrogen and Egyptian steel

Global gas player active in the ME and specialist in oxygen, nitrogen and hydrogen gases, Air Liquide, also has its sights set on developing its involvement in the region's growing hydrogen sector. In September, having divested certain of its regional, though non-core, business units to Abdullah Hashim Industrial Gases & Equipment Company — Air Products' merchant industrial gas JV in Saudi, stated that the company is now well-positioned to further grow its already strong presence in the GCC region, in particular in Saudi Arabia, in large industries and healthcare businesses, and to pursue the many opportunities emerging with clean hydrogen and energy transition.

In April, the company signed a long-term agreement with regional steel giant, EZZ Steel, for the supply of industrial gases to EZZ's new plant in Ain Sokhna, East of Cairo and for which Air Liquide Egypt will invest around US\$80mn building an air separation unit (ASU) to meet the IG needs of EZZ and other local users. The ASU will have and eventual oxygen-production capacity of 770 tons per day and will notably enable Air Liquide to support the development of the Ain Sokhna area as one of the country's major basins for heavy industries within the Suez Canal Economic Zone. Air Liquide will

also expand its existing pipeline Ain Sokhna to connect the new plant with its four other ASUs already in operating in the area.

The company's senior vice president, Pascal Vinet, who is also on the Group Executive Committee overseeing the MEA, said that the collaboration with EZZ is enabling Air Liquide to "accompany the growth of the Egyptian steel industry through the establishment of one of the largest industrial basins in Egypt". He said investment in the latest ASU and pipeline infrastructure will further enhance the company's capabilities, allowing it to meet the growing industrial gas demands of its customers across the region.

Food-grade CO₂ recovery in Saudi

Just to further highlight the growth and innovations taking place in the IG sector of the ME, Gulf Cryo's expansion of its CO₂ business in the region will be a major boon

The process will capture more than 250,000 tons of CO₂ emissions a year and will produce high-purity, food-grade green CO₂ using latest technology from TPI, which will keep beverages uncontaminated according to international standards. Gulf Cryo will project manage and operate the plant, which the company says will 'satisfy all CO₂ requirements in a sustainable, reliable and safe manner suitable for all industries, including desalination plants, beverage and food processing industries, chemical and manufacturing.'

Strategically, and in line with the aims and intentions of several GCC nations, Gulf Cryo expects this latest CO₂ plant investment to help it maintain a pivotal role in the region's moves towards a greener, low-carbon future, not just in the KSA, but across the whole ME, where its high-quality product will support industrial uses for recovered CO₂, from dry ice for cold transportation of



The KSA is the region's largest market for IGs, primarily due to its major chemical and world-leading petrochemical sectors.

Photo Credit: Saudi Aramco

for several IG users in the area, particularly the food processing industry. The company, together with Tecno Project Industriale (TPI) from SIAD Group, Italy, is undertaking a 20-year mega CO₂ recovery project, which will see it procure, install and operate the largest CO₂ emissions capture plant in the Middle East, based in the KSA. The modular plant will have an eventual daily production capacity of 300 metric tons, doubling Gulf Cryo's existing capacity in the region.

medicine and foodstuff, pH control for water treatment, carbonation for beverages, atmosphere enrichment for agriculture and many other industrial applications.

For many years in Jordan, for example, the industrial gas market has centred around the supply and use of oxygen — supplied as liquid oxygen — for the medical sector and in oxy-fuel gases for cutting and welding in light manufacturing, as well as a steady demand for CO₂ for its food-processing and packaging industry sectors, where it has previously relied on imports from regional suppliers, Egypt and Saudi Arabia. Once the new Gulf Cryo mega-CO₂ plant reaches full production, one can safely assume more of its product will reach the food-processing industry not only of Jordan, but of the whole Middle East. ■

The process will capture more than 250,000 tons of CO₂ emissions a year and will produce high-purity, food-grade green CO₂.

