

TECHNICAL REVIEW

النشرة التقنية - الشرق الأوسط

MIDDLE EAST

Vol 38/Issue Two 2022

Analysis

GCC back on stronger footing

Construction

The Big 5 Saudi

EVOLVING CHANGE

MIDDLE EAST ENERGY SUPPORTS NEW
ENERGY ECOSYSTEMS

INSIDE

Alternative fuels
Technology
Manufacturing
District Cooling

SEE US AT THE SHOW



Middle East
Energy Dubai

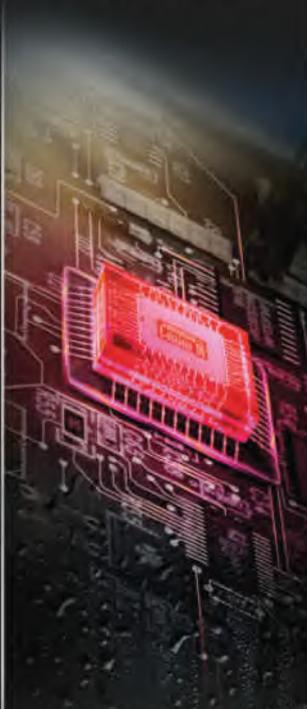
STAND NO. H1.H70

www.technicalreview.me

38 Years

1984 - 2022

Serving Middle East
Business



Sensing both
temperature
& humidity



Newly designed
structure
& material



Providing
up to 22HP

Ocean
Black Fin



LG's exclusive
corrosion
resistance

DESIGNED FOR THE *ULTIMATE*
MULTI V™ 5



CONTENTS

BUSINESS & MANAGEMENT	
Market News	4
Abu Dhabi Department of Economic Development launches 'Investor Journey'; Honeywell and solutions by stc to accelerate digital transformation projects in Saudi Arabia; UD Trucks records 30% sales growth across MEENA in 2021	
ANALYSIS	
GCC Bouncing Back	12
How macroeconomic and pandemic management measures by regional governments are fuelling the recovery	
CONSTRUCTION	
Construction Outlook	20
GlobalData's webinar on the worldwide construction landscape	
The Big 5 Saudi	22
Riyadh's first construction event of the year	
MIDDLE EAST ENERGY	
Alternative Fuels and Hybrid Revolution	28
The combination of renewable technologies and conventional power generation is important in the transition to decarbonisation	

Improving Energy Performance	32
Socomec's innovations for the power solutions industry	
Energy Infrastructure	36
PFISTERER presents the self-supporting dry insulated termination DOC at Middle East Energy	
POWER	
Transdiesel SL	42
The company aims to enable OEMs to optimise their product and get it to market quickly and competitively	
TECHNOLOGY	
Case study	44
How COPA-DATA software helps an Austrian community ensure the supply of clean drinking water	
ARABIC	
Analysis	56

EDITOR'S NOTE

DISCUSSIONS AT COP26 and the energy transition are all focused on the future of the energy landscape. At this year's Middle East Energy Dubai, the comprehensive energy event for the MENA region, the emphasis is on providing solutions to accelerate the transition. As the official publication for MEE 2022, we will be present at stand H1.H70 and are happy to welcome our readers and advertisers! Technical Review Middle East will be at The Big 5 Saudi, as well, as the show brings together manufacturers and stakeholders in Riyadh (see the Preview on p22). Please do not miss economist Moin Siddiqi's GCC analysis on pages 12, 13 and 14, on the growth that the region is witnessing.

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



١٩٨٤

TECHNICAL REVIEW

النشرة التقنية - الشرق الأوسط

MIDDLE EAST

SEVING THE REGION'S BUSINESS SINCE 1984

Country	Representative	Telephone	Fax	Email
India	Tanmay Mishra	+91 98800 75908		tanmay.mishra@alaincharles.com
Nigeria	Bola Olowo	+234 8034349299		bola.olowo@alaincharles.com
UK	Richard Rozelaar	+44 20 7834 7676	+44 20 79730076	richard.rozelaar@alaincharles.com
USA	Michael Tomashefsky	+1 203 226 2882	+1 203 226 7447	michael.tomashefsky@alaincharles.com

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

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

Printed by: Buxton Press **Printed in:** February 2022

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

Arabic Typesetting: Lunad Publicity, Dubai

© Technical Review Middle East ISSN: 0267-5307

Head Office: Alain Charles Publishing Ltd
University House, 11-13 Lower Grosvenor Place, London, SW1W 0EX, UK
Tel: +44 20 7834 7676, Fax: +44 20 7973 0076

Middle East Regional Office: Alain Charles Middle East FZ-LLC
Office L2- 112, Loft Office 2, Entrance B, Dubai Media City, Dubai, UAE
Tel: +971 4 448 9260, Fax: +971 4 448 9261

Alain Charles
Publishing
Serving the world of business

Abu Dhabi real estate transactions exceed US\$19bn in 2021

THE DEPARTMENT OF Municipalities and Transport has revealed that the UAE capital registered outstanding real estate figures in 2021 with 14,958 transactions tallying to a total value of around US\$19.47bn, reflecting the ongoing sustainable development and attractiveness of real estate investments in Abu Dhabi.

As per the Department's real estate trading indices, the emirate's real estate sector recorded 7,262 sales transactions worth US\$4.95bn and 7,696 mortgage transactions worth US\$14.51bn.

With 4.1 billion dirhams in real estate transactions, Yas Island topped the list, followed by Al Reem Island in second place with 3.2 billion dirhams. With 2.5 billion dirhams, Saadiyat Island came in third, the Forest Belt Al Jarf project came in fourth with 1.1 billion dirhams, and Khalifa City came in fifth with 915 million dirhams.



Photo Credit : Department of Municipalities and Transport

Abu Dhabi's real estate market had continued its sustainable growth.

HE Dr Adeeb Al Afifi, executive director of Real Estate at DMT, highlighted that Abu Dhabi's real estate market had continued its sustainable growth.

He said, "The UAE capital has recorded very positive real estate transaction indicators over the past year, which is a testament to investors' confidence in the city. We look forward to providing more distinctive and innovative services and providing periodic data and information that will undoubtedly enhance the attractiveness of the Abu Dhabi real estate market."

Abu Dhabi Department of Economic Development launches 'Investor Journey'

THE ABU DHABI Department of Economic Development (ADDED), in partnership with the Department of Government Support, represented by Abu Dhabi Digital Authority (ADDA), has activated the 'Investor Journey,' part of Abu Dhabi Government Services Ecosystem 'TAMM.'

The highly-regarded journey is specifically designed to address the needs of current and prospective businesses, entrepreneurs and investors by reducing costs, offering seamless integration and an advanced service ecosystem to facilitate new business ideation and set-up.

Following Abu Dhabi's lowering of set-up and renewal fees by 93% to around US\$272, and the cancellation of 71% of business set-up requirements in 2021, in cooperation with 27 government entities, the 'Investor Journey' brings a fully digitalised experience, guiding investors through a range of services, with minimal physical touchpoints.

HE Mohamed Ali Al Shorafa Al Hammadi, chairman of ADDED, stated, "Our commitment to controlling costs, reducing requirements, and enhancing government processes will always be at the forefront of our agenda. ADDED has already rolled-out critical projects including phase 2 of the investor Journey which will integrate more services and business setup tools and features. Moreover, ADDED continues to undertake comprehensive reviews of direct and indirect costs, including regulatory and administrative burdens on the private sector in cooperation with both local and federal entities."

HE Ali Rashid Al Ketbi, chairman of the



Photo Credit : ADDED

The 'Investor Journey' aims to bring a fully digitalised experience.

Department of Government Support – Abu Dhabi, explained, "One of the main priorities for the government support sector is to enable and support an integrated and proactive digital government, facilitated through advanced and innovative solutions."

Among the many features empowering investors and business owners, the journey offers an informative 'Simulator' allowing them to seek clarity and instructions, 'Licence Finder' to help identify suitable legal forms and licence types, followed by an easy application process for obtaining trade names and licences. After which, investors can identify locations for their businesses via an interactive map by 'Property Finder', obtain digital contracts, Certificates of Conformity (CoC) by Abu Dhabi Civil Defence Authority, and facilitates bank account applications. As part of the launch phase, a partnership with Mashreq Bank was initiated, with further engagements to be announced.

Honeywell and solutions by stc to accelerate digital transformation projects in Saudi Arabia

HONEYWELL AND SOLUTIONS by stc have signed a MoU to help develop strategic mega projects across the kingdom in support of Saudi Vision 2030 and its efforts to create a more diverse and sustainable economy and accelerate digital transformation.

The MoU outlines the intent to collaborate on smart building, community and city projects as well as energy projects to deliver critical solutions to mega projects. The collaboration will enable Honeywell software platforms such as the Honeywell City Suite and Honeywell Forge Enterprise Performance Management solution to use stc's cloud infrastructure to support project delivery.

Abdullah Al-juffali, country leader, Honeywell Building Technologies, Saudi Arabia, said, "This



Photo Credit : Honeywell

Honeywell continues to play a vital role in supporting and advancing the kingdom's industries.

effort furthers Honeywell's experience in developing and supporting the execution of critical infrastructure projects, including smart communities and cities. With our combined capabilities, Honeywell and solutions can help enable the development of smart and sustainable city and community projects."

Why Panduit Cable Cleats?



Simple and intuitive design leads to increased productivity



Tested to IEC 61914:2015, the latest and most globally recognized cable cleat testing standard



Compatible with a variety of ladder racks and cables



Industry-unique mounting brackets and installation tool



Panduit's extensive line of cable cleat solutions ensures cables remain contained in the event of a short circuit fault, minimizing disruption and damage to personnel and property. Uniquely engineered for ease of installation in a range of applications and harsh environments, **Panduit** has the right product to fit your needs while providing on the job productivity, reliability and safety.

Trident, trusted across Middle East and Africa for Panduit in:

Algeria, Bahrain, Egypt, Iraq, Jordan, Kenya, Kuwait, Nigeria, Oman, Pakistan, Saudi Arabia, South Africa, UAE and Qatar.

For inquiries, Contact us at info@itrident.com



SCAN HERE

TO LEARN MORE ABOUT
PANDUIT IEI SOLUTIONS

www.itrident.com

EGA to build aluminium recycling facility in the UAE

EMIRATES GLOBAL ALUMINIUM (EGA), announced that the company plans to build a 150,000 tonnes per year aluminium recycling facility in the UAE.

The facility, the company's first in the country, will process post-consumer aluminium scrap such as used window frames, as well as pre-consumer aluminium scrap from extrusion production, into low-carbon, high quality aluminium billets. EGA intends to market recycled aluminium under the product name EternAL.

Aluminium scrap for the recycling facility will be mainly sourced from the UAE and the wider region. Feasibility studies for the project are already underway and production ramp-up could begin as early as 2024.

Production of aluminium through recycling needs a fraction of the energy required to produce new primary aluminium, with significantly lower greenhouse gas emissions per tonne of production as a result. The International Aluminium Institute forecasts that recycled aluminium will account for up to 60% of global aluminium supply by 2050.

Abdulnasser Bin Kalban, CEO of Emirates Global Aluminium, said, "End users of aluminium are increasingly committing to net zero in response to the expectations of society. This, our first recycling facility at EGA to produce EternAL, is one of the steps we plan to take to provide low carbon metal for our customers around the world.

"This facility will also strengthen EGA's position as global leader in billet production, growing our capacity from some 1.15mn tonnes per year to some 1.3mn tonnes amid ever-increasing demand from our customers for this value-added product. At home in the UAE, it will enable EGA to make a further contribution to both the achievement of Operation 300bn and the success of the In-Country Value programme, creating opportunities in construction and through the replacement of some imported raw materials with recyclable resources already in the UAE," the CEO concluded.

Aluminium is light, strong, durable, electrically and thermally conductive, formable and infinitely recyclable, making it ideal for various applications.

ACCIONA to improve water services' efficiency in southern Saudi Arabia

ACCIONA, IN A joint venture with Aqualia and the local Tawzea and HAACO groups, has been awarded the contract for the management, operation and maintenance of the end-to-end water cycle for seven years in the Saudi Arabian regions of Assir, Jazan, Baha and Najran.

The contract involves a public-private partnership with the state-owned NWC (National Water Company) covering the management of 59 drinking water plants, 380 storage tanks, 330 pumping stations, 127 tanker filling stations, 20,000 km of mains piping, 43 wastewater treatment plants and 7,000 km of collection networks, among other assets.

According to Acciona, the aim of this



ACCIONA intends to consolidate itself as a key player in the water sector in Saudi Arabia.

Photo Credit : ACCIONA

government programme is to incentivise the participation of the private sector in the management of water and sanitation in the country and to generally improve their efficiency.

UD Trucks records 30% sales growth across MEENA in 2021

UD TRUCKS HAS recorded approximately 30% sales growth in the Middle East, East and North Africa (MEENA) region in 2021, continuing an upwards trend for the brand, which had experienced 6% growth in the previous year

The Japanese commercial vehicle manufacturer recorded an increase in sales in most markets, including Saudi Arabia, the UAE, Qatar, Pakistan and a number of countries in East Africa.

UD Trucks' flagship market, Bahrain, saw an increase of around 40%, reinforcing the brand's number one status in the country. The trucks brand also saw an increase in sales by about 30% in Qatar. Sales also grew in Saudi Arabia, which is UD Trucks' biggest market by volume, by 24%. The United Arab Emirates, which hosted the regional launch of the brand's Euro 5 models, registered an increase of 22% compared to 2020.

The growth came as a result of a fantastic collaboration and coordinated effort by UD Trucks and its partners throughout the region and their joint focus on supporting UD

customers. The brand's well-built and robust products, the introduction of the Euro 5 range and upgrades to the Euro 3 line-up, a strong retail network and partnerships, and the impact of its 'Better Life' strategy, have all played significant roles in the company's success.

UD Trucks' widest-ever range, which covers almost all segments in the heavy-duty and medium-duty truck sector, and the nature of the brand's product portfolio have also been crucial factors in this growth. The range has been developed to meet the market's needs by covering all key segments in the industry. UD Trucks' focus of launching new trucks that will enhance profitability for customers by lowering the total cost of ownership has also been crucial.

Mourad Hedna, president of UD Trucks MEENA, commented, "The resilience our brand showed in 2020, built around a consistent and comprehensive strategy and supported by our strong regional partners, provided a solid platform for us to build on in 2021. Registering about a 30% sales increase in one year is a remarkable feat."



Saudi Arabia remains UD Trucks' biggest market in the region.

Photo Credit : UD Trucks



مجموعة محمد العجمي
MOHAMMED AL-OJAIMI GROUP

INVESTING IN FUTURE

Trusted EPC Contractor in the Middle East

Electrical | Mechanical | Civil & Site Development
Telecommunication

Holding Strong as Industrial Group

Transformers | Package Substations | Panel Boards
Termination Kits | Insulated Wires | Link Boxes
Circuit Breakers | Energy Meters

46

YEARS OF TRUST
IN THE KINGDOM

Energy Services with Specialized Solutions

Power Services | Protection Services | Automation Services
Renewable Energy Services | Trading Services



+966 13 822 1800/832 5064

es.info@alojaimi.com

www.alojaimi.com

ON THE WEB

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

Egypt to launch US\$40bn hydrogen strategy before June 2022

THE EGYPTIAN GOVERNMENT is planning to announce its US\$40bn hydrogen strategy before June 2022, which will include plans for a production capacity of 1.4GW by 2030.

The National Committee in charge of preparing the hydrogen strategy is coordinating with the European Bank for Reconstruction and Development (EBRD) in order to select a consultant to determine the technical, legal and financial requirements. <https://www.technicalreviewmiddleeast.com/power-a-water/renewables/>



The government is planning to announce its hydrogen strategy before June 2022.

DEWA provides electricity to EV car users

DUBAI ELECTRICITY AND Water Authority's (DEWA's) EV green charger stations at Expo 2020 Dubai have provided 87,772 kilowatt-hours of electricity for the electric vehicles (EV) of visitors to the exhibition during its first three months, with 3,681 charging transactions.

This helped visitors travel approximately 415,000 kilometres in eco-friendly vehicles. DEWA provides Expo 2020 visitors with 19 charging stations, with five stations each at opportunity, sustainability, and mobility pavilions, two stations at the Expo 2020 office, and two stations at ENOC's service station of the future.

Saeed Mohammed Al Tayer, managing director and CEO of DEWA, praised the Expo 2020 Dubai visitors for using EVs. <https://www.technicalreviewmiddleeast.com/business-a-management/business-a-management/>

Rwanda and TotalEnergies sign multi-energy MoU

THE RWANDAN GOVERNMENT has signed a multi-faceted MoU with TotalEnergies to deploy a wide range of efficient thermal power and clean energy solutions in the African state.

The agreement covers power distribution, liquefied petroleum gas (LPG), hydropower, power storage and nature-based solutions for carbon storage.

"This collaboration agreement illustrates TotalEnergies' commitment to deploying its multi-energy strategy in Africa, particularly in Rwanda, a country with a booming economy," said Patrick Pouyanné, chairman & CEO of TotalEnergies, following the signing of the MoU transition.

<https://www.technicalreviewmiddleeast.com/power-a-water/power-generation/>

Clariant supplies novel AmoMax 10 Plus catalyst

CLARIANT HAS ANNOUNCED plans to decarbonise the chemical industry and support the overall US\$3.5bn project to produce green ammonia and green hydrogen in Duqm, Oman.

Clariant will supply KBR with its next-generation AmoMax 10 Plus ammonia synthesis catalyst for upcoming ACME green ammonia plant of the Oman Company for the development of the special economic zone at Duqm. <https://www.technicalreviewmiddleeast.com/construction/mining/>



Clariant AmoMax 10 Plus for green ammonia.

Telescopic handlers as real crushers

MB CRUSHER HAS explained how telehandlers have seen growing popularity on urban construction sites due to their multipurpose benefits. While purpose-built for material handling, the company asks why limit the possibilities of the machine when, by plugging in an MB Crusher attachment to the hydraulic system, customers can extend the duties that can be carried out by one machine and one operator.

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



Telehandlers have seen growing popularity.

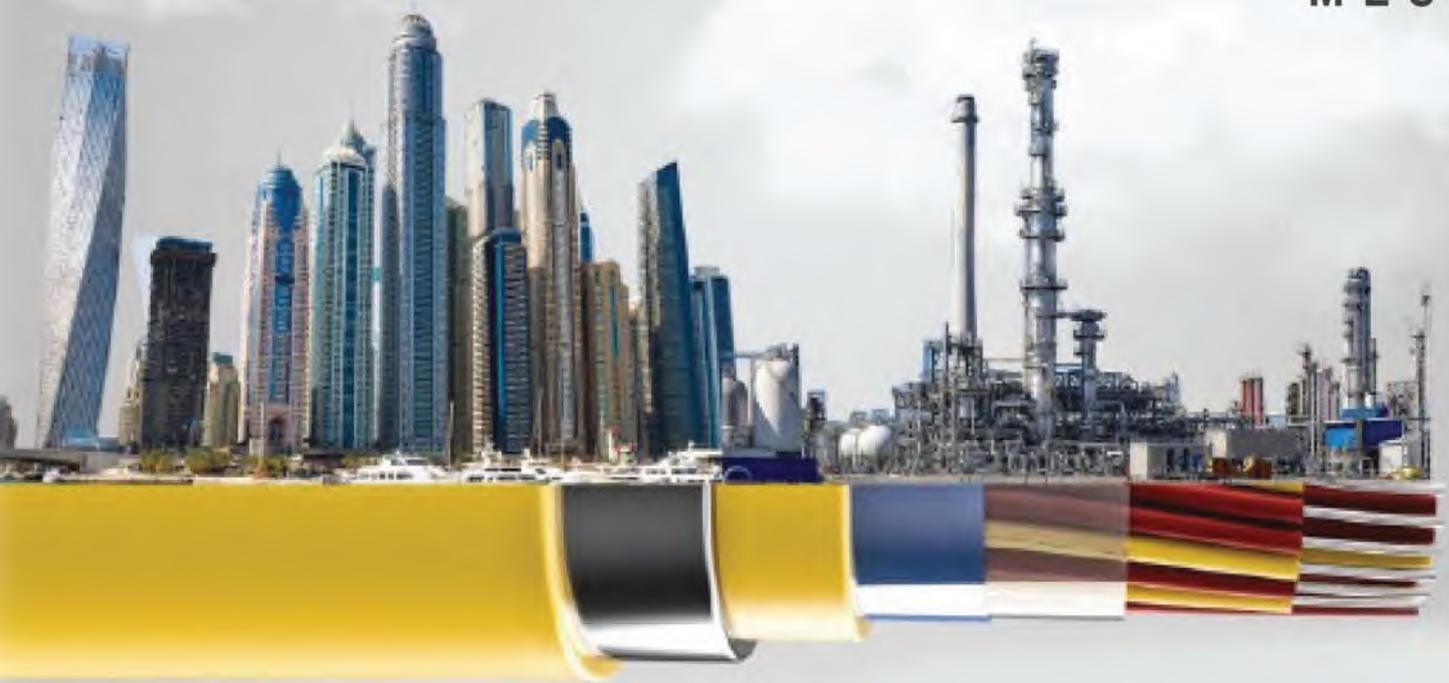
ALEC signals commitment to advancing digitalisation

LOOKING TO CEMENT its position as an industry innovator, ALEC has set out an ambitious strategy to accelerate the ongoing digitisation of its operations.