Project Databank

Compiled by Data Media Systems

INFRASTRUCTURE AND INDUSTRIAL PROJECTS, SAUDI ARABIA

Project Name	City	Facility	Budget (US\$)	Status
Al-Yamamah Steel Industries Company - Al-Yamamah Wind Power Systems Plant	Eastern Region	Steel Plant	6,90,00,000	Design
Almadinah Almunawwarah Development Authority - Ministry of Finance - Madinah Public Transport - (Scheme/Program)	Medina	Railway	1,60,00,00,000	Design
AMAK - Moyeath Copper & Zinc Processing Plant	Moyeath	Copper, Zinc	24,00,00,000	Construction
DCOMM - Makkah Mass Rail Transit (MMRT)	Makkah	Railway	16,50,00,00,000	Construction
DCOMM - Makkah Public Transport Programme (MPTP) - (Scheme/Program)	Makkah	Mass Transit Systems	16,50,00,00,000	PMC
DCOMM - Makkah Public Transport Programme (MPTP) - Metro Network - Phase 1 - Line B and C	Makkah	Mass Transit Systems	16,50,00,00,000	Feasibility Study
DGDA - Diriyah Gate - Diriyah Interchange	Ad'Diriyah	Bridge	31,10,00,000	Engineering & Procurement
EV Metals Group - Lithium Chemicals Plant	Yanbu	Industrial Production	80,00,00,000	FEED
GACA - Regional Airports Development Program - (Scheme/Program)	Various	Airport	3,60,00,00,000	Construction
Jeddah Economic Company - Jeddah Economic City - Overview	Jeddah	City	20,00,00,00,000	Construction
Khnaiguiyah Mining Company - Khnaiguiyah Zinc-Copper Project	Riyadh	Zinc	25,70,00,000	Engineering & Procurement
King Salman Park Foundation (KSPF) - Wellbeing Project - King Salman Park - Overview	Riyadh	Mixed-Use Development	5,75,00,00,000	EPC ITB
LogiPoint - South Jeddah Logistics Park	Jeddah	Logistic Hub	14,70,00,000	Design
Lucid Group - Advanced Electric Vehicle Manufacturing Plant	King Abdullah Economic City	Transportation Manufacturing Plant	3,40,00,00,000	Construction
Maaden - Gold Mines Development Program - (Scheme/Program)	Various	Gold	60,00,00,000	Construction
Maaden - Phosphate 3 Complex - Overview	Waad Al Shamaal	Phosphate	6,40,00,00,000	Construction
Maaden - Sabic - Mosaic - Waad Al Shamaal Phosphate City - Overview	Ras Al Khair	Phosphate	9,60,00,00,000	Construction
Makkah Region Development Authority (MRDA) - Makkah - Al-Faisaliah City	Makkah	City	1,45,50,00,00,000	Design
Matarat - Abha Airport Development	Abha	Airport	48,00,00,000	Design
Matarat - Al Jouf Airport Expansion	Al Jouf	Airport	30,00,00,000	Construction
Matarat - King Abdul Aziz International Airport (KAIA) Expansion - Overview	Jeddah	Airport	6,00,00,00,000	Construction
Matarat - King Abdullah bin Abdul Aziz Airport	Jizan	Airport	50,00,00,000	Construction
Matarat - King Khalid International Airport - Cargo Terminal	Riyadh	Airport	23,00,00,000	Engineering & Procurement
Matarat - King Khalid International Airport - Terminal 3 & 4 Expansion	Riyadh	Airport	90,00,00,000	Commissioning
Matarat - Prince Naif Regional Airport Expansion	Qassim	Airport	39,50,00,000	Engineering & Procurement
Mawani - CMA CGM - Jeddah Islamic Port Integrated Logistics Facility	Jeddah	Logistic Hub	13,00,00,000	Project Announced
Mawani - Maersk - Logistics Park	Jeddah	Logistic Hub	13,60,00,000	Project Announced
MEPCO - Tissue Paper Production Plant	King Abdullah Economic City	Rolling Mill	9,00,00,000	Construction
Ministry of Defense and Aviation - King Faisal Air Academy Relocation	Al Majmaah	Mixed-Use Development	6,00,00,00,000	Construction
Ministry of Housing - Dahiyat Al Fursan Housing Development	Riyadh	City	20,00,00,00,000	Design
Ministry of Interior (MOI) - Security Forces King Abdullah bin Abdulaziz Jeddah Medical City	Jeddah	Medical/Health Facilities/Spa	2,50,00,00,000	Construction
Ministry of Interior (MOI) - Security Forces King Abdullah bin Abdulaziz Riyadh Medical City	Riyadh	Medical/Health Facilities/Spa	12,00,00,00,000	Construction
Ministry of Investment of Saudi Arabia (MISA) - Knowledge Economic City - Madinah Gate	Medina	Mixed-Use Development	10,20,00,000	Design
Ministry of Transport - (Saudi Arabia - Egypt) King Salman Causeway	Ras Hamid	Causeway	5,00,00,00,000	Feasibility Study
Ministry of Transport - GCC Railway Network - Bahrain - Saudi Link	Khobar	Railway	4,20,00,00,000	Design
Ministry of Transport - King Hamad Causeway (Saudi - Bahrain Link)	Dammam	Causeway	3,00,00,00,000	Feasibility Study
Ministry of Transport & Communication - GCC Railway Network	Eastern Region	Railway	25,00,00,00,000	Construction
National Center for Privatization & PPP - Obhur Suspension Bridge	Jeddah	Bridge	1,20,00,00,000	Feasibility Study
National Grain Company - Handling Grains Terminal	Yanbu	Food Processing Plant	11,00,00,000	Engineering & Procurement

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REGIONS COVERED

- Asia Pacific
- Middle East
- Latin America
- North America
- Central America
- Russia & CIS
- East Africa
- North Africa
- West Africa
- India
- China
- Europe

SECTORS COVERED



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Project Databank

Compiled by Data Media Systems

INFRASTRUCTURE AND INDUSTRIAL PROJECTS, SAUDI ARABIA

Project Name	City	Facility	Budget (US\$)	Status
Neom - Neom City - Rail Network - Rolling Stock	Neom	Railway	1,00,00,00,000	Project Announced
Neom - Neom City - The Line - Overview	Neom	Mixed-Use Development	2,00,00,00,00,000	Engineering & Procurement
Neom - Neom City - Trojena	Neom	Hotels, Residential Development, Theatre/Entertainment/Leisure Facilities	50,00,00,000	Project Announced
Neom - Oxagon - Duba Port	Duba	Port	50,00,00,000	PMC
PIF - Rayadah Investment Company - King Abdullah Financial District (KAFFD)	Riyadh	Mixed-Use Development	7,80,00,00,000	Construction
Qassim Cement Company - New Production Line	Buraidah	Cement	4,00,00,000	Engineering & Procurement
QIC - Qiddiya Entertainment City - Overview	Riyadh	Mixed-Use Development	8,00,00,00,000	PMC
QIC - Qiddiya Entertainment City - Phase 1 - Package 3 - Upper Plateau Primary Roads	Riyadh	Bridge, Roads	29,31,50,000	Construction
Royal Commission for Al-Ula - Afalula - Al-Ula Development - AILUA Experiential Tramway	Medina	Railway	10,00,00,000	Design
Royal Commission for Ras Al-Khair - Steel Coil Industrial Complex	Ras Al Khair	Steel Plant Industrial City	4,00,00,00,000	Project Announced
Royal Commission for Riyadh City - Riyadh Metro - Overview	Riyadh	Railway	23,00,00,00,000	Construction
Royal Commission for Riyadh City - Riyadh Metro - Phase 1 - Package 1 - Lines 1 and 2	Riyadh	Railway	9,50,00,00,000	Construction
Royal Commission for Riyadh City - Riyadh Metro - Phase 1 - Package 2 - Line 3	Riyadh	Railway	4,00,00,00,000	Commissioning
Royal Commission for Riyadh City - Riyadh Metro - Phase 1 - Package 3 - Lines 4-6	Riyadh	Railway	8,00,00,00,000	Construction
Rua Al Madinah Holding Company (RAMH) - Rua Al Madinah Project (Scheme/Program)	Medina	Mixed-Use Development, Roads, Telecommunications	10,00,00,00,000	Engineering & Procurement
SABIC - OCI - LONGi Solar - Solar and Carbon Black Integrated Complex	Abha	Industrial Production	2,00,00,00,000	Feasibility Study
SABIC - Technology Center Jubail 2 (STC-J2)	Jubail	Schools/R&D/Educational Institution	8,00,00,000	Engineering & Procurement
Saudi Aramco - BMT - Fittings and Valves Manufacturing Facility	Various	Industrial Production	7,40,00,000	Project Announced
Saudi Aramco - King Salman Energy Park (SPARK) - Phase 1 - Dry Port and Logistics Zone	Abqaiq	Logistic Hub, Port	10,00,00,000	Construction
Saudi Aramco - King Salman International Complex for Maritime Industries & Services - Marine Works	Ras Al Khair	Dredging/ Reclamation	5,30,00,00,000	Construction
Saudi Aramco - King Salman International Complex for Maritime Industries & Services - Phase 2 - Dry Docks, Basins, Piers, and Utility Buildings	Ras Al Khair	Port	4,00,00,00,000	Construction
Saudi Calcined Petroleum Coke Company (SCPC) - Calcined Petroleum Coke (CPC) Plant	Jubail	Coal	35,00,00,000	Engineering & Procurement
Saudi Engines Manufacturing Company - Engine Manufacturing Facility	Ras Al Khair	Industrial Production	40,00,00,000	Engineering & Procurement
Saudi Railway Company - Saudi Railway Masterplan	Various	Mass Transit Systems	97,00,00,00,000	Construction
Saudi Railway Company - Yanbu to Jeddah Railway	Red Sea	Railway	1,00,00,00,000	Project Announced
SaudiPhos - Turaif Integrated Industrial Phosphorus Chemical Complex	Waad Al Shamaal	Industrial Production	30,00,00,000	Pre-FEED
SCLC - LandBridge Rail Link	Various	Railway	25,00,00,00,000	PMC ITB
SeAH Gulf Special Steel Company - SeAH Gulf Special Steel Plant	Riyadh	Steel Plant	23,00,00,000	Engineering & Procurement
The Royal Commission for Jubail - Ssangyong - Vehicle Assembly Plant	Jubail	Auto Assembly Factory	18,70,00,000	Design
TRSDC - The Red Sea Project - Phase 1 - Airport - Airside Package	Tabuk Province	Airport	27,00,00,000	Commissioning
TRSDC - The Red Sea Project - Phase 1 - Airport - Landside Package	Tabuk Province	Airport	30,00,00,000	EPC ITB
TRSDC - The Red Sea Project - Phase 1 - Coastal Village	Tabuk Province	Residential Development	35,00,00,000	Construction
TRSDC - The Red Sea Project - Phase 1 - Desert Rock Resort	Tabuk Province	Beaches and Resorts	15,00,00,000	Construction
TRSDC - The Red Sea Project - Phase 1 - Jumeirah Red Sea Resort	Red Sea	Hotels	40,00,00,000	Project Announced
Tuwaiq Casting & Forging Company - Casting and Forging Manufacturing Facility	Industrial Production Ras Al Khair		40,00,00,000	Construction
Umm Al-Qura Development & Construction Company - King Abdul Aziz Road (KAAR) Development	Makkah	Roads	1,60,00,00,000	Construction
URB - Alnama Smart City	Riyadh	City	13,30,00,00,000	Project Announced
Women's Business Park Technologies - Women's Business Park	Riyadh	Mixed-Use Development	10,00,00,000	Pre-FEED

Gensets Buyers' Guide

2022

The Middle East's annual where-to-buy guide

Section One: International and regional suppliers of Gensets

Section Two: Contact details of Middle East agents & subsidiaries listed by country, page 45

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Aksa Power Generation FZE



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For 38 years, Aksa Power Generation has manufactured generating sets from 1 kVA upto 2500 kVA, supplies comprehensive spare parts, rental solutions and a customer-focused after sales service all around the world.

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Cantoni Group is a global leader in manufacturing of electric motors, apparatus and tools with over 100-year-long tradition. Cantoni Motor, the International Sales Office located in Poland, coordinates the sales and purchasing for the whole Group. We offer a full range of induction electric motors, from 0,04kW up to 6000kW, in standard and special executions.

Caterpillar Electric Power

USA
Web: www.cat.com/demand_cat
E-mail: Electric_Power@cat.com

Agents:

United Arab Emirates - Caterpillar SARL Branch

COELMO Spa



Via delle Industrie 278
Agglomerato Industriale ASI
Acerra (NA), 80011, Italy
Tel: +39 081 8039731
Fax: +39 081 8039724
Web: www.coelmo.it
E-mail: sales@coelmo.it

COELMO is one of the oldest European manufactures of industrial and marine generators from 3 kVA up to 4000 kVA. Based in Italy, with a large stock of Generating Sets available to be shipped overnight to any destination in the world. Company profile, products and models are available online at www.coelmo.it

Agents:

United Arab Emirates - COELMO spa (DMCC branch)

ComAp a.s.

U Uranie 1612/14a
170 00 Prague 7
Czech Republic
Tel: +420 2 46012111
Fax: +420 2 66316647
Web: www.comap-control.com
E-mail: info@comap-control.com

ComAp leads the way in providing smart energy control solutions and services that are highly flexible, intuitive, and scalable. Our products and solutions support applications in power generation and marine, as well as energy management systems. Established in 1991, the company has grown over 30 years into a global leader in smart power control solutions with 14 subsidiaries and a strong network of 60+ distributors worldwide.

Agents:

United Arab Emirates - ComAp a.s (DMCC branch)

Cressall Resistors Ltd.

Evington Valley Road
Leicester
LE5 5LZ
United Kingdom
Tel: +44 116 2733633
Fax: +44 116 2737911
Web: www.cressall.com
E-mail: sales@cressall.com

Cressall Resistors manufacture high power resistors, neutral earthing (NERS), portable load banks, bespoke HV and LV load banks, dummy loads and dynamic braking resistors as well as resistors for use in high voltage filters such as HVDC, SVC and MSC systems.