In line with this objective, the company has announced the appointment of Andy Boutle as its head of digital construction. Analysis by McKinsey Global Institute (MGI) found investing in technology and innovation to be one of the key factors in boosting the construction sector's productivity by up to 60%. But while digital technologies – ranging from Building Information Modelling (BIM) and Augmented/Virtual Reality, to robotics, drones, and cloud software – are heralding a new era of possibilities and efficiencies for the global construction sector, there has generally been a lag in adoption of these technologies in the region.

<https://www.technicalreviewmiddleeast.com/manufacturing/innovations/>

at the heart of every project



- Instrumentational and control cable.
- Industrial Bus cable
- Panel wires
- Signaling cables
- LV cables
- Network cables
- Fire alarm
- Building wires

MIDDLE EAST SPECIALIZED CABLES CO. (MESCC)

Factories : Riyadh - Saudi arabia - RAK -United Arab Emirates

KSA -Tel: +966 11 4767373 , UAE -Tel +971 4 3437885

Email : Marketing@mesccables.com

www.MESCCables.com

Cable type tested by



@MESCCables



EXECUTIVES' CALENDAR 2022

MARCH 2022

7-9	Middle East Energy	DUBAI	www.middleeast-energy.com
7-9	Intersolar Middle East	DUBAI	www.intersolar.ae
28-31	The Big 5 Saudi	RIYADH	www.thebig5saudi.com
28-31	HVAC R Expo Saudi	RIYADH	www.hvacrexpousaudi.com

MAY 2022

9-11	World Utilities Congress	ABU DHABI	www.worldutilitiescongress.com
------	---------------------------------	-----------	--

MAY-JUNE 2022

30 May-2 June	HANNOVER MESSE	HANOVER	www.hannovermesse.de
30 May-3 June	IFAT	MUNICH	www.ifat.de

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

MEFMA awards to be introduced at CONFEX 2022

THE MIDDLE EAST Facilities Management Association (MEFMA) is all set to return with 'MEFMA CONFEX', the region's most anticipated facility management (FM) event, to celebrate and showcase the latest trends in the Middle East FM sector.

The four-day event to be held from 14-17 March will explore the theme, 'Technology and Data-Driven Facility Management – The Core of Business Excellence and Sustainability' – to identify key data and analytics relevant to the growth and sustainability of the FM industry.

The MEFMA CONFEX is one of the largest FM events in the Middle East region, bringing together major industry players, stakeholders, top FM professionals and decision makers, in addition to government representatives, developers, and FM service providers and suppliers. The event also highlights the local market's critical role in the



Leading experts will be present to shed light on topics such as the 'Technology Transformation Approach'.

continuous development of the regional FM community, particularly at a time when green building practices are driving demand for facility management in the GCC.

The MEFMA Awards will be held for the first time this year. The top three winners of the event will qualify for the Global FM Awards of Excellence in FM

2022, along with nominations from other FM associations around the world.

Jamal Lootah, co-founder and president of MEFMA, stated, "Like always, we look forward to providing the industry with a unique opportunity to network and connect with the top FM professionals and decision-makers, including government

representatives and other key personnel. This year also holds special significance as we host the MEFMA Awards for the first time to recognise excellence and to honour members of the association who have tirelessly contributed to the industry."

The first two days of the event are set to feature insightful panel sessions and multiple workshops. The CONFEX will also include an exhibition showcasing the latest solutions that are relevant to the industry, as well as expert-led sessions addressing major issues, followed by site visits on the remaining days to educate and share best practices.

A series of conference sessions are expected to shed light on relevant topics such as the 'Technology Transformation Approach' in the changing world of FM, FM transformation strategies, the role of leadership towards technology adoption, and more.

www.confex.mefma.org

Photo Credit: MEFMA CONFEX

THE POWER OF INDEPENDENCE



Volvo Penta is one of the world's biggest independent suppliers of engines for power generation. It is our business to build and support engines that make the most of any OEM's genset design – a range of reliable, energy-efficient engines that meet a wide span of specific demands. Mobile or stationary. 24/7 or standby. In any climate: freezing or scorching, dry or wet, in deep shafts or at high altitudes. Tell us your needs and we'll show you the engine.

www.volvopenta.com

Powering your business

The GCC back on a stronger footing in 2022 and beyond

Economist Moin Siddiqi analyses how elevated energy prices, higher oil production and robust momentum in non-oil sectors, buoyed by rapid vaccination measures, will see the Gulf Cooperation Council bloc growing at the fastest pace in a decade — behind only emerging Asia.

The GCC's construction industry is predicted to register an annual average growth of 3.9% between 2022 and 2025.

Photo Credit: Adobe Stock

REGIONAL GOVERNMENTS **SUCCEEDED** in overcoming the 'twin' shocks – economic and societal consequences of Covid-19 and plunging oil prices, which remain pivot in the region's budget revenue structures. Unprecedented monetary and fiscal stimulus policies helped offset pandemic-related losses – estimated by the World Bank at almost US\$120bn. "This bounce back is based on excellent macroeconomic and pandemic management measures implemented in 2020 and 2021," noted the World Bank.

The Washington-based Institute of International Finance (IIF) projects the GCC's aggregate GDP growth at 5.2% in

2022 supported by higher oil (prices and production) leading to combined current-account surplus rising from US\$131bn in 2021 to US\$182bn in 2022. Non-oil growth remains buoyed by rising regional market competition coupled with structural reforms across the GCC, which, last year led to increased private capital inflows estimated by IIF at US\$142bn, particularly to Saudi Arabia and the UAE.

The region's 2022 headline GDP growth forecast from the International Monetary Fund (IMF) and World Bank stands at 4.2% and 4.7%, respectively. A combination of private consumption and fixed investment are fuelling the recovery. Higher energy prices bode well for business confidence

and investment. The rise in oil output is also critical to boosting regional economic activity as OPEC+ eased production limits.

Consequently, higher oil exports reduce fiscal and external imbalances and build up financial buffers, while providing opportunity to advance growth and diversification strategies. The sovereign credit profiles of most GCC countries will improve with better fiscal strength and growth upturn. The UAE boasts the highest sovereign credit rating within GCC.

Positive sentiment

The manufacturing Purchasing Manager's Index (barometer of business conditions), points to strong growth revival within non-

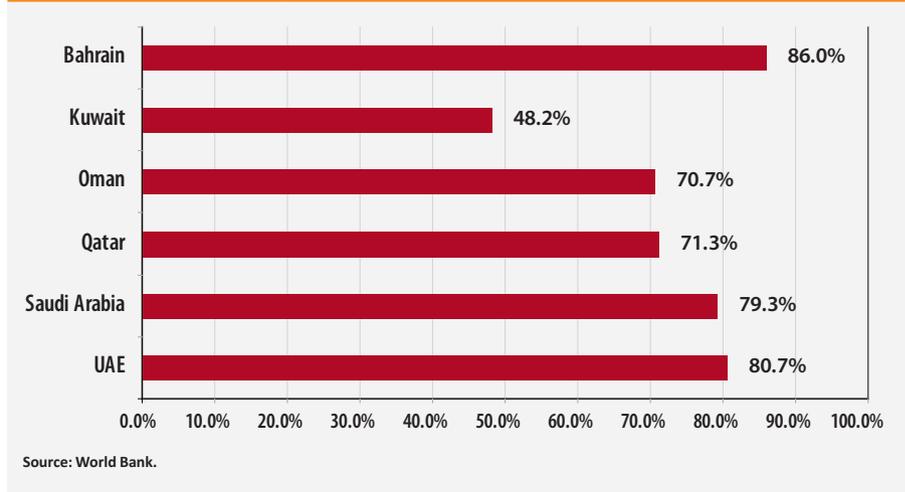
oil economy, with output and employment readings highest since the onset of Covid-19, whereas inflation remains benign. Thus, regional central banks can continue with low interest rates until the US Fed begins to tighten monetary policy in H2 2022, thereby lower financing costs supporting businesses. Dollar pegs mean the region follows the US central bank's timeframe in raising Fed Funds Rate. GCC's banking sector is well-capitalised to support the post-covid recovery.

The non-oil sector is also getting a boost from revival of business and consumer spending thanks to high vaccination rates (with most of Gulf's population inoculated) and firm oil prices. The outlook for hospitality and tourism industry has improved underpin by global easing of travel restrictions. "We expect non-oil activity to continue to recover in 2022 following the almost complete lifting of health restrictions. High vaccine coverage and roll-out of boosters should limit the need for tighter control measures," according to UK-based Oxford Economics. Continued government fiscal support also bodes well for economic activity.

Future developments

After the Covid-19 regional downturn, the

Non-hydrocarbons economy, % GDP, 2021



recovery of Gulf's projects market is bullish news for contractors, engineers, manufacturers and financiers as stimulus spending and higher oil prices will boost construction activity. The GCC's construction industry is predicted to register an annual average growth of 3.9% between 2022 and 2025, according to London-based consulting firm GlobalData.

As of June 2021, the total estimated worth of the construction projects market

was US\$3.2 trillion, covering buildings, infrastructure, industrial, power and water and hydrocarbons sectors. The bulk of future projects are at pre-development or design stages; thus, some delays could be inevitable, however, assuming macroeconomic and fiscal conditions in GCC are favourable, there is a pipeline of public works. Saudi Arabia remains by far, the biggest market, representing more than half of all construction and transport projects planned and under-tender, respectively, in the GCC.

In contrast to pre-2015 market fuelled largely by government capital spending, increasing use of public-private partnerships (PPPs) across the Gulf to deliver public services has led to inflows of private money and technical expertise into new infrastructure projects.

In 2022, residential, commercial, mixed use, airports, sports facilities, hotels, healthcare and education facilities, will be the main contributors to the construction sector, with new contractor awards estimated at a value of US\$45.1bn, followed by oil & gas projects (US\$22.6bn) and infrastructure at US\$17.5bn.

Recent structural reforms

The emphasis is now on navigating a post-pandemic economy, through structural transformation to improve productivity, institutions, human capital, innovation and market efficiencies, as well as increasing foreign direct investment (FDI) inflows.

Saudi Arabia: launched a National Infrastructure Fund targeting investments in water, transportation, energy, and health projects and a series of initiatives and technological programmes to boost its position as a global technology hub and approved a Public-Private Partnership (PPP)

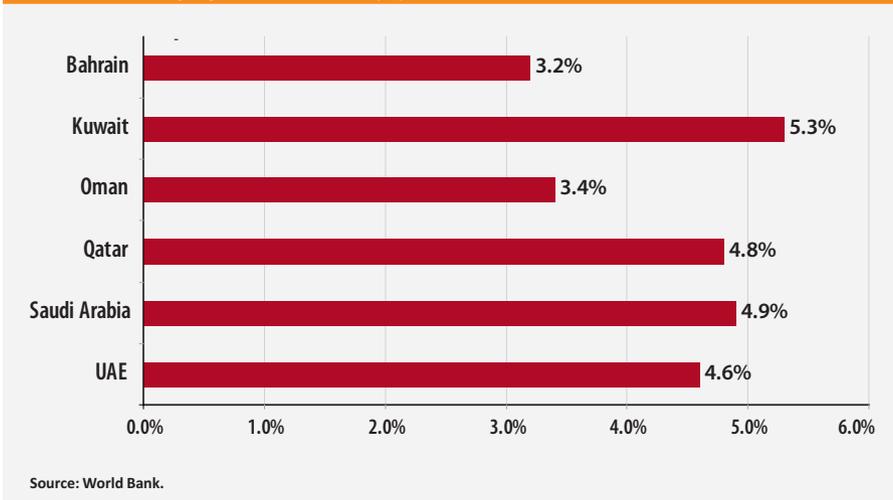
GCC: Selected Macroeconomic Indicators

	2018	2019	2020	Est. 2021	Proj. 2022
Gross Domestic Product (US\$bn)	1648	1593	1422	1654	
Real GDP Growth (annual % chg)	2.0	1.1	-4.8	2.6	4.7
Non-hydrocarbons	1.7	2.7	-3.9	3.8	3.4
Consumer Price Inflation, (average %)	2.2	-1.5	1.2	2.8	2.4
Government Fiscal Balance (% GDP)	-3.6	-3.8	-11.7	-5.7	-2.1
Current Account Balance (% GDP)	9.6	7.0	0.9	6.0	6.4

Sources: World Bank & IMF.

Note: The rapid roll-out of Covid-19 vaccines, rebound in domestic demand and global trade bolster growth prospects, while higher energy prices and production will strengthen Gulf governments' finances and external position.

Real GDP Growth projections for 2022 (%)



law to enable greater private investment and participation in the economy, consistent with the 'Invest Saudi' national platform. The changes include cutting the bureaucratic red tape and implementing wide-ranging social reforms.

The UAE: reforms included changes to personal and labour laws, allowing 100% foreign ownership of onshore companies and the decision to align the UAE's working week with that of major economies. The Abu Dhabi Department of Economic Development announced a 71% reduction in time and costs associated with new business start-ups and a licencing system that permits foreign entities to establish and fully own a professional business consultancy in the emirate.

Qatar: The Shura Council approved a draft law to establish Investment and Trade Court to oversee legal disputes, including commercial contracts and bankruptcy disputes and allowing 100% ownership of listed companies and real estate by foreign companies and individuals. Qatar's emir also issued a new PPP law designed to strengthen private sector's role in the economy.

Oman: approved a Medium-Term Fiscal Balance Plan (2020–24) to achieve fiscal sustainability, reduce public debt, and diversification. The Sultanate intends phasing out water and electricity subsidies until 2025, plus implemented value added tax in April 2021.

Bahrain: A new economic growth and fiscal balance plan is the largest reform programme to enhance competitiveness and support post-pandemic recovery.

Sovereign Wealth Funds (US\$bn), July 2021

Kuwait Investment Authority (KIA)	737.94
Abu Dhabi Investment Authority (ADIA)	697.86
Public Investment Fund (PIF), Saudi Arabia	480.00
Qatar Investment Authority (QIA)	366.74
Investment Corporation of Dubai	302.30

Source: Sovereign Wealth Funds Institute.

Note: Four Gulf-based SWFs - KIA, ADIA, PIF & QIA are included among the world's top-10 in July 2021, with combined assets of US\$2.28tn. The total assets of top 100 SWFs were US\$8.6tn.

Kuwait: The Parliament approved a new law in 2020 to protect economic competition.

In sum, the GCC growth trajectory should continue over the coming years. The World Bank endowed, "GCC region is on the road to recovery in the medium term, aided by a bullish turn in energy markets which will ease fiscal pressures for the GCC countries and help to spur consumer confidence and investment."

The multilateral institutions advised sustainable growth hinges on the efforts to foster a dynamic, inclusive, non-hydrocarbon private sector. This requires, among others, to diversify government revenue, enhance human capital and create a business-friendly environment by improving economic governance, reducing red tape and higher job creation in the private sector. ■

Vital data on six-member GCC-bloc

Gross Domestic Product (US\$bn), 2021: Bahrain (37); Kuwait (165); Oman (81); Qatar (168); Saudi Arabia (768); UAE (435) – World Bank est.

Population (2021, mn): Bahrain (1.52); Kuwait (4.81); Oman (4.70); Qatar (2.79); Saudi Arabia (36.16); UAE (9.56) – IMF data.

Sovereign Credit Rating (Standard & Poor's): Bahrain (B+); Kuwait (A+); Oman (B+); Qatar (AA-); Saudi Arabia (A-); UAE (AA).

Emerging-Market Logistics Index, 2021 (1-50 countries): UAE (4); Saudi Arabia (6); Qatar (9); Oman (14); Bahrain (15); Kuwait (19).

Proved Hydrocarbons Reserves (2021): Oil (527.4bn barrels) and Natural gas (1379.1 trillion cubic feet), representing 30.4% and 20.7%, respectively, of global total – BP.

GCC Oil Production (2021): 17.32mn bpd, equivalent to 18% of world's total – OPEC. The oil sector remains an important driver of regional growth.

FDI Inward Stock, net (US\$m), 2020: Bahrain (31,690); Kuwait (14,138); Oman (35,425); Qatar (28,627); Saudi Arabia (241,862); UAE (150,896) - World Investment Report 2021 (UNCTAD).



The GCC growth trajectory should continue over the coming years.

Photo Credit : Adobe Stock

POWER YOUR FUTURE



aksa POWER GENERATION

In life, something really matters

Aksa Power Generation is one of the leading generator set manufacturers globally, which is serving with more than 35 years experience and selling to 176 countries. Aksa provides uninterrupted energy solutions & 24/7 service guarantee with 24 branch offices in 19 countries worldwide.

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.



**WE WOULD BE DELIGHTED TO
SEE YOU AT OUR STAND**



7-9 March
Dubai World Trade Centre, Dubai, UAE



KAZANCI HOLDING

aksa@aksa.com.tr

www.aksa.com.tr

Follow us on:    

Abu Dhabi to establish food trading centre

One of the largest in the region, the food hub will provide a competitive ecosystem for both local and global players.

AD PORTS GROUP, the region's premier facilitator of logistics, industry and trade has partnered with UAE-based, multi-business conglomerate Ghassan About Group to set up one of the region's largest multi-category wholesale food trading and logistics hubs in KIZAD, in collaboration with Rungis.

The 'Regional Food Hub – Abu Dhabi, in collaboration with Rungis', aims to bring together wholesale buyers, sellers, logistics players, consolidators, and distributors from across the world, enhancing the diversity of all food categories available for consumers in the UAE and wider region.

Rungis International Market is the largest wholesale fresh food market in the world. It currently hosts 1200 companies, serves 18 million consumers and has a turnover of more than US\$11bn.

The project will partner with the world's leading wholesale market players to ensure the services and facilities have world-class standards, with a sustainable, hygienic, zero-waste ecosystem approach to cater to post-pandemic requisites. The project will facilitate trade across proteins, seafood, pulses, rice, fruits, vegetables, dairy products, dry foods and fresh flowers. Food companies from all countries are said to be able to offer their products and buyers will have a selection of fresh items managed in a safe, clean environment positioning the UAE as an important part of evolving global food supply chains.

Covering a land area of 3.3 sqkm in KIZAD, the Regional Food Hub – Abu Dhabi, will be one of the largest of its kind in the region,



Photo Credit: AD Ports Group

KIZAD provides a fully integrated trade and logistics platform for food companies looking to expand in the region.

says AD Ports. The ecosystem has been planned to feature trading pavilions, logistics services, refrigerated and ambient warehouses, critical government services, waste recycling facilities and various other support amenities and services.