Cummins Arabia

CME-HQ - D 55
Mina Jebel Ali
Dubai
United Arab Emirates
Tel: 04 880 9911
Web: www.cummins.com
E-mail:
Cumminsarabia.customerassistance@cummins.com

Cummins Arabia represents Cummins distribution businesses in the United Arab Emirates, the Kingdom of Saudi Arabia and Kuwait. Comprising of 10 service branches, eight warehouses, a high horsepower (HHP) Master Rebuild Center and a service training center, Cummins Arabia is fully equipped to deliver the right capabilities and expertise to our customers at all times.

Deep Sea Electronics Ltd

Highfield House, Hunmanby
Industrial Estate
Hunmanby
North Yorkshire
England
YO14 0PH
United Kingdom
Tel: +44 1723 890099
Web: www.deepseaelectronics.com
E-mail: sales@deepseaelectronics.com

UK based, leading global designer and manufacturer of generator controllers, vehicle and off-highway controllers, ATS controllers and intelligent battery chargers. Setting new standards through continual product innovation, DSE is recognised across the globe for producing industry leading control solutions that enhance customer applications.

Expo Centre Sharjah

Al Taawun Street
Al Khan
Sharjah
Sharjah
United Arab Emirates
Tel: +971 6 5770000
Web: www.expo-centre.ae
E-mail: info@expo-centre.ae

SteelFab is the reference show for the metal working, metal manufacturing & steel fabrication industry in the Middle East. The event has made it indispensable in its role to support regional businesses develop disruptive capabilities that would help them gain an edge in a hypercompetitive market. Every year it brings together over 200+ Exhibitors, 400+ Brands, 30+ countries and 6000+ visitors accompanied by industry specialists, academics and technology pioneers to drive business growth, enable future investments & commercial opportunities and making valuable connections. As a hub for business, knowledge exchange and innovation, the exhibition also features a conference, hosted buyers programme & business matchmaking programme.

Forest City Generators Ltd.

Albion House
163 – 167 King Street
Dukinfield
Cheshire
SK16 4LF
United Kingdom
Tel: +44 161 4490660/0770
Web: www.forestcitygenerators.com
E-mail: forestcity@compuserve.com

Water cooled diesel generator sets from 7.5kVA to 2650kVA. Soundproof canopies available up to 2000kVA. Automatic load Transfer Switch (ATS) panels. Synchronising control systems and a full range of associated spare parts.

GENMAC S.r.l - Power Products

Via Don Minzoni, 13
Gualtieri (RE)
42044
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Tel: +39 0522 222311
Fax: +39 0522 829218
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E-mail: info@genmac.it

GENMAC manufactures generators since 1983 – 100% Made in Italy. GENMAC offers: a complete range of generators and accessories from 2kW up to 2000kVA, open and super silent, in parallel, ATS for single genset or Dual,

Remote Control, Trailers and Trolley, Spare parts, Fuel tanks, Technical Documentation. Specific power solution for different application: residential, industry, water treatment, telecommunication, Hospital. All the power solution you need, GENMAC can make it!

Grupel – Grupos Electrogéneos SA

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Web: www.grupel.eu/en
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In 1976, Grupel was founded with the mission of taking energy all over the globe. That is why since then its main activity is the production and commercialization of a wide range of power generators equipped with best quality components and with powers between 3 to 3500kVA. Nowadays it operates in more than 70 countries, in the 5 continents.

HIPOTRONICS, INC.

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E-mail: sales@hipotronics.com

HIPOTRONICS is the world's leading full line manufacturer of high voltage test equipment and measurement instrumentation. For almost 60 years, HIPOTRONICS has maintained its reputation as being the industry standard. For more information, follow us on Twitter (@HIPO1962), YouTube, and LinkedIn.

IREM S.p.A.

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Web: www.irem.it
E-mail: irem@irem.it

IREM S.p.A specialises in design and manufacture of 1PH and 3PH electro-dynamic voltage regulators and line conditioners - in standard and customized versions - with power ratings from 1 to 8000 kVA for indoor and outdoor installation. In business since 1947, IREM is a medium size company (staff 90 people) exporting all over the world. Company according to ISO9001 (since 1983), ISO 14001 (since year

2000), ISO 45001 Standards. Typical application fields: Broadcast, Telecommunication, Industrial applications, Electro-medical appliances, Machine tools, Manufacturing plants, Banks and Insurance Companies, Construction, Oil and Gas, Mining, a.s.o.

JCB Power Products

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Tel: +44 1889 272220
Web: www.jcb.com/en-gb/products/generators
E-mail: generator.sales@jcb.com

JCB Power Products offer a comprehensive range of Power Generators and Lighting Towers ranging from 8-3,300kVA. Open or canopied, single or 3 phase and 50Hz or 60Hz frequency together with various voltage options. JCB generators give you a lot of options to meet your exact power requirements across any industry.

Agents:

Bahrain - Gulf Equipment & Technology WLL (JCB Power Products)
Egypt - International Projects & Consulting Co. (IPC) (JCB Power Products)
Iraq - Al-Ghodwa for Trading Agencies Co. Ltd. (JCB Power Products)
Jordan - Yazoure Group (JCB Power Products)
Kuwait - Riham General Trading and Contracting Co. WLL (JCB Power Products)
Libya - The White Alnoras (JCB Power Products)
Oman - MOS (JCB Power Products)
Qatar - Mannai (JCB Power Products)
Saudi Arabia - RGTS (JCB Power Products)
Turkey - SIF (JCB Power Products)
United Arab Emirates - JCB GB Equipment Solutions

Jubaili Bros

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E-mail: jbdubai@jubailibros.com

Jubaili Bros has over 40 years of experience and is a leading provider of Energy Solutions in the Middle East, Africa and Asia. Jubaili Bros serves its customers by offering high quality diesel generator sets, assembled at 3 manufacturing plants with 30 branches and service centers deployed in 11 countries that are dedicated to customer satisfaction.