The hub will leverage modern technology to offer a digital marketplace to provide a range of services for tenants and customers to increase adoption and ensure continuity while easing business by supporting key synergies between Abu Dhabi's government entities and trade enablers.

KIZAD provides a fully integrated trade and logistics platform for food companies looking to expand in the region. Located near Khalifa Port, KIZAD enables multimodal

connectivity via sea, air, road and rail networks in the future, with world-class infrastructure as well as water and electrical power at a competitive rate.

Its integrated service offerings include packaging and food processing providers, enabling companies that use the food hub to benefit from significant economies of scale in the preparation and transport of their products.

Captain Mohamed Juma Al Shamisi, managing director and group CEO, AD Ports Group, stressed the importance of this project and its role in supporting the UAE's efforts to be number one on the Global Food Security Index by 2051.

He said, "The development of new resources such as this, which will bring together leading local and global suppliers, supporting them with advanced innovation and world-class infrastructure, is testament to AD Ports Group's commitment to facilitate food trade in line with the key objectives of the UAE's National Food Security Strategy that was launched by our wise leadership in 2018." ■

The 'Regional Food Hub - Abu Dhabi, in collaboration with Rungis', aims to bring together wholesale buyers, sellers, logistics players, consolidators, and distributors from across the world.

Rittal – The System.

Faster – better – everywhere.

#OpenNewPerspectives



VX25



VX25 Ri4Power



AX/KX series

Experience System Perfection with our flagship innovation portfolio
Large enclosure VX25, Ri4Power based on VX25,
new compact & small enclosures: the AX/the KX and the AX Plastic series.

► Rittal Automation Systems: Rittal automates panel building.

Perforex



Bus Bar Bending



Crimping/Wire Processing



For enquiries, mail to: info@rittal-middle-east.com

Visit us at:
Hall 5 - Stand D10



Middle East
Energy Dubai

7 - 9 March 2022 | Dubai World Trade Centre, UAE

Rittal Middle East FZE

P.O. Box # 17599, Dubai - U.A.E., Tel. +971 4 3416855
www.rittal.com/uae-en



ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

IT INFRASTRUCTURE

SOFTWARE & SERVICES

FRIEDHELM LOH GROUP

The L 580 is the largest model in Liebherr's wheel loader series for markets outside of Europe and North America.

Photo Credit: Liebherr

Rising to meet the challenge

Liebherr has launched three new wheel loaders tailored to markets outside of Europe and North America.

WITH THE NEW L 550, L 566 and L 580 models, Liebherr is modernising the three largest vehicles in its series of wheel loaders which are tailored to markets outside of Europe and North America.

Increasing the tip load, bucket sizes and engine power are some of the most important innovations. The wheel loaders also feature a new electrohydraulic pilot control. This technology forms the basis for various intelligent features which increase safety and productivity during daily use.

Enhanced performance

The new wheel loaders feature the proven hydrostatic Liebherr travel drive, which is renowned for its great efficiency. Thanks to increases in engine power – approximately 17% for the L 550 – the travel drive is even more powerful while maintaining the same low fuel consumption. This is advantageous when accelerating or penetrating material and lowers fleet fuel costs. Liebherr has installed the diesel engine in the rear, where it also acts as a counterweight thereby increasing the tip load.

The company has three lift arm versions on offer for the new models. Firstly, the z-bar kinematics, which come to the fore particularly in the lower lifting range and for the break-out force. Secondly, the industrial kinematics, which have been designed for working with heavy working tools such as high dump buckets and log grapples. Finally

there are the High Lift lift arms – an extended version of the z-bar kinematics with the longest lift arms in this wheel loader segment.

The working hydraulics of the wheel loaders will impress customers with their larger components and new electrohydraulic pilot control. This technology also ensures responsive movements of the lift arms, independent of the size or weight of the working tool. Liebherr also offers a new, optional weighing device on the bases of the electrohydraulic pilot control.

The assistance system works automatically as a check scale and provides real time information about the loading procedure.

Increased safety

The electrohydraulic pilot control enables operators to perform individual adjustments on the new wheel loaders. For example, they can set lift limitations and maximum tilt-out heights to reduce the risk of accidents in areas where space is restricted. The tilt-out speed can also be programmed to protect lift arm components and the installed equipment.

In addition to these optimisations for operating safety, Liebherr has also invested in the operational reliability of the new wheel loaders. Because they are faced with an abundance of challenges, larger axles have been included.

Liebherr has drawn on proven

components from its other wheel loaders for the core components and steel construction. When maintenance and servicing are required, Liebherr supports its customers with a global sales and service network.

Comfort and functionality ensured

The clean lines on the rear as well as the large glass surfaces in the cab facilitate good all-round visibility. Furthermore, the new reversing camera, which is installed in a protected position in the engine bonnet, assists the machine operator to keep an eye on the area to the rear.

Numerous details that have been seamlessly integrated in the wheel loaders' exterior design make service work easier. For example, on the L 566 and L 580, the engine bonnet opens to the rear, making the diesel engine freely and safely accessible.

A sturdy cab access leads to the redesigned and spacious operator's cab. One of the special features of the cab is the height-adjustable 9-inch touch display with intuitive menu navigation.

The high-resolution display provides a clear overview of all the wheel loader's operating information.

The Liebherr control lever enables the highly-sensitive control of work movements as part of the modern operating concept and hydraulic working tools, such as the log grapples, can also be precisely controlled with the optional mini joystick on the control lever. ■

Seizing digital opportunities in construction

Digitalisation is bringing transformative changes to the formwork industry.

DIGITAL TECHNOLOGIES — ranging from Building Information Modelling (BIM) and Augmented/Virtual Reality, to robotics, drones, and cloud software — are heralding a new era of possibilities and efficiencies for the global construction sector.

As in other facets of construction, digitalisation is playing a significant role in the formwork sector.

JLL, property market consultants, expects that the UAE 2022 federal budget and the oil price recovery will create positive market sentiment, ultimately driving construction activity over the course of the year.

Many companies in the region are turning to digital technologies to improve efficiencies, with the UAE generally viewed as a leader in the adoption of digital transformation.

Looking to cement its position as an industry innovator, ALEC, a part of the Investment Corporation of Dubai (ICD), has set out an ambitious strategy to accelerate the ongoing digitisation of its operations.

“ALEC’s increasing focus on digital transformation in recent years is making our operations more productive, efficient, sustainable, and accurate, while reducing risk and resource wastage. This translates to an improved level of service and quality of product for our customers. In parallel, our partners are benefitting from the streamlining of collaborative processes made possible by our expertly integrated systems,” said Andy Boutle, head of digital construction.

The latest digital engineering tools offer high quality and realistic 3D visualisations of temporary works in construction, helping to increase efficiency and streamline work processes. The use of Building Information Modelling – BIM methodology – along with its associated tools, represents one of the most significant

technological developments in recent years. It allows for realistic 3D models from which formwork and/or scaffolding projects can be designed, as well as online oversight of the project and worksite as it progresses.

Efficient formwork systems require correct and reliable planning. BIM software can be used to simulate situations and determine the optimal construction sequence before the project even begins.

Experts believe that now more than ever, digital engineering represents a key opportunity to help businesses in the industry remain competitive and innovative.

Digital engineering technology helps provide recommendations on project structures and construction phases as well as to identify any potential challenges. ■

“ALEC’s increasing focus on digital transformation in recent years is making our operations more productive, efficient, sustainable, and accurate, while reducing risk and resource wastage.

Andy Boutle, head of digital construction, ALEC



**LESS WEIGHT,
MORE PERFORMANCE**

NEW

NeoR Lightweight formwork

The innovative development of established Modular/GE universal formwork

- Reduced weight with increased fresh concrete pressure absorption at the same time
- Compatible with accessories and connecting pieces of Modular/GE
- Well-designed panel range enables a large variety of possible applications

Phone +49 7832 71-0
service@paschal.com

PASCHA
paschal.com

Global Construction Outlook: Prospects in 2022

GlobalData's webinar shines the spotlight on the construction industry. Matthew Hayhoe reports.

DANNY RICHARDS, lead economist for GlobalData construction, analysed the worldwide construction landscape during the Global Construction Outlook webinar in January 2022.

On the global playing field for the construction industry, Richards explained, "The global economy is still recovering from the Covid-19 crisis. The crisis continues to propose major downside risks to growth momentum. Notably, the potential for ongoing renewed Covid-19 restrictions will disrupt economic activity, alongside supply disruptions, high inflation and increased debt. In major markets, we are closer to a return to normal."

Richards continued, "Looking further afield across the Middle East and North Africa, infrastructure is clearly driving much of the growth."

Richards elaborated that the rebound of oil and gas prices and reopening of economies following Covid-19 lockdowns was a key player in supporting the growth. "The rebounding oil and gas prices and the opening of economies (lifting Covid-19 restrictions) has done much to support the construction industry."

Significant government spending, particularly on infrastructure, has supported the recovery in the construction sector across Western Europe.

In the region, Saudi Arabia was one of few markets that managed to grow in 2020 according to the latest data," he added. According to GlobalData, Saudi Arabia's construction industry estimated to have expanded by 1.5% in 2021, following a revised growth of 1.9% in 2020.

In looking ahead to continuing and



Photo Credit: Adobe Stock

Rising energy prices is a major talking point within the construction industry and energy-based infrastructure.

capitalising on this growth, Richards explained, "This will continue to edge upwards, supported by government investment. The government is focusing on infrastructure and utilities projects as it seeks to diversify its economy away from oil."

"We expect the UAE to grow relatively well, but it won't be anywhere near 2019 levels until 2023. Expo 2020, has provided some positive support for the economy's recovery, but we're seeing some problems for major contractors and subcontractors in the region. This reflects the continuing pressure on the overall construction sector, with a contagion effect spreading across many sub-contractors."

One major talking point within the

construction industry and energy-based infrastructure is the rising energy prices.

Richards elaborated, "One thing we've been looking at is the impact on construction material, so the key challenge in terms of materials is material prices. These have come from supply disruptions and the surge in demand."

"There will be upward pressure on key material prices when it comes to production costs, stemming from higher energy prices in the coming quarter (Q2 2022)."

"Although there may be improvements on the supply-and-demand side, that would normally allow for construction material prices to come down somewhat, there's going to be renewed pressure on production costs, stemming from higher energy prices."

The GlobalData webinar mentioned that construction in sub-Saharan Africa continues to recover but limited fiscal space and soaring debt levels are likely to impact the industry in 2022. ■

"The rebounding of oil and gas prices and the reopening of economies has done much to support the construction industry."

Looking for the best?

LIEBHERR

www.liebherr.com

info.lex@liebherr.com · www.facebook.com/LiebherrConstruction



Saudi Arabia's ambitious construction journey

Saudi Arabia's decision to pursue a policy of diversification has seen a wide range of projects completed in the last several years.

THOUGH THE pandemic caused significant uncertainty, the reforms and initiatives under Vision 2030 put in place during recent years are transforming the Kingdom through long-term growth prospects.

The ambitious journey of the construction and infrastructure sector in Saudi Arabia has not only increased investment opportunities, it has shown how development, which is taking place on an unprecedented scale, has become a national priority for the Kingdom.

According to a report by Mordor Intelligence, Saudi Arabia is predicted to witness robust infrastructure growth at a CAGR of 6% and construction will be one of the key drivers of this growth.

It is in this changing global and regional environment that the Kingdom's leading construction event – The Big 5 Saudi, to be held from 28-31 March at the Riyadh International Convention and Exhibition Centre – will provide a platform for the construction industry. With 15,000 expected attendees, 30 exhibiting countries, and 90 exceptional speakers, the trade event will be driving impact through sustainable development in Saudi Arabia's built environment.

“The Big 5 Saudi has permanently moved to Riyadh now and will showcase the readiness of the construction industry to support the tremendous transformation created by Saudi Vision 2030.”

Muhammed Kazi, vice president, construction at dmg events

With industries around the world increasingly turning towards environmental, social and governance (ESG) strategies with a focus on sustainability, the Middle East is making a marked shift towards sustainable practices, with the construction sector leading the way.

New technology and sustainable initiatives are bringing immense opportunities to the industry around the world. In this context, the Saudi Green Initiative and the Middle East Green Initiative are already engineering solutions, particularly in Saudi Arabia.

Global efforts to boost sustainability and make build environments cleaner, greener and more socially responsible are based on the three pillars of construction, energy and technology.

In the Middle East, Saudi Arabia stands out for its ambitious giga projects. It is currently developing four significant smart cities – NEOM, Amaala, Qiddiya and the Red Sea Project – each involving multibillion-dollar construction contracts.

These projects will see the emergence of a need for construction companies, governments, technology firms, and design and engineering firms to collaborate and adapt to remain responsive to the evolving



needs and requirements of the sector, with a stress on sustainability in the transforming landscape.

Opportunities in focus

The Big 5 Saudi, Riyadh's first construction event of the year, will once again bring together leading manufacturers and stakeholders. Now in its 10th year, the trade show will present the Saudi Arabia of the future while showcasing the emerging built environment.

Real estate developers, architects, contractors, engineers, consultants, manufacturers, and distributors will have the opportunity to network while learning about innovations and trends. The platform will also help construction professionals build connections and engage in changes driving development.

The Big 5 Saudi will include the HVAC R Expo Saudi co-located with Stone and Surface Saudi, FM Expo Saudi and Saudi Clean, bringing together wide-ranging industry players in support of the Kingdom's ambitious Vision 2030 objectives.

The 4-day event will feature impactful content sessions and showcase diverse products and solutions in the construction industry, while directing focus on opportunities across the region.

The Big 5 Saudi Construction Leadership Summit will take place alongside The Big 5 Saudi on 28 March 2022. It will convene construction leaders from the public and private sector for an exclusive event, providing a unique networking environment with thought leaders, on themes including Economy, Sustainable Development, Leadership, Investment, Technology and People to support strategies to build Saudi Arabia's construction industry of the future. ■

HawkeyePedershaab and BFS Box Culvert Production

One Modular Mold Set. All Box Culvert Sizes.



System Benefits:

The molds can be used in different plant configurations - either in a machine or egg-lay solution with many advantages over traditional wetcast production:

- **Make all box sizes with higher productivity and less labor.**
- **Pegged and machined mold components facilitate precise assembly.**
- **Strong design withstands vibration and stripping forces and dead-weight stresses without flexing or sagging.**

afinitas.com



Intelligent
Infrastructure
Solutions

Afinitas is a global, comprehensive and customer-oriented infrastructure equipment and services platform that brings together the expertise of HawkeyePedershaab, BFS, New Hampton Metal Fabrication, Spillman and CAM Products.

North America - +1 (319) 394-3197 | Denmark - +45 9645 4000 | Germany - +49 7344 96030

Renewable and clean energy is the most popular product sector, with solar energy featuring highly.

Photo Credit: Adobe Stock

International participation increases at Middle East Energy

Middle East Energy will host exhibitors from countries including France, Germany, Italy, Saudi Arabia, China, UK and the US.

THE MENA REGION'S most comprehensive event for the energy sector, to be held at the Dubai World Trade Centre from 7-9 March 2022, is anticipating an increase in international visitors on the back of increased demand.

Within the five major product sectors – Smart Solutions, Renewable & Clean Energy, Critical & Backup Power, Transmission & Distribution, and Energy Consumption & Management – a range of brands including Lucy Electric, Cummins, Emirates Transformers, Ducab, Riyadh Cables Group and Bahra Cables Company will be showcasing solutions and technologies to accelerate the path to the energy transition.

Year after year, the event attracts a more diverse audience of professionals seeking to source products from multiple sectors, drive cost-effectiveness and efficiency, and move projects forward.

The organisers have confirmed that the event has representation from more than 131 countries, with visitors, hosted buyers, and VIPs from countries including Algeria, Morocco, Kenya, Lebanon, Iraq, Jordan and the UAE.

In terms of visitor attendance, the top represented international countries are Nigeria, Egypt and Saudi Arabia, with uptake from the latter witnessing a 40% increase.

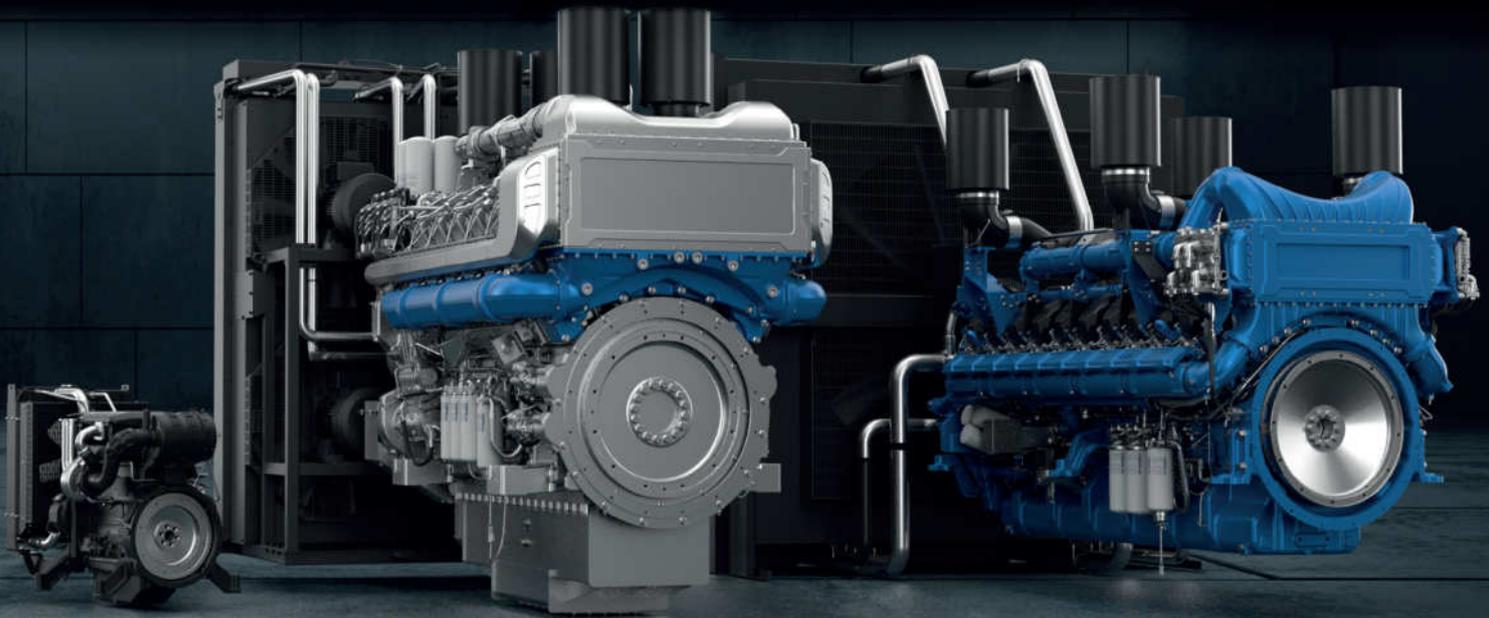
Azzan Mohammed, exhibition director, Global Energy & Utilities Forum and Middle East Energy, said, "We have seen a clear uptick from our international markets, which is an indication of the pent-up demand from those within the energy sector wanting to meet in-person to discuss, debate and understand the latest trends within the industry. With over 500 exhibitors, we are also showcasing the latest innovations and technologies shaping the industry's future.

"With a legacy spanning more than 45 years, we have grown to be one of the leading events for the energy sector in the region. Despite the challenges of the previous two years, the industry continues to adapt and seek out new opportunities to drive the energy transition agenda forward."

Overall, renewable and clean energy is the most popular product sector with visitors, with solar energy featuring highly. This is also evident with UAE visitors, with 70% stating they are specifically attending to learn more about solar, training, batteries, and wind.