Agents:

Kuwait - Jubaili Bros (Kuwait)
Lebanon - Jubaili Bros (Lebanon)
Qatar - Jubaili Bros (Qatar)

Kohler Power Systems EMEA

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Tel: +33 2 98 41 41 41
Fax: +33 2 96 41 63 07
Web: www.kohler-sdmo.com

Kohler Power Systems is one of the world's leading generating sets manufacturers. A wide of standard products from 1 kVA to several Megawatts through an efficient engineering department meets nonstandard requirements. Present in over 150 countries through a dense network, Kohler devotes its energy to supporting you in the successful completion of each of your projects world wide.

Agents:

United Arab Emirates - Kohler Power Systems
Middle East

Linz Electric S.p.A.

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Tel: +39 045 7639201
Web: www.linzelectric.com
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Linz Electric S.p.A. specializes in the production of alternators from 1,7kVA to 1.500kVA and rotating welders up to 500amps. The reliability of Linz Electric results in excellent electrical performance, compactness and mechanical strength, with a wide range of customizations and exclusive design totally Made in Italy Linz Electric is part of Pedrollo Group.

Lloyd Dynamowerke GmbH

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Tel: +49 421 45890
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Web: www.LDW.de
E-mail: sales@LDW.de

LDW develops and produces electrical motors and generators for various industrial applications. Newest technologies in combination with over 100 years of experience - that's the successful foundation on which the extraordinary quality of LDW's machines is based. We do not manufacture standard machinery. Instead we develop specific solutions for your individual needs.

Agents:

United Arab Emirates - Salwo Trading Ltd.

Lovato Electric S.p.A.

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E-mail: info@lovatoelectric.com

World leader manufacturer of electromechanical or electronic products for genset control panels. Range includes generators, controllers, automatic trans switch controllers, battery chargers, changeover controller and switches and more.



MAN Energy Solutions SE

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MAN Energy Solutions is a leading solution provider for the marine, energy and industrial sector. Power plants, ships and factories worldwide are equipped with MAN technology. Customers receive worldwide after-sales services marketed under the MAN PrimeServ brand. Our mission is to support our customers in the transition towards a carbon neutral future. The industries we serve are crucial for the world economy. Most of them are also hard to decarbonize and we offer the solutions. This gives us the opportunity to have big impact on the global energy transition.


Agents:

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Middle East LLC

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Tel: +44 1572 771160
Web: www.meccalte.com
E-mail: gen@meccalte.co.uk

Mecc Alte develops high performing alternator solutions from 1kVA to 5000kVA within low to high voltage power classes for stand-by and prime power applications. Combining independent thinking with agile supply and committed service, it delivers next generation products with intelligent capabilities for OEMs looking for greater efficiency and reliability.

Moteurs Baudouin

Technoparc du Brégadan
Cassis
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Tel: +33 488 688500
Web: www.baudouin.com
E-mail: contact@baudouin.com

For 100 years, Baudouin has manufactured the highest quality engines for power generation, and marine applications. Baudouin provides a wide range of power solutions: PowerKit Diesel & Gas engines from 18–4125 kVA and variable speed engines. Based in France, Baudouin's global network of service points is ready to support our customers all around the world.

Perkins Engines Company Limited

Eastfield, Peterborough
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Tel: +44 1733 583000
Web: www.perkins.com
E-mail: info@perkins.com

A world-leading supplier of off-highway diesel engines in the 4-2000kW/up to 2500 kVA market, Perkins has 90+ years' experience of designing, building and servicing industrial power solutions. Working in collaboration with 800+ equipment manufacturers in power generation, agriculture and construction, we tailor our engines to meet their needs and standards.

Agents:

United Arab Emirates - Power Systems Gulf LLC

Peter Berghaus GmbH

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E-mail: mail@berghaus-verkehrstechnik.de

Peter Berghaus GmbH is a well known manufacturer of innovative safety products for working zones from Germany. Portable traffic lights, mobile barrier systems, warning lights and warning trailers. All you need for safety on your road construction site.

Polypipe Middle East Water Technology LLC

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+971 (0) 4 518 3000
middleeast@polypipe.com
www.middleeast.polypipe.com

Polypipe is the UK's largest plastic pipe systems manufacturer with an unrivalled portfolio of above and below ground drainage, water management and plumbing systems. Through our versatile range of products and impressive local manufacturing capabilities, we've supplied some of the region's highest-profile projects with intelligently engineered, holistic water management solutions.

Power Industry Machineries Company SARL

Ground floor, Golf Building
Airport road
Beirut, Lebanon
Tel: +961 1 825531/2
Fax: +961 1825532
Web: www.pimcolb.com
E-mail: pimco@pimcolb.com

We are specialised in selling and assembling generating sets and electrical control panel boards, manufacturing soundproofs, finding solutions for all soundproofing systems, offering installations of all kinds of generating sets with their correlative accessories synchronising and ATS panels. All kinds of insulation and anti-vibration systems and installation of fuel systems.

Rittal Middle East FZE

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Fax: +971 4 3416856
Web: www.rittal.com/uae-en
E-mail: info@rittal-middle-east.com

Rittal Middle East FZE - A subsidiary of Rittal GmbH & Co. KG. Composing an active team with over 35 professionals addressing the Middle East market. Rittal Middle East is one of the recognized Innovative suppliers for the Industrial and Electrical sectors as well as a key player in the networking infrastructure & Datacentre arena.

ROTAIR S.p.A

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Fax: +971 6 557 9980
Web: www.rotairspa.com
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ROTAIR S.p.A is an Italian manufacturer of Portable Screw Air Compressors. Since its inception in 1961, the company has been specializing in design and manufacture of highly efficient and reliable screw compressors. Today ROTAIR compressors are enabling customers in 70 plus countries to meet their demanding business needs in the most efficient way.

- Product range: 25 – 900 CFM / 7 – 14bar
- Airend: Manufactured in-house
- Engines used: Perkins-UK, Kubota-Japan, Honda-Japan, Deutz-Germany and Cummins-UK
- Version: Diesel, Petrol and Hydraulic

SAB, Standard Aggregatebau Evers GmbH & Co. KG**SAB**

Oststrasse 11
D-22844 Norderstedt
Hamburg
Germany
Tel: +49 40 522 50 110
Fax: +49 40 522 50 1144
Web: www.generatingset.com
E-mail: info@generatingset.com

Reputable German manufacturer of custom-built diesel-driven generating sets from 50 to 8000 kVA in stationary, transportable or mobile executions for standby, peak load or base load applications world-wide. Main competencies are the planning, designing, manufacturing, installation and servicing of global plant constructions under consideration of individual customer and project requirements.

SES Smart Energy Solutions FZCO

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Fax: +971 4 8862067
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SES is a leading provider of turnkey energy solutions across Middle East, Africa and South East Asia. SES offers Fast track turnkey rental power solutions, Solar Panels, Inverters, Solar Power plants, Hybrid Power Plants, Solar powered containers, Battery Storage with lithium ion batteries solutions to help our customers maximize on their productivity and profitability, while minimizing on downtime and resources with highest safety standards.

Teksan

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Istanbul
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Fax: +90 216 312 69 09
Web: www.teksan.com/en
E-mail: info@teksan.com

Teksan, which is an engineering and technology company that produces uninterputed energy solutions, continues its journey that it started by making diesel generators, with natural gas and biogas generators sets, cogeneration and trigeneration systems that provide 90 percent energy efficiency, mobile lighting

towers, hybrid power systems, biogas solutions and microgrid systems. It provides services in more than 140 countries on six continents as an engineering and technology company, has developed reliable and innovative products and produce uninterrupted energy solutions for a sustainable life since 1994.

Agents:

Egypt - Rich Uni Co.
Iraq - KM Co.
Libya - Belhaj International Company
Saudi Arabia - Abdul Latif Jameel Machinery
Sudan - MTWA International

VEGA Technique - Middle East Office

Al-Khaimah Building
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VEGA is a German manufacturer of level and pressure instruments for all applications such as in the chemicals, oil & gas, energy, water & waste water, bulk solids, food, pharmaceutical...
VEGA develops innovative sensors that offers maximum safety and reliability: Guide Wave Radar, Free space Radar, Radiation based technologies, Pressure and Differential Pressure Transmitters etc...

Visa S.p.A.



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Fax: +39 0422 509350
Web: www.visa.it
E-mail: visa@visa.it

Visa S.p.A is one of the world's leading gensets suppliers, based in Italy, designing and manufacturing diesel generators, from 9 to 3000kVA, in standard or customized versions to meet your every need in a large variety of applications. With its network currently present in more than 100 countries worldwide, it provides versatile, high-tech energy solutions, guaranteeing a highly operational flexibility and qualitative standards for which it has become a leader in the market for more than 60 years.

Volvo Penta

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Sweden
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Web: www.volvopenta.com
E-mail: info.volvopenta@volvo.com

Agents:

Bahrain - International Agencies Co. Ltd.
Jordan - Mithkal, Shawkat & Sami Asfour Co.
Kuwait - Al Boom Marine Co.
Lebanon - Khonaysser Motors
Qatar - Al Badi Trading & Cont. Co. Ltd.
Saudi Arabia - Alkhorayef Commercial Co. Ltd. (Riyadh)
Saudi Arabia - Alkhorayef Ind. Co. Marine Division
United Arab Emirates - Al Masaood Marine and Engineering (Abu Dhabi)
United Arab Emirates - Al Masaood Marine and Engineering (Dubai)
Yemen - Elaghil Trading Co. Ltd.

Section Two: Agents & subsidiaries in the Middle East

BAHRAIN

Gulf Equipment & Technology WLL (JCB Power Products)

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EGYPT

International Projects & Consulting Co. (IPC) (JCB Power Products)

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KUWAIT

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LIBYA**Belhaj International Company**

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The White Alnoras (JCB Power Products)

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RGTS (JCB Power Products)

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SUDAN**MTWA International**

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Kohler Power Systems Middle East

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Autodesk and Epic Games partner to expand real-time immersive design capabilities

AUTODESK, INC HAS announced a strategic partnership with Epic Games as both organisations strive to accelerate immersive real-time experiences across industries. Initially, the developmental collaboration will focus on Architecture, Engineering and Construction (AEC).

The labour shortage crisis and the pressing challenge to deliver project outcomes at a faster pace for lower costs means Autodesk customers require more open and connected workflows and third-party integrations.

“We know our customers are looking for more visualisation and collaboration experiences

through extended reality,” said Autodesk EVP of AEC Design, Amy Bunszel.

“Together with Epic Games, we will expand on what is possible. In immersive environments, designers can communicate to their project teams and clients with unparalleled realism how projects will look and feel upon completion for better decision-making and outcomes.”

As part of Autodesk’s aim to connect the physical and digital worlds, the first integrated offering is Epic Games’ Twinmotion for Autodesk Revit, a system that delivers real-time rendering.

“The integration between Autodesk Revit and Twinmotion promises to deliver a truly seamless, real-time 3D experience for design professionals,” said Marc Petit, Epic Games’ vice president, Unreal Engine Ecosystem.

“We share a common goal with Autodesk, giving customers more time to be innovative. By tapping into Epic’s ecosystem of real-time 3D tools and libraries, users can spend more time bringing their designs to life and less time handling complex data and technical workflows.”



Photo Credit: Autodesk/Epic Games

The first integrated offering is Epic Games’ Twinmotion for Autodesk Revit.

Doosan unveils ‘All-in-One Platform’ for smart construction

ONE OF THE important features of the Doosan stand at bauma is the dedicated Innovation Centre, where the company will unveil the new generation XiteCloud ‘All-in-One Platform’ for smart construction under the company’s ‘Powered by Innovation’ banner.

In 2019, Doosan introduced Concept-X in South Korea, the world’s first unmanned automated and integrated control solution for construction, quarrying and mining sites. XiteCloud is the first stage in commercialising Concept-X.

Doosan is committed to producing innovative products and services for its customers whilst delivering added value through innovation.

Visitors to bauma will be able to see the latest developments in the XiteCloud system, as the company further expands its business portfolio into the field of construction site management to complement its existing operations in manufacturing and sales of construction equipment.