"Following the discussions at COP26 and the announcement the UAE will host COP28 in 2023, we have seen countries around the world double-down on their commitments to introduce new energy ecosystems to support the energy transition and ultimately achieve their emission reduction goals. At Middle East Energy, we are supporting this

RELIABLE POWER EVERYDAY EVERYWHERE



PowerKit VS
Variable Speed Engines
20-370 kWm

PowerKit Gas
COP / PRP
63-1750 kVA

PowerKit Diesel
ESP / PRP / DCP / COP
18-4125 kVA

VISIT US AT  Middle East
Energy Dubai

7 - 9 MARCH 2022 STAND H2.A10

Durable. Robust. Built To Last.



move by providing a platform to learn from experts in this field and see the products from around the world that are helping to achieve this," said Mohammed.

The sector analysis also shows a strong representation of interest in Critical and Back up generators from Nigeria, alongside growth in data centres attending for this sector, with representatives from Equinix, Amazon Web Services and more, signing up.

According to research from Middle East Energy, Transmission & Distribution is the top product sector of interest for Saudi visitors, with automation and digitalisation the critical subject areas of interest, as the world moves to smart grid technology. This is followed by Renewable & Clean Energy, focusing on solar, wind, and hydrogen, which can be attributed to the country's announcement last year that it would cut its carbon emissions to net zero by 2060 and would invest more than US\$180bn to reach the goal.

Internationally, Middle East Energy will host exhibitors from countries including France, Germany, Italy, Saudi Arabia, China, the United Kingdom, and the US.

Held under the patronage of HH Sheikh Maktoum bin Mohammed bin Rashid Al Maktoum, Deputy Ruler of Dubai, Middle East Energy is hosted by the UAE Ministry of Energy & Infrastructure. Informa, organisers of the event, have confirmed more than 18,000 attendees, and 500 delegates are expected during the three-day energy showcase.

Sponsors include Perkins, Baudouin, Newage Stamford AVK, and Rieloo UPS at this year's event.

As part of Informa's commitment to providing the highest hygiene and safety levels, the event will again take place under the protocols introduced via the company's Informa AllSecure health and safety mandate. The enhanced measures include 35 guidelines covering all aspects of cleaning and hygiene, social distancing measures, and the use of PPE, screening, and a track and trace in conjunction with local authorities.

“At Middle East Energy, we are providing a platform to learn from experts in the field and see the products from around the world that are helping to achieve the energy transition.”



Azzan Mohammed, exhibition director, Middle East Energy.

Technical sessions

The in-person element of the event is supported by the Global Energy & Utilities Forum, which will provide a platform for industry experts to discuss thought-leadership, collaboration, and solutions for meeting the energy shift within the sector through a series of high-level strategic panels, technical sessions, roundtable

discussions and workshops.

As part of the Forum, the focus of discussion will be on developing a roadmap to decarbonisation, an insight into the energy systems of the future, the green hydrogen opportunities in the MENA region, funding of the energy transition, the rise of sustainable finance, powering the African continent with renewable energy, grids of the future, energy efficiency focus and decarbonising industries.

"We are pleased to be able to bring together these high calibre speakers for the 2022 edition of the Global Energy & Utilities Forum. Their wealth of knowledge and industry insights will provide an invaluable opportunity to hear first-hand from experts on themes such as decarbonisation, finance, investment, digitalisation, and new technology," said Mohammed.

In addition to Global Energy & Utilities Forum, a series of technical sessions will provide valuable knowledge on critical topics dominating the headlines within the energy community. Technical experts will lead sessions, sharing industry best practices across four core pillars of the energy sector, including digitalisation and smart grids, renewables, green hydrogen, and energy. Technical sessions include presentations on Decarbonising the Critical & Backup Power Market, Building Utilities of the Future and Technologies in Energy Storage, all reflecting a transitioning energy landscape.

Rounding out the conferences at this edition of Middle East Energy is the Intersolar Middle East Conference. This year's focus will be on photovoltaics, PV production technologies and solar thermal technologies. Since its foundation, Intersolar has become the most important industry platform for manufacturers, suppliers, distributors, service providers and partners of the global solar industry.

MEE has been an essential part of the Middle East's economic expansion, connecting business and introducing new products to the region to build infrastructure, real estate, and commerce. ■

The Intersolar Middle East Conference will focus on photovoltaics, PV production technologies and solar thermal technologies.

Witness Rittal's innovations at MEE 2022

Opening new perspectives and reaffirming its commitment to the channel and customers are key objectives for Rittal Middle East at MEE 2022.



Photo Credit: Rittal Middle East FZE

Rittal Middle East FZE's managing director, Xander Kruger.

RITTAL MIDDLE EAST FZE (a subsidiary of Rittal GmbH & Co. KG.), a manufacturer of electrical enclosures for use in industrial settings, has confirmed its participation in the Middle East Energy 2022 event. The Rittal Innovation booth will feature the company's most successful and innovative solutions designed for the industry.

Rittal continues to promise major innovations in order to serve the needs of the industry, made possible by its experience and intensive customer dialogues over the years. The company's team at MEE will include Xander Kruger, managing director and Bharat Mahajan, business unit leader (industry).

“We are excited to be a part of the long-awaited physical interaction with our channel partners, consultants and customer community at MEE.”

**Xander Kruger, managing director,
Rittal Middle East FZE**

Rittal will welcome visitors, customers, and channel partners to experience the solutions on display, including:

- New Large Enclosures (VX25) and variant
- Compact and small enclosures systems
- Ri4Power solutions (Low Voltage - Type Tested)
- Large enclosures stainless steel, integrated solutions (VX25 with Cooling Unit Blue e+)
- Rittal Automation Systems (Automating panel building)
- Software and configuration tools and Eplan solutions.

“This year, we are excited to be a part of the long-awaited physical interaction with our channel partners, consultants and customer community and no better place than the MEE 2022 platform to witness the latest innovative solutions and network with our experts on the stand,” said Xander Kruger, managing director, Rittal Middle East FZE.

Rittal, headquartered in Herborn, Germany, is one of the leading global providers of solutions for industrial enclosures, power distribution, climate control and IT infrastructure, as well as software and services. According to Rittal, systems made by the company can be found in more than 90% of all global branches of industry, including mechanical and plant engineering, food and beverage production and IT and telecommunications.

Rittal is the largest member company in the Friedhelm Loh Group which operates worldwide with 18 production sites and 80 international subsidiaries. ■

Region's role as global hub for green hydrogen to be discussed at MEE 2022

AN ARRAY OF international hydrogen experts will convene at Middle East Energy(MEE) 2022 to discuss the exciting prospects for the MENA region to emerge as a global clean hydrogen hub.

The green hydrogen discussion at the Global Energy & Utilities Forum will discuss topics including the Middle East's potential to emerge as a global hub for green hydrogen and ammonia, how projects will be financed, the price of producing green hydrogen as well as the opportunities surrounding blue hydrogen.



Green hydrogen has become a priority for governments and energy companies across the world.

Azzan Mohammed, exhibition director, Global Energy & Utilities Forum and Middle East Energy, said, “As the role of

Photo Credit: Adobe Stock

green hydrogen in the energy transition has become a priority for governments and energy companies across the world, we have seen a shift to evaluating the advantages of developing the technology to reduce carbon emissions across utilities, transport and industrial sectors.

With the UAE government setting out plans to reach net zero emission by 2050 while overseeing a US\$163bn (AED600bn) investment in renewable energy, the country is at the forefront of discussions regarding the energy transition.”



Photo Credit : Cummins Generator Technologies

Energy supply for Silver Mountain Construction...

Powering the alternative fuels and hybrid revolution

In the transition towards decarbonised power, the combination of renewable technologies and conventional power generation is important.

In this transitioning market, the need is for facilities that complement existing central utility structures while delivering cleaner power reliably and economically.

ENERGY PRODUCERS ARE increasingly embracing alternative fuels and renewable energy sources to create cleaner, cost-effective and more efficient power.

Self-sustainable systems such as microgrids, together with hybrid power plants which combine renewable technologies with conventional power generation, are important parts of this emerging landscape. Microgrids, in particular, are playing a growing role in markets and regions where central grid power can be unpredictable. Customers are also adopting hybrid infrastructure that diversify their installations, integrating two or more energy sources such as solar panels or wind power alongside traditional diesel or natural gas-powered generator sets. Other hybrid formats incorporate new energy solutions which might include battery storage and hydrogen fuel cells, along with alternative fuels such as biogas,

solid waste landfill gas, municipal sewage digester gas and others.

Role of power generation markets in hybrid systems

In many cases, conventional internal combustion-engine generator sets are deployed as a core power option. Moving into the future, one example is the <100 kVA segment of the telecoms industry, where more telecom towers are being built on hybrid infrastructures with a combination of diesel engines, batteries and solar panels to supply uninterrupted power. Other developments include generator sets which can burn alternative fuels such as biodiesel, gas or hydrogen, taking power generation even further towards full decarbonisation.

In this transitioning market, the need is for facilities that complement existing central utility structures while delivering cleaner power reliably and economically. In this complex balance of demands, it is

important to specify the right alternators – those that are versatile enough to meet varying market, segment and application needs and also support any alternative energy source.

Alternators that support the emerging market

NEWAGE | STAMFORD | AvK established in 1904, is globally recognised for the design and manufacture of alternators, harnessing over 100 years of innovation and engineering expertise to create products renowned for their versatility, ruggedness and dependability.

At the heart of this expertise are its three alternator brands—STAMFORD®, NEWAGE® and AvK®. Extending across 0.6 to 11,200 kVA, these product families consist of both mature and innovative products with a range of electrical, mounting, cooling and bearing options that answer all possible market and segment needs. Product marketing manager, Adam Pask said, “All our alternator ranges come backed by our proven engineering capabilities, warranties and global support to help customers navigate the challenges of switching to a hybrid infrastructure while also delivering high efficiencies.”

Action towards sustainability

A recent power project off Alaska’s coast is a good example of how STAMFORD® alternators helped unlock a

NEWAGE | STAMFORD | AvK is globally recognised for the design and manufacture of alternators.

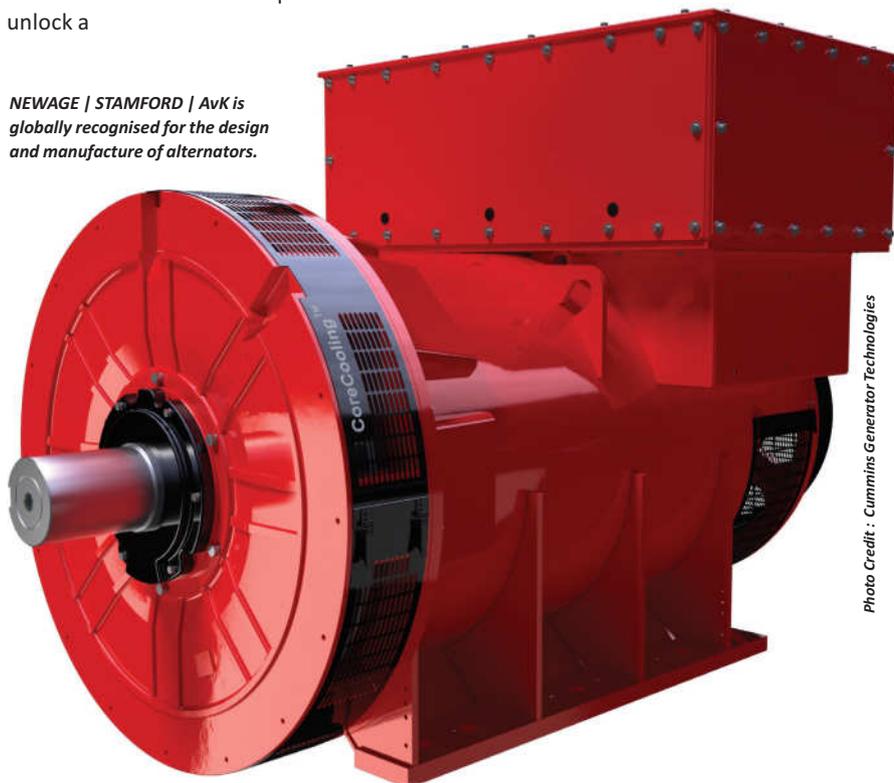


Photo Credit : Cummins Generator Technologies

new hybrid plant in one of the world’s harshest regions by supporting 200 kW energy supply for Frontier Power’s partnership with Silver Mountain Construction on the installation. Technology involved pairing propane-powered Kubota engines and STAMFORD® S0 alternators inside the generators with solar and wind energy sources. The plant is the area’s only source of energy and drives a GPS system. Recognising the critical customer requirements for low maintenance and long-lasting performance, the power provider, Frontier Power, decided to equip the required generator sets with STAMFORD® HC5 alternators.

The team at Silver Mountain Construction commented, “With vast experience in building custom-design package solutions for various applications, Frontier Power did not hesitate to choose

STAMFORD® alternators for the highly demanding specification.”

On the other side of the world, in the fast-growing mega-city of Shenzhen in China, STAMFORD® alternators are playing a key part in powering a major municipal solid waste project. The Shenzhen Dongjiang Environmental Renewable Energy Co Ltd uses household waste to create landfill gas for power generation, producing 50 million kWh of power each year. The customer chose STAMFORD® S7HV alternators with an output of 1000 kW/10.5 kV to provide continuous power sustainably to support the city’s growing needs. STAMFORD’s dedicated service and support teams worked closely with the customer to design and supply a customised solution, creating a bespoke coupling which allowed the alternator to integrate seamlessly with the generator set.

Embracing the energy future

NEWAGE | STAMFORD | AvK’s executive director of Sales, Robert Reinius says, “Power generation markets need to push ahead with reducing their carbon footprints by developing hybrid or microgrid-based facilities that use renewables alongside traditional generator sets. This will help them not only mitigate against climate change but also drive efficiency, ready them for environmental legislative changes and safeguard their reputations in a climate-aware world.”

It is clear that power technology companies across the globe are more than aware of the challenges and customers’ needs to maximise uptime and dependability on top of pursuing decarbonisation goals. As such, many—including NEWAGE | STAMFORD | AvK—are investing in future technologies and ensuring their products are versatile, efficient and durable enough to allow customers to successfully diversify in order to embrace the energy future.

For further information, visit stamford-avk.com or Stand H2.A30 at Middle East Energy 2022. ■

Connecting the world to life with Akxa Power Generation

AKSA POWER GENERATION manufactures gasoline, diesel, natural gas and marine generating sets with a capacity range from 1kVA to 3.125kVA as well as lighting towers and generation hardware across three facilities in Turkey, China and the US. The company has trade centres in UAE and the Netherlands.

Akxa Generators increases its investments continuously in technology to remain the pioneer of change in manufacturing soundproof, environment-friendly generators with lower fuel consumption.

Maximising customer benefits

Specialising its solutions for industries including healthcare, construction, mining, data centres, Akxa Power Generation is the only Turkish brand to be approved by the Uptime Institute for compliance with TIER III and TIER IV standards for 55 different models of data centres.

Its service organisation, expert staff and spare parts stock are guaranteed for all post-purchase product services, with full support in all conditions to prevent production errors during installation, operation and usage phases of the product lifecycle.

Its research and development facilities in Istanbul and Changzhou, employ a host of engineers to develop world-class solutions.

Being an expert in synchronised projects, Akxa's R&D team is the first in Turkey to develop proprietary product designs and Akxa is one of the first natural gas generator manufacturers in the world. Akxa meets continuous power requirements of clients, providing buyers with a Remote Monitoring System providing technical control and monitoring of the generators from anywhere in the world.

Along with its standard product range, Akxa also manufactures



Akxa will showcase its range at Middle East Energy 2022.

Photo Credit : Akxa

tailor-made products for specific requirements.

The key element of the company's marketing strategy is based around high-quality, energy-efficient, low noise level and low emission products with features to offer maximum benefits to companies, all the while offering competitive prices, fair payment terms and short delivery times.

Akxa Dubai is the company's regional headquarters, with six brand offices located across the Middle East and Africa region. The Dubai office encompasses an area of 12,000 square metres and has been operating since 2003, with more than 80 employees.

Akxa Dubai will be attending the Middle East Energy event in Dubai, connecting with the energy community from March 7-9, 2022.

Lovink Enertech presents innovative cable accessories

LOVINK ENERTECH, A part of Dutch company Lovink Industries, manufactures reliable cable accessories that comply with all international standards for the worldwide energy sector including electric power utility companies, the renewable energy market and the industrial sector. The company's intelligent cost-effective solutions contribute to reliable electricity grids by combining smart engineering with proven technology.

The technology

The company's LoviSil® technology is a silicone based insulation resistant to high temperatures. The fluid silicone is resistant to high temperatures and the low dissipation factor makes LoviSil® a perfect insulant for the networks highly contaminated with harmonics. The silicone remains fluid and encapsulates every part in the joint. This minimises the risk of partial discharge caused by air voids. This technology copes with new developments such as grid reinforcement and renewable energy. This way of insulation is distinctive from conventional technologies such as shrink and push.

The patented, liquid LoviSil®

insulation guarantees perfect and long-lasting insulation of the cable connection, especially in modern energy distribution networks where multiple stress factors are present.

Innovative equipment

Lovink's cable accessories offer great durability and score particularly well when it comes to 'failure-free operation'. Due to their smart, intuitive design and universal technology for all voltage levels, they are easy to install. This helps to save time and keep the risk of errors to a minimum. In addition, the modular joints are also easy and cost-effective to adjust for specific cable applications.

The LoviSil® joints are designed to last 50+ years lifetime, even in severe physical circumstances.

Innovative and advanced equipment facilities allows Lovink Enertech to manufacture products in a range of versions from standard to customised and based on specific preferences.

Lovink Enertech BV will be exhibiting on Stand H6.G70 at Middle East Energy 2022.



Photo Credit : Lovink Enertech

The company combines smart engineering with proven technology.



WHAT'S MORE IMPORTANT THAN
A MILLION RADAR SENSORS?
ONE MILLION SATISFIED CUSTOMERS.

After 30 very successful years in radar measurement technology and 1 million sensors sold, an exciting new chapter is about to begin. Watch this space, so you don't miss out as we write the next pages in this best-selling story.

www.vega.com/radar

VEGA

Advancing solutions for energy performance

As Socomec celebrates a century of its existence in the power solutions industry, *Technical Review Middle East* catches up with Wissam Riad, MEA region director, to know more on the company's focus in the region and its emphasis on innovation.

Technical Review Middle East (TRME): As Socomec celebrates a hundred years, what has been the differentiating factor in this journey?

Wissam Riad (WR): Socomec is committed to customers, people and innovations and our emphasis on these three pillars has played a significant role in the success of the company.

The added value we bring to the customers and the proximity to our partners are of great importance for us.

Our core business is the availability, control and safety of low voltage electrical networks with increased focus on our customers' power performance.

Socomec is committed to delivering a wide range of value-added services to ensure the reliability and optimisation of end users' equipment. These services include prevention and service operations to lower the risks and enhance the efficiency of operations for high quality power, measurement and analysis of a wide range of electrical parameters for improving power quality and optimisation of the total cost of ownership.

TRME: What is the focus of Socomec at Middle East Energy 2022?

WR: We are eager to meet our partners and customers at Middle East Energy, for the first time after Covid-19, and the event this year aligns with our 100th anniversary. We will be present at the MEE event to provide information regarding our latest solutions.



Photo Credit : Socomec

Wissam Riad, MEA region director, Socomec.

TRME: Please tell us more on the operations in Dubai and the region.

WR: We offer integrated solutions to the end users, covering different market segments and industries including energy management solutions, data centres, OEM and healthcare.

The MEA region covers the Middle East, Africa, Turkey and a part of southern Europe supported by our head office in France and our team in Italy. The Dubai office is responsible for the Middle East region and we also have a subsidiary in Turkey, offices in Algeria, Cote d'Ivoire and South Africa.

The Group also benefits from different production sites in Europe, North America and locations in the major emerging markets. Worldwide, Socomec has 30 subsidiaries.

TRME: How important are digital technologies for Socomec?

WR: As an independent manufacturer, the Group is committed to constant innovation in order to improve the energy performance of electrical installations in data centres, healthcare, infrastructure as well as industrial and commercial sites. Throughout its history, Socomec has constantly anticipated market changes by developing cutting-edge technologies, providing solutions that are adapted to customer requirements and fully aligned to international standards.