With XiteCloud, a customer can manage multiple tasks such as: surveys, terrain analysis, machine purchases, equipment operation and construction management on a single platform, thereby reducing construction costs and saving time, while increasing work accuracy which, in turn, raises productivity. XiteCloud also allows customers to manage multiple projects on a single platform, accumulating and managing data that can be utilised for future decision making/business.

At bauma 2022, visitors to the Innovation Centre on the Doosan stand will be able to see the new All-in-One Platform for smart construction, based around the Xitecloud system. The All-in-One Platform introduces a range of new solutions that form part of the XiteCloud system, all of which will be demonstrated at bauma, covering many aspects of construction management, including: XiteCore, XiteFleet, XiteAnalyst, XiteSIM, XiteSafety, and XiteAuto.

As suggested by its name, XiteCore is a Cloud-based open integrated dashboard system that connects all of the XiteCloud solutions, providing the information needed to carry out a construction project which enables easy project management and control at a glance.

This system provides opportunities for collaboration/communication among project participants with an open platform that adopts an applied card-type interface. This allows the user to set the dashboard flexibly according to the particular characteristics of the project (card type, location, size, etc.) It also incorporates real-time monitoring of weather, manpower, equipment, instruments, CCTV and other aspects together with connection to the other solutions within XiteCloud such as XiteFleet, XiteAnalyst and so on.



Photo Credit: Doosan
With XiteCloud, a customer can manage multiple tasks.

Briefly

Kelvin Maps strives to help industrial organisations meet emission targets

KELVIN, THE CONTROL software company delivering industrial intelligence, has unveiled Kelvin Maps, one of the world’s first industrial solutions to measure, monitor and reduce businesses’ carbon emissions.

The new category of software offers a unique perspective into various manufacturing and production processes, helping users to identify its most emission-heavy processes and reduce carbon footprint, with the end goal of boosted profitability and sustainability.

Kelvin Maps utilises patent-pending technology, identifying bottlenecks, preventing failures, and accommodating improved operations through production scenario simulation.

“Global enterprises are struggling to capture emission levels across their supply chains and businesses. They must adopt a bottoms-up approach to boost transparency, visibility and measurement inside their operations,” said Peter Harding, founder and CEO of Kelvin.

“Kelvin Maps helps enterprises and their supply chain partners hit net-zero goals by visualizing and optimizing the entire production process in detail. Our product helps find your problems and fix them in rapid time.”

As the world moves to a more sustainable landscapes, notably with the Saudi Vision 2030 reducing the nation’s dependence on oil, Kelvin Maps aims to help organisations take a step towards sustainability targets.

Carbon offset prices could potentially rise by 3,000% by 2029 according to Bloomberg, pointing to a more stringent regulatory environmental future. Simulating production scenarios and production lines will use AI-driven intelligence to predict emission outcomes.

“Kelvin Maps accelerates emissions disclosures and boosts the global emissions control movement to meet their 2030 and 2050 emissions targets. With Kelvin, you can collaboratively find and fix production and operational issues that impact your carbon emissions,” concluded Harding.

مدينة الشارقة المستدامة تحصد جائزة «أفضل مشروع سكني مستدام في الشارقة»



مدينة الشارقة المستدامة تحصد جائزة «أفضل مشروع سكني مستدام في الشارقة»

حازت - مؤخرا - مدينة الشارقة المستدامة على جائزة مرموقة عن فئة «أفضل مشروع سكني مستدام في الشارقة» ضمن فعاليات جوائز العقارات العربية 2022. ويأتي هذا الإنجاز نتيجة طموحات المشروع المتعدد الاستخدامات لتطوير مجتمع عالمي المستوى ومستدام ويحقق السعادة لقاطنيه في منطقة الشرق الأوسط وشمال أفريقيا. كما تم ترشيح المشروع ضمن قائمة «أفضل مشروع سكني في الشارقة».

وتعتبر جوائز العقارات العربية، نسخة المسابقة الإقليمية لجوائز العقارات العالمية الشهيرة، التقدير الأرفع في المنطقة للتميز في القطاع العقاري. وتتماشى مدينة الشارقة المستدامة مع الحركة العالمية نحو التحول إلى بيئة صديقة للمناخ، مما لا يعني الحد من انبعاثات الكربون فحسب، بل توفير نمط معيشي مستدام أيضا من خلال إنتاج الطاقة المتجددة، وإدارة وفرز النفايات، وتشجيع الوعي البيئي لدى الأفراد ليستمتع سكان المدينة بنمط حياة صحي ومسؤول بيئياً.

وقد اختارت لجنة التحكيم في جوائز العقارات العالمية مدينة الشارقة المستدامة للفوز بهذه الجائزة كونها تؤمن لدولة الإمارات بيئة آمنة وصحية وثقافية مبنية وفقاً لأعلى معايير مدن المستقبل. وقد ارتكز تصميم مدينة الشارقة المستدامة بما يلبي ركائز الاستدامة الثلاثة الاجتماعية والبيئية والاقتصادية بهدف خلق مجتمع سعيد وصحي ليكون مثلاً رائداً يقود العالم نحو غدٍ أفضل.

لن تمثل هذه الجائزة إنجازاً مهماً للمدينة فحسب، بل ستمهد الطريق لإنشاء مشاريع أكثر استدامةً وابتكاراً في دولة الإمارات العربية المتحدة، ومثالاً يحتذى به للمشاريع المستقبلية.

← مفكرة الفعاليات 2022

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ديسمبر/كانون الأول

دبي	8 - 5	معرض بيج فايف دبي
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يقدم تقرير «مراجعة الهيدروجين عالمياً» سلسلة من توصيات السياسات لإعداد الأطر وتشكيل الطلب اللازم لتشجيع الاستثمار في قطاع الهيدروجين منخفض الانبعاثات، بما يشمل المحللات الكهربائية وتقنيات استخلاص الكربون اللازمة لإنتاجه. وفي ضوء السياسات الحالية للحكومات، يقدر التقرير الجديد أن الطلب العالمي على الهيدروجين من المتوقع أن يصل إلى 115 مليون طن بحلول عام 2030. ولئن أوفت الحكومات بتعهداتها الحالية كاملة بشأن إنفاذ المناخ، فقد يرتفع هذا الرقم إلى 130 مليون طن، مع تلبية ما يزيد على ربع هذا الطلب بالهيدروجين منخفض الانبعاثات. وسينشأ قدرٌ مماثل من الطلب العالمي على الهيدروجين للتطبيقات الجديدة في ذلك السيناريو. وبناء على أسعار اليوم، يشير التقرير إلى أن الهيدروجين الذي يتم إنتاجه من المصادر المتجددة يستطيع بالفعل منافسة الهيدروجين المنتَج من الوقود الأحفوري في المناطق التي تتميز بموارد متجددة وما تزال تعتمد على الوقود الأحفوري المستورد لإنتاج الهيدروجين.

وتبلغ القدرة العالمية لتصنيع المحللات الكهربائية اليوم 8 جيجاوات سنوياً، لكنها يمكن أن تتجاوز 60 جيجاوات سنوياً بحلول عام 2030 في ظل المشاريع التي أعلنت عنها الشركات. وعند الانتهاء من مشاريع المحللات الكهربائية قيد الدراسة وخطط التوسع في قدرات التصنيع، فقد تنخفض التكاليف بنحو 70 في المائة بحلول عام 2030 مقارنة باليوم.

وعقب السيد فاتح بيرو، المدير التنفيذي للوكالة الدولية للطاقة، على ذلك قائلاً: «تكثر الشواهد التي تدل على أن الهيدروجين سيكون محورياً من محاور عملية الانتقال إلى نظام طاقة آمن ونظيف وبأسعار ميسورة، ولكن ما زال علينا إحداث تقدم كبير في مجالات التكنولوجيا والتنظيم والطلب اللازمة لتعظيم الاستفادة منه. وإن كثرة الإعلانات التي تنهال علينا الآن لمشاريع الهيدروجين منخفض الانبعاثات لهي مؤشر آخر على تبلور اقتصاد جديد للطاقة. فعلى الحكومات الآن تنفيذ سياسات ملموسة لتذليل العقبات التنظيمية ودعم المشاريع التي صارت جاهزة لدخول مرحلة التنفيذ».



التقرير يوصي بالاستثمار في مشاريع الهيدروجين منخفض الانبعاثات الكربونية

الوكالة الدولية للطاقة: أزمة الطاقة تكثف الزخم وراء مشاريع الهيدروجين

كشف تقرير «مراجعة الهيدروجين عالمياً» السنوي الصادر عن الوكالة الدولية للطاقة عن استمرار حالة الزخم في مؤازرة مشاريع الهيدروجين منخفض الانبعاثات الكربونية وسط أزمة الطاقة العالمية. فقد توصل التقرير إلى أن مختلف المشاريع، التي هي قيد الدراسة في الوقت الحالي، إذا بدأت تؤتي ثمارها فقد يراوح إنتاج الهيدروجين منخفض الانبعاثات على مستوى العالم من 16 مليون طن إلى 24 مليون طن سنوياً بحلول عام 2030، مقارنة بمليون طن فقط في عام 2021، وسوف يأتي أكثر من نصف الإنتاج من المحطات الكهربائية العاملة بالطاقة المتجددة.

كل هذا الارتفاع على الطلب خلال العام المنصرم قد بُني بالهيدروجين المنتج من الوقود الأحفوري دون استخلاص الكربون.

وبينما قفز الطلب على التطبيقات الجديدة للهيدروجين بنسبة 60 في المائة خلال عام 2021، فقد كان النمو قائماً على قاعدة ضعيفة للغاية بحيث لم يرتفع إلا إلى 40 ألف طن فقط. وفي ظل أزمة الطاقة العالمية التي زادت الاهتمام بالهيدروجين منخفض الانبعاثات، فما تزال المشاريع الموجودة قيد الدراسة تتوسع، ولكن لم تدخل مرحلة التنفيذ منها إلا قلة قليلة.

طمأنة المستثمرين بوجود طلب على الهيدروجين في المستقبل. وأشار التقرير إلى أن التطورات المشجعة في مجال تقنيات الهيدروجين، التي يمكنها دعم انتقال الطاقة النظيفة، تنطوي على توقع بزيادة القدرة العالمية على تصنيع المحطات الكهربائية بمقدار ستة أضعاف بحلول عام 2025. فلا غنى لإنتاج الهيدروجين منخفض الانبعاثات من الكهرباء المتجددة عن هذه المحطات. وفي الوقت ذاته، ارتفع إجمالي الطلب على الهيدروجين على مستوى العالم إلى 94 مليون طن خلال عام 2021، متجاوزاً - بذلك - الارتفاع السنوي البالغ 91 مليون طن خلال عام 2019، ويكاد يكون

وتنتشر مشاريع تجريبية واعدة لتطبيقات جديدة للهيدروجين في مجالات تشمل وقود السفن وصناعة الصلب. بيد أن هذه الاستخدامات الواعدة للهيدروجين لم تزل صغيرة نسبياً وسط مشهد الهيدروجين الأوسع، ولا بد من سن سياسات تساعد على النمو.

يجري إنتاج الغالبية العظمى من الهيدروجين المستخدم اليوم من الوقود الأحفوري، ولا توجد أي تقنيات لاستخلاص انبعاثات ثاني أكسيد الكربون الناتجة عن عملية إنتاج الهيدروجين. ويشدّد التقرير على أهمية تدخل الحكومات لدعم مشاريع التنمية، وعليها كذلك اتخاذ خطوات من شأنها

المحتويات

القسم العربي

تحليلات

الوكالة الدولية للطاقة:

أزمة الطاقة تكثف الزخم وراء مشاريع الهيدروجين



ملخص محتويات القسم الإنجليزي

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الشرق الأوسط

استمرار حالة الزخم
لمشاريع الهيدروجين
منخفض الانبعاثات
الكربونية

تقرير الوكالة الدولية للطاقة يؤكد على حاجة الحكومات إلى اتخاذ خطوات من أجل طمأنة المستثمرين إلى وجود الطلب مستقبلاً على الهيدروجين