Sustainability is a top priority for the Group.

TRME: How was Socomec able to emerge stronger during the difficult period of the pandemic?

WR: The messages and immense support from the Group management helped us translate the same into great service to customers, and in turn produce excellent results even during the difficult times of Covid-19.

Maintaining close relations with customers, suppliers and partners is of great importance to Socomec, and this was continued during the pandemic through webinars, video conferencing and all available technology tools.

TRME: Does Socomec provide after-sales services?

WR: We are very strong on service and offer support on installation, commissioning, startup, technical trainings as well as preventive maintenance. ■

“The added value we bring to the customers and the proximity to our partners are of great importance for us.”

Wissam Riad, MEA region director, Socomec

Hosting COP27 and COP28 will accelerate MENA's clean energy ambitions

THE SELECTION OF Egypt and the UAE to host the COP27 and COP 28 conferences in the next two years is expected to kickstart clean energy initiatives and drive international investment into the Middle East and Africa regions.

“The Middle East remains a very important provider of fossil fuel energy to the world and will also engage [globally] on any energy transition efforts which support sustainability and a better future for the next generations,” said Ahmad Nada, president of the Middle East Solar Industry Association (MESIA). “Middle East countries are very rich in renewable resources, including solar and wind. Hence, more worldwide clean energy demand and deployment will enable further demand of projects in the Middle East.”

Nada noted that the region has played a key role in driving down the cost of utility-scale renewable energy production, with the UAE, Saudi Arabia and Egypt having all set global records for the lowest production of wind and solar energy.

As the technology continues to evolve in the clean energy space and a growing focus on green hydrogen as the potential next generation fuel of the world, hosting the COP27 and COP28 events is a massive opportunity for the region to benefit from increased investment from across the globe.

“If we can just imagine more solar projects in North Africa for example, a huge transformation to the African energy landscape can be achieved and bring African economies to a new level of



COP27 and COP28 events are massive opportunities for the region to benefit from increased investment from across the globe.

internal growth and more competitive energy to Europe. Environmentally, in the long-term, any reductions in CO2 emissions impact regional countries in exactly the same way it impacts advanced industrial economies,” concluded Nada.

As a part of its policy to use alternative energy sources, Dubai has developed the Dubai Integrated Energy Strategy 2030 to drive energy decarbonisation and ensure efficient use of energy. The Dubai Clean Energy Strategy 2050 aims to produce 75 percent of its energy from clean sources by 2050.

PROTECT – CONTROL – MONITOR

At Sprecher Automation you will find everything for the future-proof digitisation of your substations:

- + Modular substation automation system
- + Complete range of protection relays
- + Cyber security tailored to substation automation
- + Highly available RTUs for ring main units
- + Automatic voltage regulators

sprecher
automation


 Sprecher Automation Middle East FZCO
 info-me@sprecher-automation.com
 www.sprecher-automation.com

From cable manufacturer to power solutions provider

Speaking to *Technical Review Middle East*, Ducab's Group CEO, Mohammad Almutawa, outlines the company's new strategy and how it ties in with the UAE's wider sustainability objectives.

Mohammad Almutawa,
Group CEO, Ducab.



Photo Credit: Ducab

IN OCTOBER 2021, Ducab, solutions provider to the global energy sector, launched its new corporate strategy and vision for providing 'Energy for Change'. The strategy sets a clear direction focusing on sustainable energy to drive further growth and international expansion, and is designed to generate positive economic, social, and environmental impact. This renewed purpose will mean providing innovative and sustainable energy solutions proudly developed in the UAE.

Mohammad Almutawa explains that the strategy is designed to ensure that Ducab remains competitive at a time when the world has changed and transformed following the pandemic. This has led Ducab, along with many other companies, to re-evaluate its business.

"Not only that, our sector has changed quite significantly. The market is saturated in terms of the number of contractors, and the UAE is an open and competitive market with no barriers to entry. This region is home to the biggest projects in the world, attracting global investors. So we have to operate at a different level from other manufacturers, contractors and suppliers.

"The new strategy is designed not only to ensure the future of Ducab, but also ties in with the future of the UAE," he adds.

"Ducab has always played a vital role in the UAE's industrial aspirations, and we always seek to lead the way for the sector in the UAE. That's why we've selected this time to introduce our new strategy. What we are looking to do is transition from cable

manufacturer to power solutions provider, thereby providing more value to our clients and customers, as well as to the UAE."

The new strategy focuses on two areas, Almutawa says. "The first is capitalising on the assets we have, trying to make them leaner, meaner and viable for the future. We have many internal initiatives for continuous improvement, for new technology and investment and systemisation, drawing on elements of Industry 4.0.

"The other area we're focusing on is growing in areas where we're not yet

"Ducab has always played a vital role in the UAE's industrial aspirations."

present, in terms of what we can offer the client. Providing a solution to the client rather than just supplying a product is the focal point of our new strategy."

Ducab's strategic realignment comes at a time when the entire world is focusing on mitigating climate change through decarbonisation, and the renewable energy sector is growing faster than ever. The UAE's Energy Strategy 2050 plans to increase the contribution of clean energy sources within the total capacity mix to 50% by 2050.

"Environment and sustainability are a big concern for the UAE right now, and it is pursuing this on an international scale, with Expo 2020 being the biggest example. The push for sustainability, being environmentally friendly and social responsibility are important factors not only for the UAE but for Ducab specifically," comments Almutawa. He highlights a number of measures the company has introduced to reduce its carbon footprint, including the launch of a new solar park which contributes around 25% of the head office's power requirement.

"We have internal initiatives to increase the use of recyclable materials and processes to increase our recycling of polymer products and other elements," he adds. "We have updated some of our machinery to optimise power consumption and reduce our overall power requirement, as well as introducing a lot of automation."

Almutawa stresses that localisation is an important part of Ducab's contribution.

"Ducab has always contributed strongly to the local economy, with a focus on local procurement. We are the leader in local content, and that is reflected by being one of the most highly rated companies in terms of our ICV score."

Providing employment opportunities for the country's youth is also an important focus. The company's Emiratisation programme focuses on internships, training, and succession planning, and has led to the successful recruitment and retention of talented UAE nationals at every level across the organisation. ■

For the 33rd year running the UK Pavilion at Middle East Energy is hosted by BEAMA the UK association for manufacturers of vital products, technologies and services that deliver a safe, reliable and smart end to end energy system.

This year's Pavilion will host a unique display of UK manufacturers' products and innovations, all that demonstrate the exceptional ability of companies within the UK energy sector. Please make sure you come and meet the experts in Hall 2 to find out more about how UK manufacturers can help you and your business.

BEAMA H2.F13

Rotherwick House, 3 Thomas More Street,
London E1W 1YZ

Tel: +44 (0)207 793 3000
Email: Exhibitions@beama.org.uk
www.beama.org.uk
Contact: Vera Pokoo

BEAMA represents and works with manufacturers of vital products, technologies and services that deliver a safe, reliable and smart end to end electricity system. As an association, BEAMA represents manufacturers in the energy, power and electrical installation sectors, a UK industry with a turnover of £13 billion and employing 137,000 people.

BPC Energy Limited H2.F14

BPC House, Unit 12, Romsey Industrial Estate, Greatbridge Road, Romsey Hampshire SO51 0HR

Tel: +44 (0)1794 521200
Email: sales@bpc-ups.com
www.bpc-ups.com
Contact: Kim Watkinson

The British Power Conversion Company is an international company offering a ground-breaking range of power protection products and services aimed at the Computer, Telecom, Midrange Computer, Data Centre, Emergency Lighting, Industrial and Three Phase sectors of the market. BPC Energy Ltd sells a variety of products & services to suit all applications and are at the forefront of modern power protection technology with expertise in design, development and manufacturing. Come visit us at Stand H2.F14 to view the newest additions to our extensive range of products and discuss how we can assist you with your power protection requirements.

Ellis Patents Ltd H2.F19

High Street, Rillington, Malton,
North Yorkshire YO17 8LA

Tel: +44 (0)1944 758 395
Email: sales@ellispatents.co.uk
www.ellispatents.co.uk
Contact: Luke Berridge

Ellis is the global leader in the design and manufacture of cable cleats and fixing solutions. In-house engineering capabilities allow for constant innovation and the creation of bespoke solutions for individual project specifications. Our strong network of worldwide distributors help to deliver technical expertise to secure international energy projects.

GW Wiring / General Wiring H2.F17

Unit 2 Wharfedale, Rosemont Road,
Wembley HA0 4PE

Tel: +44 (0)208 795 2099
Email: uksales@gwcabletielgroup.com
www.gwcabletielgroup.com/
Contact: Ivana Zupova

Established in 1980, our mission is to manufacture high-quality cable ties at competitive prices. GW is ISO certified, and our cable ties are UL listed and RoHS compliant. GW cable ties come in a wide range of colours and materials such as ultraviolet ray resistant and heat stabilised. We can produce OEM ties just get in touch to discuss your needs.

Marshall-Tufflex Ltd H2.F10

55-65 Castleham Rd, Hastings,
Saint Leonards-on-sea TN38 9NU

Tel: +44 (0)1424 856 600
Email: sales@marshall-tufflex.com
www.marshall-tufflex.com
Contact: Michael Ballard

Marshall-Tufflex is the UK's leading manufacturer of high-quality cable management solutions and deliver top systems to a global market. 2022 marks the company's 80th anniversary.

The company uses recycled plastic to reduce impact on the environment and aims to reach a level of 80% recycled material across their PVC-U range this year.

Trunking systems in steel, aluminium and GRP are also available plus a comprehensive range of underfloor to desk products.

REPL International Ltd H2.F18

REPL House, Kingsdown Road,
Swindon SN25 6PB

Tel: +44 (0)1793 821 220
Email: info@repl.com
www.repl.com
Contact: Steve Cooper

REPL International is a global manufacturer of cable accessories for low and medium voltage joints and terminations. We specialise in heatshrink, coldshrink and premolded products as well as smart accessories which measure current, voltage and power quality among other parameters.

Wrexham Mineral Cables H2.F11

Wynnstay Technology park, Ruabon,
Wrexham LL14 6EN

Tel: +44 (0)1978 810 789
Email: info@wrexhammineralcables.com
www.wrexhammineralcables.com
Contact: Steve Williams

Established in 1989 Wrexham Mineral Cables (WMC) developed a totally new and unique process for the continuous manufacture of MICC cables – the only True Fire Survival Cable. WMC are the only UK manufacturer of MICC fire survival cables, exporting to over 20 countries globally including the Middle East, India, Australia and China.



PFISTERER's new dry outdoor cable termination takes only minutes to install

Photo Credit - Pfisterer

PFISTERER's new dry insulated outdoor termination DOC is environmentally-friendly and can be installed in only a few minutes.

SOLID-INSULATED AND LIGHTER than conventional oil or gas-filled terminations, dry outdoor cable terminations by PFISTERER, have been used worldwide for decades. Their silicone solid insulation ensures environmental and operational safety as well as durability in use, in substations and on overhead lines, sustainable and with no risk of leakage. With the new dry outdoor composite (DOC) termination, PFISTERER is presenting the first self-supporting, dry-insulated version up to 170 kV at the Middle Eastern Energy 2022 in Dubai. Quickly installed and reliable in maintenance-free long-term use, it connects cable systems to overhead lines and busbars.

Completely preassembled and pretested

The DOC central unit, comprising a hollow insulator, stress grading device and base plate, is delivered to the site fully preassembled and routine tested. Testing under IEC 60840 section 9 is carried out on the whole central unit. The DOC meets all criteria of the highest pollution class

The DOC is suitable for areas with high levels of dust, including desert environment.

according to IEC 60815-3. It is therefore suitable for areas with high levels of dust, including desert environment.

Fitted in minutes

The modular design of the DOC simplifies handling across the board during transportation and installation. At the same time, it reduces the installation time from hours to a few minutes. Since the central unit is fully pre-assembled, it simply pushes onto the cable – the number of elements to be fitted is minimised, time-consuming gluing work and drying phases are eliminated entirely. Thanks to the silicone solid insulation, no oil or gas work is required on site. The conductor is connected

quickly and securely using screw technology, without any hydraulic pressing tools.

Energie Steiermark uses DOC in maintenance-free operation

Energie Steiermark, power utility and grid operator in Austria, Slovakia, the Czech Republic and Slovenia, quickly recognised the advantages of the DOC and used the solution by PFISTERER for newly planned terminations in a substation in Graz. Maintenance-free operation of the dry terminations means less monitoring is required. In addition, the environmentally-safe technology fulfills the company's vision for a safe and sustainable life.

Founded in 1921, PFISTERER is one of the world's leading independent specialists and system suppliers for energy infrastructure – with a complete range of cable accessories, overhead line technology and components along the entire transmission chain from power generation to consumption. PFISTERER connects the power grids of today and tomorrow and makes an important contribution to a sustainable and secure energy supply. ■

Brady offers professional labelling for the electrical industry

DURABLE PROFESSIONAL LABELS that remain legible and stay attached in harsh conditions are extremely important to keep power, network, voice and data cables and components organised and running effectively.

Well identified wires, cables and components give professionals an immediate insight into how an installation works and how it is connected. This enables quicker repairs, installation updates and upgrades, in a safer, more secure way and with a reduced risk of human error.

This is why Brady offers professionals in the electrical industry, a complete range of highly mobile labelling solutions. Brady labels are designed to stick and to remain stuck for years, all the while retaining their readability. All Brady labels are backed up by easy-to-use portable label printers that can be operated using one hand only, for maximum flexibility in the field.

Brady offers a full range of wire & cable labelling solutions. Its self-laminating labels are the most popular wire identification solution in ICT & Telecom, especially used with copper cables, the typical CAT6 or CAT7 solutions. The company offers specific labels that, when removed, don't damage a fibre-optic cable, they only slightly touch the fibre-optic and never interfere with its data transfer capacity.

Brady also offers a range of benchtop



Brady offers professionals in the electrical industry a complete range of highly mobile labelling solutions.

Photo Credit : Brady

printers, adapted to printing larger volumes of labels. Engaged in offering complete solutions for the entire electrical industry, it has the largest identification product range on offer, worldwide. According to industry research Brady systems can reduce cost of downtime by 80%, speed up fault finding by 75% and make installation 20% faster.

Automated labelling can significantly increase the speed at which products, components, cables and even laboratory samples can be identified. It enables compliance with traceability requirements,

while protecting profitability. Brady offers a complete, automated labelling solution that includes industrial-grade labels, automated label printing software and automated print and apply systems.

Brady is exhibiting at Middle East Energy Dubai 2022, giving an opportunity to see various labelling solution in action, speak to the company professionals or consult any identification issues.

To learn more, download the free guidebook: "Identify Any Cable and Component"! ■

PFISTERER

CONNECTING A SUSTAINABLE WORLD

PFISTERER is one of the world's leading specialists and system suppliers for a sustainable and secure energy infrastructure – with a complete range of cable accessories, overhead line technology and components along the entire transmission chain.

www.pfisterer.com

Meet us at
Middle East Energy 2022
Stand H8.F39

the power connection

GenCell launches off-grid ammonia-to-power solution for mobile operators

GENCELL, THE leading provider of hydrogen and ammonia-to-power solutions, announced the launch of GenCell FOX off-grid power solution for mobile operators, that generates power on-demand from ammonia.

The GenCell FOX delivers reliable, resilient and zero emission primary power which can replace fossil fuel generators. The solution can also complement solar PV and wind power solutions at telecom sites around the globe. The FOX can be placed at a telecom base station in virtually any location where grid services are poor or non-existent, to keep the tower running without any need for servicing or refueling for as long as half a year.

The GenCell FOX is an evolution of the GenCell A5 and has been developed specifically to provide power for operators' radio networks. GenCell has successfully completed a series of rigorous field tests of the FOX in various weather conditions with a number of operators. GenCell will be

offering operators a limited number of pre-launch projects for deployment in 2022, and it will be available for full commercial deployment in 2023.

Rami Reshef, CEO at GenCell, said, "The GenCell FOX is the first fuel cell solution to overcome the limitations of the current hydrogen infrastructure by creating hydrogen-on-demand from ammonia, the world's second most-produced inorganic chemical. More than 200 million tonnes of ammonia is produced each year and distributed globally via pipelines, tankers and trucks, making it readily available and inexpensive. By creating hydrogen-on-demand from ammonia, the GenCell FOX provides zero emission fuel cell power at a lower cost than diesel generators.

"As the need for green power for towers has become more insistent and obvious, while in parallel we have demonstrated that the product has completed successful field tests in various extreme weather conditions, we are seeing increasingly

broad interest in the FOX from telecom, cable and other connectivity providers around the world. We trust that the solution will help telco operators and tower managers everywhere to reliably and cost-effectively power their towers while meeting both their sustainability and resiliency targets," concluded Reshef.

GenCell develops total green power solutions based on reliable, zero emission alkaline fuel cells and green ammonia-to-energy technology which deliver uninterrupted power to help the world transition to clean energy. The ability to produce not only clean power from GenCell's fuel cells, but also the green fuel on which the fuel cells run, sets GenCell in a far superior position as a well-to-wheel total green energy solution provider. GenCell delivers resilient, robust and weather-resistant backup power for utilities, telecom and other mission-critical applications which have been deployed in 22 countries.

GTL runs 100% solar power with support of Sharaf DG Energy

GEOSCIENCE TESTING LABORATORY (GTL) has reached a pioneering milestone in the realm of clean energy mix by becoming the first analytical laboratory to run on 100% solar power.

Facilitated by Sharaf DG Energy, GTL is now equipped with 950 photovoltaic solar panels that can generate approximately 723,500 kilowatts of electricity annually.

The project marks GTL's tangible policy towards supporting the UAE's Net Zero by 2050 strategic initiative, which aims to generate 50% of its power generation mix from renewable sources in order to balance economic and environment goals.

Abdullatif Abdulla Ali Al Gargawi, chairman of Prime Group, stated, "Our decision to utilise only clean energy at GTL is one of the most important corporate initiatives we've taken over the years. This initiative reduces our carbon footprint with the invaluable technological support of Sharaf DG Energy and reflects GTL's commitment to the UAE's key economic ambition to achieve a green sustainable economy."

Mary Jane Alvero-Al Mahdi, group CEO of Prime Group, said, "In parallel with the national drive to achieve net zero emissions by 2050, GTL looks at energy sustainability as a top priority now and in the future. We are glad to have partnered with Sharaf DG Energy in our endeavour to adopt this green energy project that now powers up our equipment and machineries using renewable power from the sun."

Ramkumar Sunkari, CFO of Sharaf DG and Business Head, said, "We are delighted to partner with GTL in this corporate clean energy project that leverages one of UAE's key environmental resources— it's unique climatic condition that can potentially benefit more establishments to operate in full capacity round the clock using solar power. Switching to solar energy is a big step not only in cutting operational costs, but also in protecting the environment through the use of this renewable energy source.

GTL, a UAE-based independent testing laboratory which became



Photo Credit : Adobe Stock

GTL is equipped with 950 photovoltaic solar panels that can generate approximately 723,500 kilowatts of electricity annually.

fully operational in 1997, provides quality assurance solutions in building evolution and an active player in the fields of construction material analyses, geotechnical investigations, geophysical services, and topographical surveys

Sharaf DG Energy, a Sharaf Group company, with a portfolio of 50MWp of completed and ongoing commercial and industrial solar projects, has more than 700 private villas installations and completed projects including Dubai Airports, DEWA, Emaar, Drydocks, Dubai Healthcare City.



Behind life's **every moment**



For 90 years we've provided prime and standby power for over 3 million generator sets. Today, our 5-2500 kVA engines are powering communities, livelihoods and businesses.

www.perkins.com

 **Perkins**[®]

Volvo Penta's D13 genset engine gets power upgrade

VOLVO PENTA HAS strengthened its generation engine portfolio with the introduction of the TAD1346GE 500 kVA power node to its D13 mobile genset engine. Volvo Penta's D13 500 kVA gives full power output the second it starts up – an essential feature for a backup genset particularly for those being used in emergency/stand-by operations, such as in hospitals, pharmaceutical companies, or data centres. It can be used in a wide variety of applications even in the toughest conditions.



The D13 500 kVA.

Photo Credit : Volvo Penta

The D13 500 kVA is considerably smaller and lighter when compared to previous models. This allows for downsizing – resulting in a smaller engine room, smaller alternator, and ultimately fuel saving. It has a fuel-saving of 4-5%, compared to previous models. This is, in part, due to the quality and viscosity of the lubrication oil which influences the internal friction in the engine, which plays a vital role in fuel consumption.

"This is a great addition to our strong full engine range," said Giorgio Paris, president of Industrial, Volvo Penta. "Volvo Penta is committed to continuing to improve today's products to become even more reliable. But it's not just about the final product, we are committed to supporting our customers every step of the way with a strong aftermarket support present in more than 130 markets worldwide."

Volvo Penta, through its partnership with Al Masaood Power Division, is showcasing its new D13 power node at Middle East Energy from 7-9 March in Dubai.

Trina Solar signs Vertex module deal with Al-Raebi

TRINA SOLAR SIGNED its first N-type Vertex deal in Middle East with Al-Raebi for Trading Co, its authorised distributor in the Middle East, during the World Future Energy Summit 2022 held in Abu Dhabi in January. This first-of-its-kind deal in the Middle East region aims to supply the Middle East market with 40MW using Trina Solar's latest N-type Vertex PV module to cater to increasing energy needs. The N-type Vertex module uses PACO technology to increase the power and efficiency up to 690W+.

Antonio Jimenez, managing director and vice president, Middle East, Trina Solar commented, "We are proud to bring our latest Vertex module to the region. Our long and prosperous relationship with Al Raebi allows us to deliver the power, efficiency and reliability needed to accelerate the adoption of clean energy in Middle East. We are proud to see more solar projects in Middle East implemented through Al Raebi and play a key role in the already large photovoltaic industry in Middle East."

Abdullah M Raebi, general manager of Al-Raebi for Trading Co, stated, "Solar energy has rapidly gained popularity, and within only a few years, it has become the foundation of Middle East's electricity supply. We are truly proud to be leading the way in the Middle East solar sector by introducing Trina Solar's latest PACO modules that are based on 210mm



Photo Credit : Trina Solar

The deal will bring Trina Solar's latest N-type Vertex PV module to the Middle East.

technology, allowing us to deliver the most advanced solar technology to address the current and future market demand."

The cutting-edge 210mm Vertex portfolio of ultra-high-power modules ranging from 400W+ up to 690W+ designed for residential, C&I and Utility Sector integrates high efficiency, high reliability, high power generation and low cost due to its low-voltage high-string power design.

As a platform, 210-technology can continuously superimpose any cutting-edge technology by virtue of its open nature. 210-N-type technology is undergoing rapid advance, which sets a new cost-saving standard and ultimately ensures project earnings to maximise customer value, making PV solar energy more cost competitive.

Progressing Bahrain's Vision 2030 plan

IN THE FEBRUARY episode of CNN's Marketplace Middle East, Eleni Giokos reported on how Bahrain's Vision 2030 plan and economic diversification initiatives are progressing.

Husain Mohamed Rajab, CEO of Tamkeen, a semi-government agency that helps start-ups grow in the region, stressed the importance of renewable energy. "Renewable energy is one of the key sectors that are growing in the region. GCC is one of the most energy-rich regions globally. And that drives a lot of interest from governments to support the growth and development of any activity in this sector. Manufacturing of solar panels or anything that has to do with renewable energy is considered as a priority for us."

This is good news for small businesses



Photo Credit : Adobe Stock

Renewable energy is a fundamental component of the country's economic recovery plan.

like Solar One, Bahrain's first solar panel company. Faisal Khalifeh, the founder and managing director of Solar One, said the company produces around 60,000 solar panels in a year. "It just feels good to be part of Bahrain's goals, with their renewable energy targets," he remarked.



PROUD TO

POWER

YOU.

When you build standby or prime power generators, you need THE POWER OF CONFIDENCE built in to every John Deere generator drive engine. Our 35 years of experience in power generation provides you and your customers the assurance of heavy-duty engine components for long-lasting performance. Warranty and service support that is unmatched in the gen-set market. And extensive engineering and application integration support to save you time and money.

John Deere. The power behind your power generation.



JOHN DEERE

jdengine@JohnDeere.com
JohnDeere.com/JDPower

Transdiesel SL expands into Turkey

The company aims to enable OEMs to optimise their product and get it to market quickly and competitively.

JOHN DEERE POWER Systems (JDPS) distributor Transdiesel SL in Madrid, has expanded into the Turkish market to provide customised application support and fast delivery of engines and spare parts to customers in the region.

“Our new office, Transdiesel SL Turkey, will enable OEMs to get powerful, reliable equipment to market quickly and competitively,” said country manager, Emrah Kucukakca.

Optimising local expertise and proven John Deere experience

Transdiesel SL sells and supports John Deere engines for industrial, generator sets, agricultural and marine applications in Spain, Portugal, Morocco and Mauritania. The newly established Transdiesel office in Istanbul, Turkey will benefit from the John Deere engine technical and application expertise from the corporate office in Spain, while maximising their own experience within the regional engine market.

“Optimisation is our key word,” said Kucukakca. “We tailor our solutions to address customer needs — which may be more economical than originally anticipated. Weekly sea freight deliveries from Spain provide turnkey solutions and quick delivery of current John Deere engine models. Our goal is to help each customer optimise their product and get it to market quickly, and at a competitive price.”

First in-field applications

Only five months after the office opened, various John Deere-powered applications are already hard at work. For example, wind machine manufacturer Gener has outfitted its first batch of stationary frost protection fans with 4.5L, 131 kW (175 hp) non-certified John Deere engines. They also have a 4.5L, 105 kW (140 hp) Stage V engine order for a mobile wind machine model in the pipeline. In marine applications, award-winning yacht builder Ark Yacht has equipped three of its luxury



Photo Credit: Transdiesel SL

Emrah Kucukakca, country manager, Transdiesel SL Turkey is excited about offering local customers power solutions that enable them to market competitive products.

Chronos yachts with John Deere 13.5L, 448 kW (600 hp) engines.

Full range of engine ratings

Transdiesel SL Spain's large stock enables the Turkey office to provide industrial engines from 36 to 500+ kW (48 to 670+ hp). The marine engine range includes propulsion, auxiliary and generator drive engines with ratings from 60 to 559 kW (80 to 750 hp).

Kucukakca added, “The engines are reliable under tough conditions and built to last. To get the word out, we are organising agricultural

and marine events, and in 2022, we will attend our first Eurasian Boat Show in Istanbul.”

“We are delighted with the early successes of Kucukakca and his team at Transdiesel SL Turkey and confident that this is the start of a successful future. We look forward to seeing many more applications powered by our engines in Turkey,” concludes Julien Bracquemond, EAME manager for sales & distribution at JDPS. ■

www.transdiesel.com.tr
www.deere.com/en/engines-and-drivetrain/



ELECTRIC



● ● ALTERNATORS MADE IN ITALY

Your Success is our Mission

Linz Electric is an Italian company specialized in the production of synchronous alternators up to 1500kVA. Linz Electric's Mission is to create the most efficient solution to lead customers to success through Made in Italy quality products, flexibility in process and quick and complete service. **Linz Electric's Alternators: Energy for your Success.**



www.linzelectric.com



Securing fresh water supply for Zwischenwasser

How a process control system based on the zenon software platform from COPA-DATA helps an Austrian community ensure the supply of clean drinking water during normal and dry phases.

THE DAILY PER capita water consumption in Austria is about 135 litres. Although only three litres are used for drinking and cooking, consumers can safely expect pure drinking water to run from the tap. On its way to the tap, the water needs to run several kilometres, passing through pumps, tanks, reservoirs and filters.

The Zwischenwasser community comprising three villages with nearly 3,300 inhabitants, is situated in Vorarlberg, the westernmost federal province within Austria. Its name literally translates to 'between waters'. Despite its location on the slopes of a mountain range, there are not many suitable wells within its municipal area.

Clean water for 3,300 people

The fresh water supply of the community is taken care of by five local water cooperatives sharing a supply network. This piping network is designed to level out fluctuations in the volumes needed. It includes 14 pumping stations with a total of 19 pumps,

“Using zenon, BATEch created a trend solution that allows us to proactively prevent local water shortages rather than taking care of the damage after it has occurred.”

Martin Mathis, communal utilities manager, Zwischenwasser.



Zwischenwasser utilises COPA-DATA software for transition to a smart village.

12 high-level tanks and six UV systems. The control systems for the individual stations had been linked to each other and to a control room in the communal utility centre, via fibre-optic cables or GPRS modules for data transmission over a mobile phone network.

“Our legacy system often took several hours to update information so in case of doubt someone frequently had to go out to check locally,” said Martin Mathis, the communal utilities manager in charge of water supply operations in Zwischenwasser. “As the stations are situated kilometres away in exposed locations in high mountains, this posed a major operational obstacle – especially in winter,” Mathis added.

Comprehensive automation concept

The community of Zwischenwasser chose BATEch eU for the design and implementation of the new fresh water supply control and management system. BATEch has developed ergonomic control concepts for utilities, such as biogas plants, utilising the zenon software platform from COPA-DATA.

BATEch utilised the open and modular system structures the software platform provides to create a tailor-made yet modular application.

“Using zenon, BATEch created a trend solution that ensures outstanding transparency,” Martin Mathis confirmed. “This allows us to proactively prevent local water shortages rather than taking care of the damage after it has occurred.”

Communications for mobile devices

Since the new control and management system was commissioned, Zwischenwasser’s fresh water supply installations are generally operating fully automatically around the clock. The system records and archives all parameters, data and operating conditions, which can be viewed at all times. For subsequent analyses and as a basis for repair and maintenance work, the system also provides freely definable curve diagrams using data from various processes, messages, reports, protocols and alarms. ■



Complex. Made Simple.



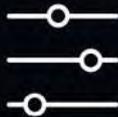
Introducing the G8-Series

DSE G8600 High-End Parallel Genset Controller



Advanced Functionality

Incorporates high-end features to handle complex paralleling applications, including group control, load demand schemes, spinning reserve, and multiple bus sectioning.



Configurable Hardware

Intelligent design provides simple configuration for use as an Auto Start, AMF, ATS & Mains or Group Controller, delivering outstanding flexibility for multiple application types.



Powerful Integration

Seamless integration with advanced DSE PLC editing software for high-end flexibility and DSEWebNet® software for remote generator monitoring & management solutions.



Flexible Engine Technology

Developed for use across multiple fuel types, the **DSE G8600** incorporates an outstanding range of features for diesel, gas and hybrid technology.

To learn more about the G8 Series, get in touch.



DEEP SEA ELECTRONICS LTD
Highfield House, Hunmanby Industrial Estate, Hunmanby, YO14 0PH, UK
TELEPHONE +44 (0) 1723 890099
SALES sales@deepseaelectronics.com **MARKETING** marketing@deepseaelectronics.com
WEBSITE www.deepseaelectronics.com



Visit Us At

Middle East Energy Dubai

March 7-9, 2022 - Booth: H1 F50

50 years from LED's light bulb moment

LED and video wall technology more generally, is starting to transform the way we think about space in the workplace and beyond, says Piet Vanhuuse of global technology company, Barco.

WHEN A SPACE in a company building is transformed through a video wall that facilitates employee engagement, or an eye-popping visual display, LED is helping to transform the way people perceive that space. As members of the workforce interact with that video wall, it becomes a new centrepiece of the organisation, and most importantly, a vital part of that firm's story.

What is LED and how did it come to be?

With humble origins reaching back as far as 1907, light-emitting diodes are simply solid semi-conductor devices that emit light when an electric current is passed through. To generate the dynamic and crisp light range that LEDs are known for, various materials are used to produce photons at different wavelengths and light of different colours. High-brightness red and amber LEDs use the aluminium indium gallium phosphide (AlInGaP) material system, whereas blue, green, and cyan LEDs use the indium gallium nitride (InGaN) system. Between them, they cover the entirety of the spectrum of light as their relative intensities are controlled to produce colour across the range.

LEDs first became popular in the 1970s, capturing the cultural imagination as displays on alarm clocks.

By the late 1990s, LED walls were being used as fixed installations in the retail and public signage sector, as well as at tradeshows and events. By the early 2000s, the size of the panels needed to mount LEDs on became smaller, and this helped pave the



Photo Credit: Barco

The history of LED is still being made.

way for the types of creative use most associated with the technology. In 2003, the curved applications that dominate control rooms and broadcast environments to this day emerged. As time went on, display processors became smaller and integrated in screens, allowing smaller Digital Out-Of-Home (DOOH) displays to leverage LED tech for smaller, more intimate spaces outside the usual markets that still demanded a visual punch. In line with the more intimate space that LEDs entered, 2017 saw the start of the narrow pixel pitch (NPP) era. Descriptive of the density of pixels on the screen, NPP means less empty space between pixels, which in turn means smoother borders between pixels, finer details, and a closer

optimal viewing distance for those huddled around the screen.

Today, we see companies of all sizes and across a variety of industries tap into the potential of LED. For the viewers of Al Arabiya, the evolving thought process around LED and space meant being able to install three curved LED video walls that provided a hyper-realistic snapshot of the 24-hour news cycle. As viewing habits have evolved, so has the threshold for what a news organisation needs to represent to be authoritative.

The history of LED is still being made, and the trajectory of the displays of tomorrow is being written in stunningly crisp technicolour. While there are still certain pain points in the overall customer journey to be resolved, with the inherent fragility of the hardware during handling next to be tackled, the march towards finer pixel pitches will facilitate a redefinition of the way we see LED in workspaces. The history of LED is the history of the evolution of space, and the future looks bright. ■

To generate the dynamic and crisp light range that LEDs are known for, various materials are used to produce photons at different wavelengths and light of different colours.

Empower provides district cooling system for The Peninsula

EMIRATES CENTRAL COOLING Systems Corporation (Empower), the world's largest district cooling services provider, has partnered with the Select Group to supply 10,915 refrigeration tonnes (RT) of district cooling energy to The Peninsula, the largest mixed-use real estate development in Dubai's Business Bay.

Empower will start providing its environmentally-friendly district cooling services in phases, by later this year, in line with the completion stages of the mega project being developed by Select Group. The project extends over an area of more than one million square feet, with an estimated built-up area of 5.5 million square feet and is set to become an exclusive community in Downtown Dubai close to some of the city's most prominent landmarks.

China State Construction Engineering Corporation (Middle East) is currently implementing the first phase of the The Peninsula that combines in all of its phases, eight mixed-use buildings as well as vast green spaces, cafes, restaurants, retail outlets, parks, landscapes and a range of amenities extending along the Dubai Canal waterfront.

Ahmad bin Shafar, CEO of Empower, commented, "The advantages of modern district cooling systems are not limited to advancing environmental sustainability only, but also play a pivotal role in enabling companies to maintain their air conditioning systems, as operations, production, distribution and maintenance



Photo Credit : Empower

The project is set to become an exclusive community in Downtown Dubai.

are carried out remotely in an advanced highly controlled technical environment, in a way that ensures high levels of service and security and safety procedures. We, at Empower, are committed to continuing to serve leading real estate projects and providing all sectors and residential, commercial and recreational facilities in Dubai with district cooling services in accordance with sustainable international specifications to support the emirate's leading role in reducing carbon emissions, in line with the directives of His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai."

Research reveals concerns on air quality

A SURVEY OF office workers in Saudi Arabia, UAE and Egypt conducted by Honeywell revealed that 96% believe it is important for their employer or building manager to keep them informed of their office's indoor air quality (IAQ). Honeywell's 'Workplace Air Quality: A Global Concern Emerges' presented the findings of the company's second annual Healthy Buildings Survey, which queried 3,000 workers in buildings with 500-plus workers in ASEAN, Germany, India, the Middle East, the United Kingdom and the United States.

More than 70% of office-based workers surveyed in the Middle East have access to information about their building's IAQ – significantly higher than the global average of 53%.

Yet, Honeywell's research suggests that the information made available to employees about IAQ is limited. Only two in five (40%) of those surveyed in the Middle East say they know a lot about their building's IAQ. More than nine in 10 respondents (93%) are worried about their building's IAQ, and 70% say they are willing to leave their job if their employer doesn't take steps to create a healthier indoor environment.

A substantial majority (85%) of respondents in the Middle East believe the quality of air they breathe has a direct impact on their health and well-being.

The top health benefits of safe IAQ they mention include better overall physical health (55%), fewer allergic responses, resulting in less sneezing and coughing (51%), exposure to fewer airborne contaminants (48%), better overall mental health (45%) as well as improved productivity and problem-solving (37%).



Peter Berghaus GmbH

Safety products for work zones

A unique experience: the digital construction site.

The service and product worlds of AVS and Berghaus can now be experienced in a virtual showroom with a live drive through a highway construction site! Without noise and risk, comfortably on your PC or mobile device, you can experience a 360° panoramic view of a construction site.

berghaus-verkehrstechnik.de/en/



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



Supply chain 4.0 - looking ahead to 2022 in manufacturing

Ashraf Yehia, managing director, Eaton Middle East says that the future of manufacturing is not just about the future of technologies it will involve, but the environmental context which demands new skills and greater focus on sustainability.

Turning bricks into a home

The theme of Industry 4.0 has both evolved and sharpened as its theory is put into practice and the future of manufacturing has become less hypothetical and more 'solid'.

Indeed, the components of our Industry 4.0 future are largely already available. Looking at digital twinning methodologies, robots as a commodified proposition, and digitalised production lines which can be monitored, managed, and remade in more agile ways, it could be said that we have all the bricks of Industry 4.0, and just need to build them into a home in which the future of manufacturing can reside.

Supply chain 4.0

The disruptions driven by the pandemic have shone a brighter spotlight on the reality of the supply chain than ever before. Decades of offshoring has resulted in a complex global web of value which can deliver significant cost advantages, but can also turn out to be brittle when placed under pressure. For example, the knock-on effect when the Ever Given container ship ran aground in the Suez Canal in March last year, but also the complexity of Brexit, international relations and the shortage of key materials such as semi-conductors.

There is now a clear impetus to rebalance the cost-benefit analysis of such systems, and for manufacturers to rethink business structures in ways that prioritise resilience. Machine builders, for instance, will look to sell the value of resilience – meant in this context as shorter and safer lead times and

size of portfolio, with customisation opportunities that have not been previously available due to long logistics chains.

This restructuring goes hand in hand with the building of the Industry 4.0 home, and the agility and cost advantages of OT/IT convergence.

The environmental context

On the other hand, the demands of responding to the climate crisis are now being felt at full force, at every level of society, in ways that manufacturing will need to respond to urgently. The opportunity of on-site renewable power generation is plain to see, but for many this will also necessitate major transformative work converting production lines to accommodate DC supply, rather than the AC input of the grid, fundamentally affecting the arithmetic on where and how manufacturing happens. Though there are short term challenges involved in this response, the longer-term benefits clearly outweigh them. More broadly, there is also an environmental advantage in physically shortening supply chains, thereby reducing transportation emissions – and optimising the allocation of resources to deliver with greater agility – and therefore efficiency – in the face of international tumult.

The new steer for manufacturing, then, is not about the future technologies it will employ, but about knowledge, mindset, and skills. The value of digital twinning, for instance, will be more widely understood and implemented as it demonstrates an



Ashraf Yehia,
managing director,
Eaton Middle East.

Photo Credit: Eaton Middle East

advantage when adapting to changing supply chains and market realities. Networked operational technology, likewise, will come to be sold on the benefits it can deliver for emissions reduction – as well as resilience in the face of disruptions like the pandemic.

Twin pressures with shared outcome

All of this means that we should expect to see the changing context of manufacturing formalised into initiatives and frameworks – outcomes like certification schemes for environmental impact, stronger pushes to attract diverse new talent into the manufacturing workforce, cross-industry open standards, and investments into digital on-shored production will be what make the promises of Industry 4.0 and supply chain a daily reality.

While the context of manufacturing is changing fast, the pieces that enable industry players to respond to those demands are already at hand. Manufacturers should be looking to stay ahead of more formal demands, such as policy and regulatory issues, as well as looking to drive greater change from within, enhancing standards and skills with a view to tackling both the current supply chain context and that of the unfolding environmental context which will demand new skills and greater focus on sustainability in the years to come. ■

“Manufacturers should be looking to stay ahead of more formal demands, such as policy and regulatory issues, as well as looking to drive greater change from within.”



28 - 31 MARCH 2022
 RIYADH INTERNATIONAL
 CONVENTION &
 EXHIBITION CENTER

#BIG5SAUDI
www.thebig5saudi.com

RIYADH'S FIRST CONSTRUCTION EVENT OF THE YEAR!

NETWORK | LEARN | GROW



15,000

Expected
Attendees



400

Exhibiting
Companies



90

Industry
Speakers



50

CPD-Certified
Talks



30

Exhibiting
Countries

**REGISTER
 FOR FREE
 ENTRY**

Scan this code
to register



Co-located with:



HVAC R Expo Platinum
Sponsor



FM Expo Platinum Sponsor



Contracting Sponsor



Gold Sponsor



Lanyard and
Gold Sponsor



HVAC Silver Sponsor



FM Expo & Saudi Clean
Registration Sponsor



Registration Sponsor



Official Paints Sponsor



FM Expo & Saudi Clean
Workshop Sponsor



Block Making Machine
Sponsor



Volvo's EC550E excavator now available worldwide

VOLVO CONSTRUCTION EQUIPMENT has expanded the distribution of its EC550E crawler excavator. Now with a Tier 3 engine, customers throughout the world can benefit from its performance, productivity and efficiency.

Kwangsuk Jee, global product manager, explained, "Delivering the type of durability and performance more commonly expected from a 60/65-tonne machine, the EC550E is a crawler excavator which truly punches above its weight. Customers in Tier 3 markets can get up to 35% more productivity and 22% more fuel efficiency, combined with superb operator comfort and outstanding levels of uptime."

35% more productivity

Boasting remarkable levels of power and productivity, the EC550E is a machine perfectly suited for mining, mass excavation and large infrastructure projects. With the ability to fill a 35-40 tonne hauler or highway truck in just four to six buckets, the result is optimum pass-matching and high-levels of production at a low cost per tonne.

Short cycle times further boost productivity, made possible by digging forces and lifting capacity more commonly found in a 60/65-tonne excavator. This is complemented by the engine power, reinforced boom and arm, as well as boom/swing and boom/travel priority settings. The long and wide undercarriage is also of 60/65-tonne calibre, providing superior levels of stability and durability.

Away from the machine, the EC550E is available with a range of optimum-sized heavy-duty rock buckets designed for use in abrasive conditions, with the Volvo Tooth System making easy work of teeth replacements thanks to its place, push and click functionality. Customers can further take control of their productivity with On-



Photo Credit : Volvo CE

The EC550E is suited for mining, mass excavation and large infrastructure projects.

Board Weighing, helping to ensure the optimum amount of material is loaded. The optional system provides real-time information to eliminate under and overloading of haul trucks.

A lower cost per tonne

Customers can take fuel efficiency to a new level, thanks to the next generation electro-hydraulic system with Independent Metering Valve Technology and engine/pump optimisation, which lowers engine rpm while optimising power. The main control valve uses Independent Metering Valve Technology and the most high-performing hydraulic system in the industry.

Shell rolls out Lube Advisor with wearable technology in Middle East

SHELL MARKETS MIDDLE East Limited (Shell) has announced that the Lube Advisor using wearable technology has now been rolled out to its customers in the UAE, Qatar, Kuwait and Bahrain.

As part of its enhanced services, Lube Advisor uses the wearable technology, supporting customers in optimising their lubricants operations, and significantly reducing fleet maintenance and operational costs.

Using a wearable gadget, Shell's team is able to provide customers remote consultations, eliminating the need for a face-to-face interaction or physical presence on customers' locations. Further, the technology enables real-time monitoring of field technicians to ensure their safety and in providing them with audio-visual assistance to perform maintenance services.

One of the first adopters of wearable technology, Shell is focused on equipping frontline workers in vital sectors such as oil and gas, construction, transport and the manufacturing sectors with the technology that allows them to raise



Photo Credit : Shell

These wearable devices are made to withstand extreme temperature, oil spills and heavy rain.

notifications, engage with offsite experts for over the shoulder coaching, communicate for status of equipment and tools that will ultimately improve safety, efficiency and result in faster, better decision making, all in real time.

"The enhanced integration of wearable technologies and the increasing reliance on remote technological solutions has unlocked opportunities that allow us to support fleet operators and customers by addressing challenges they face on-site in real-time, ultimately changing how we do business. Integrating wearable tech with

inspection and maintenance technologies to improve operational efficiencies and minimise risk to workforce is a key focus for us at Shell. These wearable devices are made to withstand extreme temperature variations and resist oil, chemical spills, heavy rain, and dust among other things, making the working environment more secure," said Haytham Yehia, general manager, Shell Lubricants Middle East.

The Shell LubeAdvisor wearable device provides a personalised consultation, without a physical site visit, that ultimately removes the complications of diary scheduling and travel arrangements, while adhering to social distance guidelines and travel restrictions, without causing delays in service.

"This is particularly important during a time where challenges with how we typically operate has forced us to re-invent the wheel and identify ways that eliminate an impact on operations, and ensure business continuity. Our advanced solution has allowed us turn challenges of in-person meeting limitations to an opportunity," he added.

Tevel Technologies' new agricultural autonomous robots

TEVEL TECHNOLOGIES Aerobotics, a tech-based harvesting solutions provider, showcased its new flying autonomous robots (FARs) technology for agriculture at the Food For Future Summit 2022, hosted by the UAE's Ministry of Climate Change and Environment in partnership with the United Nations Food and Agriculture Organisation (UN FAO). With the recent launch of Tevel's FARs, the company provides innovative harvesting solutions which blend machine learning, artificial intelligence, and data analytics to revolutionise the region's agricultural workforce.

It is estimated the world's population will grow by 40% by 2050, requiring food production to double. Agricultural employment will be reduced in half by this time, meaning the shortage of fruit pickers worldwide, requires technology to take the lead.

Yaniv Maor, the CEO of Tevel Aerobotics Technologies, talking at the Dubai Exhibition Centre, explained, "It is estimated that growers worldwide lose US\$30bn in sales a year as fruits are not picked on time. If you look at the UAE, it imports about 90 percent of its food and the population is around 10 million and rising rapidly.



The FARs could help optimise the picking process.

"The nation ranks 35th globally in terms of food security according to the Global Food Security Index. With the launch of Flying Autonomous Robots (FARs), the UAE will be able to achieve significant savings as fruits will be picked with the help of technology."

Tevel's on-demand harvesting solutions use perception algorithms to analyse the state of the fruit, with visual algorithms detecting the variety, foliage and other classification criteria such as size or ripeness. Tevel has raised US\$20mn from global investors including Kubota, Forbon, and AgFunder, among others and is looking for further investments from the UAE market to upscale its solutions and make them available to the UAE and the GCC region. The company is also looking to collaborate with the public and private sector in order to ensure a faster application of this technology across the Middle East region.

Briefly

FarEye introduces new sustainability capabilities to minimise carbon emissions across delivery and fulfillment

FAREYE, THE GLOBAL SaaS platform provider specialising in last-mile logistic transformation, has announced several new capabilities to enable more environmentally sustainable delivery operations, route optimisation, and consumer experience.

New capabilities across FarEye's Intelligent Delivery Management platform will boost delivery efficiency, enable green fleets and increase visibility of sustainable initiatives.

"We are partnering with our customers using our optimisation and visibility solution to optimise fleets and reduce emissions while delivering delightful experiences to their end customers," said Suvrat Joshi, chief product officer at FarEye.

"In a world shifting towards prioritising environmental sustainability, we are dedicated to complementing and supporting our customers' sustainability goals. In 2021, customers that used our platform collectively helped reduce carbon footprint by 40,961 tonnes. We see this number continue to increase as our customers adopt and use these new capabilities across first, mid, and last mile in their delivery network."

The four new sustainability features have been developed to help shippers and carriers minimise emissions throughout the logistic operations.

Green Vehicle Route Planning enables design and planning for last-mile delivery routes, mixing green fleets (cargo bikes and foot delivery) to achieve on-time delivery.

Long-Haul Truck Route Planning enables optimal scheduling of multi-day trucking routes to minimise idling times.

Carrier Allocation System helps brands select suitable for delivery partners for different types of shipments.

Sustainability Dashboard visually represents measured carbon footprint KPIs for customers to increase understanding and break down carbon emissions by mode, route, carrier, and level.

KROHNE raised the bar for food and water industries

KROHNE has unveiled the OPTIBAR PSM 1010 and OPTIBAR PSM 2010 ultra-compact pressure switches for absolute and gauge pressure measurement in gases and liquids, optimised for food and beverage, water and wastewater, environmental and OEM equipment applications.

Both devices target basic automation applications like hydrostatic level measurement in open tanks, dry-run protection of delivery pumps or pressure monitoring of compressors, hydraulic and pneumatic systems.

The new switches utilise a two-axis (multi-rotatable) display and adjustment module, a robust IP67 construction, and fully configurable outputs for all possible configurations —IO-Link and PNP/NPN as standard I/O, and 4...20 mA, 0...10 V or NPN/PNP as secondary outputs.

Both devices offer accurate temperature stability due to advance digital compensation.

OPTIBAR PSM 1010 is suitable for liquids and gases from 0.1...600 bar / 1.5...8700 psi with process

temperatures up to 125°C and comprehensive overload resistance.

OPTIBAR PSM 2010 applies to hygienic applications in the food and beverage industry from 0.1...40 bar / 4...580 psi and 150°C. The construction features a welded front-flush diaphragm to meet stringent industrial requirements for crevice-free installation.

The KROHNE Group is a global manufacturer and provider of process instrumentation, measurement solutions and services in many industries.



Photo Credit: KROHNE

Two modules are available.

Briefly

EUTEX and ATEC merge for full-service hazardous area solution range

EXPERTS IN HAZARDOUS area operations EUTEX and ATEC have merged to offer the worldwide energy landscape integrated and progressive approaches to working safely in dangerous environments, including factories, plants and construction sites.

The integration is set to leverage the industry-specific knowledge and extensive product innovation of the two companies to provide solutions to allow safe operations in potentially dangerous environments.

Operations will continue under the EUTEX International name, becoming one of the first global companies to offer a complete turnkey approach to hazardous area compliance.

With the merger, EUTEX is set to broaden its product and services horizons, serving all International Electrotechnical Commission and National Electric Code requirements.

Dedicated training facilities will ensure compliance in the US, UAE, India, Thailand, Singapore, and Myanmar.

The amalgamated EUTEX team will be based in the company's Middle East, US and Asia Pacific offices.

Fraser Heggie, ATEC's former technical director, has been appointed chief technical officer of the merged organisations.

All 30 full-time personnel across both businesses will continue to work within the merged operations.

Tommy Sutherland, CEO of EUTEX commented, "It's an exciting time for our merged businesses as we come out of a difficult 18-month period for the industry with the low oil price and Covid-19. It is more important than ever that we support the sector through our increased range of products and services."

I am grateful to the hard work of our staff, and I look forward to working closely with the exceptional people that make up the EUTEX brand.

We are unmatched in our complete electrical products and services offering, including technical expertise and global footprint."

Help AG and CyberArk partner to deliver identity solutions in the UAE

HELP AG, THE cyber security arm of Etisalat Digital and IT security advisor, has expanded its portfolio with an addition aimed at improving security for customers by focusing on the reduction of identity-related risk.

With CyberArk, the global identity security leader, Help AG is now able to deliver the most comprehensive Identity Security platform to clients across the UAE and Saudi Arabia.

The CyberArk Identity Security Platform enforces least privilege and secures access across any device, anywhere, at the right time. Centered around the principles of privileged access management, the CyberArk platform is designed to help organisations secure access to critical business data and infrastructure, protect a distributed or remote workforce, and accelerate business operations in the cloud.

On the partnership, Stephan Berner, chief executive officer at Help AG, said, "Through joining forces with CyberArk, Help AG is demonstrating its commitment to partnering with the world's leading cyber security vendors to offer state-of-the-art technology platforms to our customers.

CyberArk has complemented Help AG's overall product portfolio by broadening the focus on cyber security to include and adapt to identity security.

Organisations operate around complex, hybrid environments that support remote work and the digital transformation. The number of credentials and identities that are created from these changes are an increasingly attractive target for cyber attackers.

The CyberArk Identity Security Platform integrates smoothly into Help AG's larger



Photo Credit : Adobe Stock

The platform integrates identity security into its cyber security solutions.

ecosystems of vendors, with interoperability capabilities for customers. The Identity Security Platform can be used alongside the CyberArk C₃ Alliance, the global technology partner programme, which offers a slate of pre-integrated, certified and supported plug-ins and solutions from a suite of leading enterprise providers.

Concluding, Berner added, "By adding CyberArk to our suite, we can now offer our customers the most complete and comprehensive identity security offerings to secure identities, both human and machine.

"This partnership enables us to leverage CyberArk's industry-leading capabilities as we deliver an end-to-end managed service as part of our ongoing mission to become the region's leading service-centric cyber security provider."

Acme expands conveyor belt capabilities

TO CATER FOR growing demand for conveying systems across the Middle East, Acme Intralog has expanded its belting fabrication and the manufacturing capabilities for conveyors at its UAE facilities.

Navin Narayan, the company's CEO, explained, "With the mushrooming of e-commerce fulfillment centers in the region, there is an increase in demand for both roller and belt conveyor systems that can be used to improve order picking and sorting efficiency within a fulfillment centre.

"Being able to fabricate a wide range of conveyor belting in our Dubai facility will help us to meet regional demand in a more prompt and efficient manner."

A partnership with Swiss market leader Habasit has enabled Acme to provide conveyor



Photo Credit : Acme

Acme's belt expansion will enhance its production capabilities.

and power systems to keep industries in motion, with an extensive range of fabric-based conveyor belts, plastic modular belts and chains, power transmission belts, monolithic, and timing belts.

Project Databank

Compiled by Data Media Systems

INFRASTRUCTURE PROJECTS, SAUDI ARABIA

Project	City	Facility	Budget (US\$mn)	Status
ALMadinah AlMunawwarah Development Authority - Ministry of Finance - Madinah Public Transport	Medina	Railway	1,600,000,000	Design
DCOMM - Makkah Mass Rail Transit (MMRT)	Makkah	Railway	16,500,000,000	Construction
GACA - King Abdul Aziz International Airport (KAIA) Expansion - Overview	Jeddah	Airport	6,000,000,000	Construction
GACA - King Abdullah bin Abdul Aziz Airport	Jizan	Airport	500,000,000	Construction
GACA - King Khalid International Airport - Terminal 3 & 4 Expansion	Riyadh	Airport	900,000,000	Construction
GACA - Prince Naif Regional Airport Expansion	Qassim	Airport	395,000,000	Engineering & Procurement
GACA - Regional Airports Development Program	Various	Airport	3,600,000,000	Construction
GACA - Riyadh - King Khalid International Airport - Terminal 6	Riyadh	Airport	600,000,000	Feasibility Study
Maaden - Sabic - Mosaic - Waad Al Shamaal Phosphate City - Overview	Ras Al Khair	Phosphate	9,600,000,000	Construction
Ministry of Transport & Communication - GCC Railway Network	Eastern Region	Railway	25,000,000,000	Construction
Ministry of Transport - (Saudi Arabia - Egypt) King Salman Causeway	Ras Hamid	Causeway	5,000,000,000	Feasibility Study
Ministry of Transport - GCC Railway Network - Bahrain - Saudi Link	Khobar	Railway	4,200,000,000	Design
Ministry of Transport - King Hamad Causeway (Saudi - Bahrain Link)	Dammam	Causeway	3,000,000,000	Feasibility Study
National Center for Privatization & PPP - Obhur Suspension Bridge	Jeddah	Bridge	1,200,000,000	Feasibility Study
Neom - Neom City - Backbone Infrastructure - Tunnel Section	Neom	Roads	150,000,000	EPC ITB
Neom - Neom City - Rail Network - Overview	Neom	Railway	23,000,000,000	Design
Neom - Neom City - Rail Network - Rolling Stock	Neom	Railway	1,000,000,000	Announced
Royal Commission for Riyadh City - Riyadh Bus Rapid Transit System (BRT) - Overview	Riyadh	Mass Transit Systems	610,000,000	Construction
Royal Commission for Riyadh City - Riyadh Bus Rapid Transit System (BRT) - Bus Lines and Terminal Stations	Riyadh	Mass Transit Systems	375,000,000	Construction
Royal Commission for Riyadh City - Riyadh Bus Rapid Transit System (BRT)- Bus Lines, BRT Stations, Streetscape Improvement	Riyadh	Roads	356,000,000	Construction
Royal Commission for Riyadh City - Riyadh Metro - Lines 1 and 2	Riyadh	Railway	9,500,000,000	Construction
Royal Commission for Riyadh City - Riyadh Metro - Line 3	Riyadh	Railway	4,000,000,000	Commissioning
Royal Commission for Riyadh City - Riyadh Metro - Lines 4-6	Riyadh	Railway	8,000,000,000	Construction
Royal Commission for Riyadh City - Riyadh Metro - Metro Line Extension	Riyadh	Railway	5,000,000,000	Feasibility Study
SATS - King Khalid International Airport - Cargo Terminal	Riyadh	Airport	230,000,000	Engineering & Procurement
Saudi Aramco - King Salman Energy Park (SPARK) - Dry Port and Logistics Zone	Abqaiq	Logistic Hub, Port	100,000,000	Engineering & Procurement
Saudi Aramco - King Salman International Complex for Maritime Industries & Services - Marine Works	Ras Al Khair	Dredging/ Reclamation	5,300,000,000	Construction
Saudi Railway Company - Saudi Railway Masterplan	Various	Mass Transit Systems	97,000,000,000	Construction
Saudi Railway Company - Yanbu to Jeddah Railway Announced	Red Sea	Railway	1,000,000,000	Project
SCLC - LandBridge Rail Link	Various	Railway	5,000,000,000	Design
STC - Data Centers Phase 3 - Data Centers Expansion	Various	Telecommunications	180,000,000	Engineering & Procurement
STC Solutions - Neom City - Data Center	Neom	Telecommunications	53,668,377	Announced
TRSDC - The Red Sea Project - Airport - Airside Package	Tabuk Province	Airport	270,000,000	Construction
TRSDC - The Red Sea Project - Airport - Landside Package	Tabuk Province	Airport	300,000,000	EPC ITB
Umm Al-Qura Development & Construction Company - King Abdul Aziz Road (KAAR) Development	Makkah	Roads	1,600,000,000	Construction

Project Databank

Compiled by Data Media Systems

Project Focus

Compiled by Data Media Systems

TRSDC - The Red Sea Project - Phase 1 - Infrastructure and Construction Facilities - Airport - Airside Package

Name of Client	The Red Sea Development Company (TRSDC)
Estimated Budget (US\$)	270,000,000
Contract Value (US\$)	234,666,000
Award Date	2020-Q3
Main Contractor	Almabani General Contractors Nesma & Partners Contracting Company Limited
Facility Type	Airport
Status	Construction
Location	Tabuk Province, Saudi Arabia
Project Start	2018-Q4
End Date	2022-Q4

Background

The Red Sea Development Company (TRSDC) plans to build the Red Sea Airport in Tabuk Province. In line with the company's sustainability goals, the entire infrastructure of The Red Sea Project, including its transport network, will be powered by 100% renewable energy. The airport will serve the Red Sea Project, with an estimated throughput of one million tourists per year, catering to both domestic and international flights.

Project Status

Date	Status
Jan 2022	TRSDC has reached a financial close on a US \$3.76bn loan that will fund the project's first phase including the airport's packages. The loan is with Banque Saudi Fransi, Riyad Bank, Saudi British Bank and Saudi National Bank.
Oct 2021	Wet utilities and all stormwater networks are being erected and the dry utility duct banks are being constructed. The substations, meteorological, upper air balloon, and triturate buildings' construction works are in progress.
Jun 2021	ADB SAFEGATE has been chosen to supply its airfield and gate systems at the Red Sea International Airport, including airfield lights, Individual Lighting Control and Monitoring System (ILCMS), and Advanced Visual Docking Guidance System (A-VDGS).
Dec 2020	AECOM has been selected to provide airside construction supervision and quality control services for the Red Sea Airport.
Feb 2021	Penspen is bidding for detailed engineering design for EPC. The company has previously performed FEED for the project as well as design for the fuel hydrant system.
Dec 2018	The Public Investment Fund (PIF) has unveiled the master plan of the Red Sea Project. Phase 1 of the project will include the airport and is scheduled to be completed in 2022.

Project Scope

The scope of works includes:

- Construction of airside infrastructure works
- Code B Seaplane Runway
- Pavement works
- Design and building of a 3,700-meter Code F Runway
- Parallel and link taxiways

Stay one step ahead of your competitors

with the DMS Projects Matrix

A critical and essential **business intelligence** tool, updated daily to ensure you are constantly at the top of your **commercial strategies**, allowing you to **maximise your returns** in today's ever **growing global market**.



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



SUBSCRIBE TODAY

or contact us for further information

- www.dmsprojects.net
- info@dmsglobal.net
- +971 249 161 71 (UAE Headquarters)
- +973 1740 5590 (Bahrain Office)

تأخير العمل». واستدركت قائلة: «سوف تستضيف مصر هذا العام «مؤتمر تغير المناخ» (مؤتمر الأطراف: كوب ٢٧)، ويشير بأن يكون نقطة تحول جذرية لسياسة المناخ في أفريقيا. وبات أمام أفريقيا الفرصة لاتخاذ موقف واستعراض مصادر الطاقة المتجددة والهيدروجين الأخضر التي تتفرد بها». سيكون التوسع في استخدام التكنولوجيا من الأهمية بمكان للحفاظ على الزخم، أو تكوين زخم لمساعدى استخلاص الكربون واستخدامه وتخزينه وإنتاج الهيدروجين. ويشيد الخبراء بالأمونيا الخضراء باعتبارها واحدة من أرخص الطرق لنقل الهيدروجين الأخضر حول العالم، لكنها لا تخلو من التحديات شأنها شأن ناقلات الهيدروجين بشكل عام.

وتتوقع «وود ماكنزي» ظهور المزيد من الحلول التقنية المتعلقة بالتخزين وتصميم المعامل الكيميائية خلال عام ٢٠٢٢، ومن المتوقع أن تنتقل تقنية الاستخلاص المباشر من الهواء من مرحلة الدراسة إلى الواقع، مع وجود محفزات تشمل تمويلاً بقيمة ٣ مليارات دولار من خلال مشروع قانون البنية التحتية الأمريكي، وزيادة الطلب على الوقود الإلكتروني، وازدهار أسواق الكربون الطوعية.



مستخدمو برينتوود وإينكسيو لديهم خبرات متراكمة على مرّ سنين

على تعزيز ثقافة الإبداع وزيادة الأعمال والاستدامة.

اليوم تُعد برينتوود BRENTWOOD احد رواد تطوير وهندسة الحلول البلاستيكية لأبراج التبريد والمعدات الطبية ومعالجة المياه والنقل وإدارة مياه الأمطار والبناء وتطبيقات البطاريات.

حول ENEXIO Water Technologies

تُعد شركة ENEXIO Water Technologies بمثابة الخبر داخل مجموعة إينكسيو ENEXIO فيها يخض معالجة المياه ومياه الصرف الصحي والهواء ومكونات أبراج التبريد. لأكثر من ٤٠ عاماً تقوم بتصميم وتطوير وتصنيع مواد الحشو البلاستيكية media packing والأواح الترسيب «اللامبلا» للعمليات البيولوجية والكيميائية أو الفيزيائية المختلفة في محطات المياه و الصرف الصحي ومنظفات الغاز الحيوية وأجهزة تنقية الغاز وأبراج التبريد وترطيب الهواء وتبريد الإسطبات. نحن ننظر إلى أنفسنا باعتبارنا مقدم خدمة عالمي، يقدم النصائح والدعم للعملاء في قطاع الصناعة وفي البلديات من حيث تصميم العمليات، وهندسة وتحسين مصانعهم في التطبيقات المذكورة أعلاه. لمعرفة المزيد يُرجى التفضل بزيارة www.ENEXIO-water-technologies.com.

أكسيد الكربون أو تخزينه، وستتطلب استثمارات تبلغ نحو ١٨ مليار دولار أمريكي. وليس من المتوقع استخلاص الكربون واستخدامه وتخزينه بكميات كبيرة خلال عام ٢٠٢٢.

وتحدثت شركة استشارات الطاقة عن الحاجة إلى زيادة تدفق رأس المال لمشاريع إنتاج الهيدروجين، وهذا يقتضي زيادة اتفاقيات البيع والشراء. وذكرت إيفانز أن عام ٢٠٢٢ ينبغي أن يشهد البدء في تشغيل ٣٣ مشروعاً، في أوروبا وآسيا بالدرجة الأولى. وستستقبل الأسواق بذلك ٠,١ مليون طن سنوياً من الهيدروجين منخفض الكربون و ٥٠ كيلو طن سنوياً من الأمونيا الخضراء.

وتقول السيدة فلور لوسيا دي لا كروز، محللة الأبحاث البارزة بقسم الهيدروجين والتقنيات الناشئة، والمشاركة في إعداد التقرير: «كان عام ٢٠٢١ حافلاً بإعلان السياسات الخاصة باستخلاص الكربون واستخدامه وتخزينه وإنتاج الهيدروجين منخفض الكربون. ونرى أن عام ٢٠٢٢ يشكل أهمية لترجمة السياسة إلى واقع، لكنه يعتبر مطلباً سياسياً غير هين في بعض البلدان. ونتوقع أن تسفر المفاوضات المطولة عن

استحوذ برينتوود على إينكسيو ووتر تكنولوجيز:

تكامل للمنتجات والقدرات والأفراد

تعلن برينتوود BRENTWOOD بكل فخر استحوذها على وحدة أعمال إينكسيو ووتر تكنولوجيز ENEXIO Water Technologies من كليفون KELVION. وتتالف وحدة الأعمال تلك من «إينكسيو ووتر تكنولوجيز جي ام بي اتش» «ENEXIO Water Technologies GmbH» و«إينكسيو ووتر تكنولوجيز اس. ار. او» «ENEXIO Water Technologies s.r.o.» و«إينكسيو يو كي لميتد» «ENEXIO UK Ltd». هذا بالإضافة إلى «شادونج زيند ووتر تريتمنت تكنولوجي المحدودة» «SHANDONG XINDE Water Treatment Technology Co. Ltd». ومن المتوقع أن يوفر ذلك الاستحواد، الذي تم رسمياً في ٣ يناير/كانون الثاني ٢٠٢٢ قدرات إضافية، وحضوراً و زيادة في المبيعات والدعم الفني على مستوى العالم، بالإضافة إلى فتح مجالات جديدة من الخبرة لبرينتوود BRENTWOOD. يتحدث بيتر راي رئيس شركة BRENTWOOD والمدير التنفيذي لها قائلاً: «إنها أخباراً مثيرة لكل من برينتوود BRENTWOOD وإينكسيو ووتر تكنولوجيز ENEXIO Water Technologies. فتأزر المنتجات وتعاون الموظفين يضعنا في موقع أفضل لخدمة عملائنا حول العالم.»

وإينكسيو ووتر تكنولوجيز ENEXIO WATER TECHNOLOGIES تجلب معها إلى برينتوود BRENTWOOD قدرتها على المنافسة في مجال البولي بروبيلين، وتوفر قاعدة لتقديم منتجات برينتوود BRENTWOOD في إدارة مياه الأمطار إلى السوق الأوروبية ومنتجات أبراج التبريد إلى السوق الصينية، هذا بالإضافة إلى تمكين برينتوود BRENTWOOD من الدخول إلى الصناعات المعتمدة على انتقال الجزيئات والكتل Mass Transfer. إن التكامل بين منتجي المواد البلاستيكية مثل برينتوود BRENTWOOD وإينكسيو ENEXIO سوف يعمل أيضاً على نمو أسرع لمنتجات برينتوود BRENTWOOD الحالية. من جهة أخرى فإن اندماج موظفي كل من الفريقين سوف يجلب معه مئات الاعوام من الخبرة في تكنولوجيا أبراج التبريد ومعالجة المياه، أما من الناحية

الجغرافية، فسوف تحافظ برينتوود BRENTWOOD على مقراتها الحالية، وسوف تستحوذ من ENEXIO على مصنع إنتاج ومكتب مبيعات في ألمانيا، ومكتب مبيعات في إنجلترا، وعمليات تجميع في جمهورية التشيك، ومصنع إنتاج مشترك في الصين.

حول برينتوود BRENTWOOD

شركة BRENTWOOD Industries, Inc. هي شركة مملوكة لعائلة، وتعمل في الولايات المتحدة الأمريكية والهند وتايلاند والمكسيك وجمهورية التشيك. لأكثر من ٥٠ عاماً استخدمت برينتوود BRENTWOOD تكنولوجيا صناعة البلاستيك لتوفير حلول فريدة للتحديات التي تواجه عملائها، عملت من خلالها

مفكرة الفعاليات 2022

مارس/آذار

دي	9 - 7	معرض طاقة الشرق الأوسط
الرياض	31 - 28	معرض بيج فايف السعودية

مايو/أيار

أبوظبي	11 - 9	المؤتمر العالمي للمرافق
--------	--------	-------------------------



التقدم التكنولوجي عامل حاسم للحفاظ على زخم تقنية تحول الطاقة

حان التوجه نحو تحول الطاقة المتقدمة

يسلط تقرير جديد لشركة «وود ماكنزي» العالمية لاستشارات الطاقة، الضوء على ضرورة وفاء الشركات والحكومات بالتعهدات التي قطعتها على نفسها بشأن تقنيات تحول الطاقة، كاستخلاص الكربون واستخدامه وتخزينه وإنتاج الهيدروجين منخفض الكربون.

الإعداد لمشاريع الهيدروجين منخفض الكربون الضعف. إذ شكلت مشاريع الهيدروجين الأخضر نسبة ٧٥ في المائة من المشاريع المعلنة.

وتقول السيدة مها يريذ إيفانز، رئيسة شعبة التحليل بقسم استخلاص الكربون واستخدامه وتخزينه والتقنيات الناشئة، والمشاركة في إعداد التقرير: «لا نعتقد أننا سنرى نفس معدل النمو في إعداد مشاريع استخلاص الكربون واستخدامه وتخزينه وإنتاج الهيدروجين خلال عام ٢٠٢٢، وإنما سيشهد العام القادم نضوج المشاريع والبحث عن التمويل. فنحو ٧٥ في المائة من مشاريع استخلاص الكربون واستخدامه وتخزينه ما تزال في مراحل الإعداد الأولية. وبالنسبة للهيدروجين، فإن نحو ٤٠ في المائة من المشاريع المعدّة ليس لها موعد تقديري لبدء العمل، وليس لدى ٢٥ في المائة قدرة تقديرية. وسيكون من بوادر النجاح خلال عام ٢٠٢٢ وصول المزيد من المشاريع إلى مرحلة متقدمة من الإعداد أو دخولها مرحلة التنفيذ».

وتتابع «وود ماكنزي» ١٥ مشروعاً لاستخلاص الكربون واستخدامه وتخزينه تهدف إلى الوصول إلى القرار النهائي للاستثمار هذا العام. وسوف تضيف هذه المشاريع عند نجاحها ما يقرب من ٣٥ مليون طن سنوياً من القدرة الجديدة على استخلاص ثاني

أكسيد الكربون في تقريرها الصادر بعنوان «استخلاص الكربون واستخدامه وتخزينه وإنتاج الهيدروجين: ٥ أشياء يجب الحرص عليها خلال عام ٢٠٢٢» إلى الزخم الكبير وراء كلٍ من استخلاص الكربون واستخدامه وتخزينه وإنتاج الهيدروجين منخفض الكربون في عام ٢٠٢١، وذلك في ظل الإعلان عن مشاريع وسياسات واستثمارات جديدة في ضوء تحفيز «مؤتمر تغير المناخ» (مؤتمر الأطراف: كوب ٢٦) للأهداف التي وضعتها الشركات للتخلص من الانبعاثات الكربونية. فقد شهد عام ٢٠٢١ استثمار أكثر من ٦٦ مليار دولار أمريكي في إنتاج الهيدروجين، مع انطلاق مشاريع بحث في كل جانب من جوانب سلسلة القيمة؛ بداية من البحث والتطوير ووصولاً إلى البنية التحتية، لإعادة التزود بهذا الوقود.

وشهدت المشاريع قيد الإعداد لكل من استخلاص الكربون واستخدامه وتخزينه وإنتاج الهيدروجين منخفض الكربون، نمواً قياسياً. وعلت همّة الشركات بفضل زيادة أهداف التخلص من الانبعاثات الكربونية، ودعم السياسات الجديدة والتقدم التكنولوجي. وتمت جهود الإعداد لاستخلاص الكربون واستخدامه وتخزينه في المشاريع المعلنة سبعة أضعاف بانطلاق ٥٠ مشروعاً محورياً جديداً على مستوى العالم، وتجاوز

المحتويات

القسم العربي

تحليلات

حان التوجه نحو تحول الطاقة المتقدمة ٤



ملخص محتويات القسم الانجليزي

تحليلات: نظرة عامة على مجلس التعاون الخليجي

إنشاءات وبنية تحتية: معرض بيج فايف السعودية، معرض طاقة الشرق الأوسط.

إدارة الطاقة: نظام التحكم في المعالجة الذكية.

Country	Representative	Telephone	Fax	Email
India	Tanmay Mishra	(91) 80 65684483	(91) 8040600791	tanmay.mishra@alaincharles.com
Nigeria	Bola Olowo	(234) 8034349299	-	bola.olowo@alaincharles.com
South Africa	Sally Young	+ 27 (0) 824 906 961		sally.young@alaincharles.com
UK	Richard Rozelaar	(44) 20 7834 7676	(44) 2079730076	richard.rozelaar@alaincharles.com
USA	Michael Tomashefsky	(1) 203 226 2882	(1) 203 226 7447	michael.tomashefsky@alaincharles.com

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

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

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

الإشتراكات: بريد إلكتروني: circulation@alaincharles.com



رئيس مجلس الإدارة: دريك فوردهام

© Technical Review Middle East ISSN: 0267-5307

النشرة التقنية

TECHNICAL REVIEW MIDDLE EAST الشرق الأوسط

SERVING THE REGION'S BUSINESS SINCE 1984 في خدمة شركات المنطقة منذ 1984

المحررة: فينا أشواث
فريق التحرير والتصميم: ميريام بريكوفا، راؤول بوتيفيدو، فاني فينوجوبال، لويز ووترز، بارفين سي بي، مانوج كومار، نونالينكا نونجروم، سماتا باين، ديلينا روي شيفالي دروف، براشانت أب، فينيتا نيواري.

الناشر: نيك فوردهام

مديرة مبيعات الإعلانات: بيريتشارد روزيلار

مديرة مبيعات المجلة: بيريتشارد روزيلار

هاتف: ٩٣٦٠ ٤٤٨ ٩٣٦٠ (٤) +٩٧١، فاكس: ٩٣٦١ ٤٤٨ ٩٣٦١ (٤) +٩٧١، بريد إلكتروني: trme@alaincharles.com

المكتب الرئيسي:

Alain Charles Publishing Ltd

University House, 11-13 Lower

Grosvenor Place

London SW1W 0EX UK

هاتف: ٩٣٦٠ ٤٤٨ ٩٣٦١ (٤) +٩٧١

فاكس: ٩٣٦١ ٤٤٨ ٩٣٦١ (٤) +٩٧١

مكتب الشرق الأوسط الإقليمي:

Alain Charles Middle East FZ - LLC

Office 112, Loft 2B

مدينة دبي للإعلام

دبي - الإمارات العربية المتحدة - صندوق بريد: ٥٠٢٣٠٧

هاتف: ٩٣٦٠ ٤٤٨ ٩٣٦٠ (٤) +٩٧١

فاكس: ٩٣٦١ ٤٤٨ ٩٣٦١ (٤) +٩٧١

الطباعة: مطبعة الإمارات - دبي

الترجمة: عز الدين محمود علي ezzeddinmali@gmail.com

التصميم والإخراج الفني: محمد مسلم النجار alnajjar722@gmail.com

ADVERTISER INDEX

Company	Page
Aksa Jenerator Sanayi A.S.	15
BEAMA Ltd	35
Cummins Generator Technologies Ltd	28
Deep Sea Electronics Ltd	45
DMG World Media Dubai (2006) Ltd (The Big5 Saudi 2022)	49
DMS Global WLL	55
Hawkeye Pedershaab	23
Informa Middle East Limited (Dubai Branch) (MEE 2022)	59
John Deere Power Systems	41
LG Electronics Gulf FZE	2
Liebherr Export AG	21
Linz Electric S.p.A.	43
Middle East Specialized Cables Co.	9

Company	Page
Mohammad Al-Ojaimi Contracting Est.	7
PASCHAL-Werk G. Maier GmbH	19
Perkins Engines Company Limited	39
Peter Berghaus GmbH	47
PFISTERER Kontaktsysteme GmbH	37
Rittal Middle East FZE	17
Societe Internationale des Moteurs Baudouin	25
Socomec SAS (Branch)	32
Sprecher Automation GmbH	33
Trident Technology Services DMCC	5
VEGA Technique - Middle East Office	31
Volvo Penta	11



Middle East Energy Dubai

GUIDING YOU THROUGH THE ENERGY TRANSITION

Live: 7 - 9 March, 2022

MAXIMILIAN JARRETT

MARK

SOWUNMI OLABOLE II

ALICIA EASTMAN

OSSEL

MICHAEL MAIR

JAMILA MATTAR

Global Energy & Utilities Forum

Intersolar Middle East Conference

INTERNATIONAL ENERGY AGENCY • EDF RENEWABLES • ENGIE



TECH TALK Smart Breaker Panels	PANEL DISCUSSION Roadmap to Decarbonisation	PANEL DISCUSSION The MENA Green Hydrogen Opportunity
TECHNICAL SESSION Leveraging Residential EVs for Grid Stability	FIRESIDE CHAT Overview on the potential of Wind in the region & beyond	THOUGHT LEADERSHIP Funding the Energy Transition
PANEL DISCUSSION Powering the African continent with renewable energy	FIRESIDE CHAT Women in Energy	TECH TALK Big Data Analytics for Transformer Health

12,000 ATTENDEES • 112 COUNTRIES • 100+ SPEAKERS • 5 PRODUCT SECTORS

>>> Get your free pass: middleeast-energy.com <<<

TECHNICAL REVIEW MIDDLE EAST

المجلد ٣٨ العدد الثاني ٢٠٢٢

النشرة التقنية

SERVING THE REGION'S BUSINESS SINCE 1984 ١٩٨٤ في خدمة شركات المنطقة منذ

الشرق الأوسط

تقنيات تحول الطاقة
المتقدمة

HYDROGEN
FUEL

وفقاً لـ لود ماكينزي، شهد مشروع استخلاص الكربون واستخدامه وتخزينه،
وأيضاً إنتاج الهيدروجين المنخفض الكربون، نمواً قياسيًّا في عام ٢٠٢١