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JULY - AUGUST 2022

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Central Boulevard Towers, Singapore

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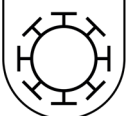
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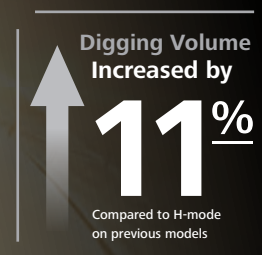
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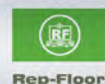
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CONTENTS

NEWS

ASIA NEWS	12
IPAF HIGHLIGHTS	29

EVENTS

CALENDAR OF EVENTS	26
INDUSTRY EVENTS	30

PRODUCTS

NEW IN INDUSTRY	34
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Construction of Central Boulevard Towers in Singapore
(page 56)

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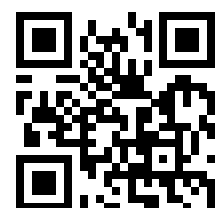
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CONTENTS



PROJECTS & OTHER FEATURES

APPLICATIONS ON SITE	40
PRODUCT FEATURE	42
ROAD PROJECT	48
HERITAGE PROJECT	50
FOCUS ON SOUTHEAST ASIA	54
COMMERCIAL PROJECT	58



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New, innovative solution to upcycle plastic waste into sustainable construction materials

Sino Group and EcoBricks Limited have introduced an innovative solution to plastic waste in Hong Kong, which has the ability to upcycle all types of plastics into sustainable construction materials.

The Hong Kong Government has unveiled the 'Waste Blueprint for Hong Kong 2035', mapping out a comprehensive plastic management strategy, while Sino Group is continuing its efforts to reduce and recycle single-use plastics as part of the commitments under the 'Decarbonisation Blueprint' that sets a holistic roadmap to strive for net-zero carbon by 2050.

Plastic is typically classified into seven types, and EcoBricks' solution reimagines the plastic journey with its proprietary and process formula, which has the ability to upcycle all seven types of plastic waste, including mixed and composite plastics that are currently impossible to recycle and would otherwise go to landfill.

The upcycled EcoBricks are 'green concrete' for use in a wide variety of industry-standard construction materials, developing a circular economy solution to Hong Kong's plastic waste issue.

"EcoBricks targets hard-to-recycle plastic waste that very often ends up in landfills or our natural environment," explained Shervin Sharghy, founder of EcoBricks. "We have implemented a low-energy 100% cold production process with no heating or melting of waste plastics and therefore no harmful emissions or pollutants.

"EcoBricks can replace up to 50% of natural aggregates in concrete bricks with unwanted plastic waste. This means up to 2,000 kg of plastic waste is diverted from landfills for every 100 sq m of EcoBricks produced, equivalent to 200,000 plastic bottles."

EcoBricks were first introduced at Gold Coast Piazza in Tuen Mun with over 15,000 EcoBricks utilised to pave the promenade and line the Leaf Path. These bricks were upcycled from the plastic from over 560 old washing machines, equivalent to 5,400 kg of plastic waste.

Sino Group said it will continue to deploy EcoBricks at other suitable properties, including Olympian City and The Fullerton Ocean Park Hotel Hong Kong, as well as strengthening engagement with tenants and customers in supporting plastic recycling and upcycling into EcoBricks.

"Sino Group is dedicated to making sustainability a driver of our business, and exploring innovative solutions that shape a healthier and more sustainable environment. Sino Inno Lab provides a sandbox platform to support start-ups to develop innovative PropTech solutions that benefit the industry," said David Ng, group associate director of Sino Group.

"We are excited that this vision has been realised through this partnership and the EcoBricks project at Gold Coast. The Group is also committed to developing a platform to promote the concept of circular economy, through engaging different stakeholders and nurturing start-ups for the application of innovative solutions to environmental issues and promoting the importance of sustainability,"

Hong Kong's Secretary for the Environment, Wong Kam-sing, commented, "I am delighted to see Sino Group leveraging innovation and technology to transform plastic waste into construction materials, with a view to exploring new ways to strengthen local resource recycling. To achieve the targets and visions set out in the 'Waste Blueprint for Hong Kong 2035' and the



ABOVE: EcoBricks is Hong Kong's first circular economy-based solution that has the ability to turn all seven types of plastic waste into sustainable construction materials.

LEFT: Sino Group announced its partnership with EcoBricks at a launching ceremony in early June.

BELOW: Hong Kong Gold Coast is the inaugural location where EcoBricks has been utilised.



'Hong Kong's Climate Action Plan 2050', technology breakthroughs and the participation of the whole community are both crucial.

"This project is a good example of the real estate industry's commitment to the community and its support of innovation, in line with Hong Kong's target to strive for carbon neutrality before 2050. Meanwhile, I call on the public to enhance waste reduction at source and clean recycling, and to support a circular economy and green employment, so as to reduce waste and carbon emissions together." ■



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Aurecon joins Singapore's SPLRT depot expansion project

Aurecon has been appointed as consultant to Sato Kogyo (S) Pte Ltd, which has won a contract totalling approximately S\$157 million from Singapore's Land Transport Authority (LTA) to design and construct the expansion of the Sengkang-Punggol Light Rail Transit (SPLRT) depot. The project will boost the availability of trains and improve overall rail reliability to better serve the growing transport needs of residents in Sengkang and Punggol.

Sited above the North East Line's depot in Sengkang, the 3.5-ha SPLRT depot will be expanded to 11.1 ha as part of efforts to increase its stabling capacity to accommodate 17 new two-car trains and create additional space for maintenance facilities. Upon completion in 2027, the expanded SPLRT depot will consist of two new reception tracks to shorten the train launching time and three new traction power substations to support the operations of the fleet's two-car trains.

Prior to the appointment, Aurecon had worked closely with Sato Kogyo to put forth an innovative design proposal that optimises the depot's layout. In its consultant role, Aurecon will provide architectural, civil, structural, building services and other design services required for the construction of the SPLRT depot expansion.

To ensure that the project will be carried out efficiently, effectively and safely without disruption to daily operations, Aurecon will adopt a user-centric approach from conceptualisation to design and construction. This includes tailoring the design construction sequence and methodology to accommodate the requirements of an operational rail network, as well as to deliver an expansion that seamlessly complements the existing North East Line depot technically and aesthetically.

Tan Eng Hong, project manager and technical director, buildings



An artist's impression of the expanded Sengkang-Punggol LRT depot.

structures at Aurecon Singapore, said, "We are delighted to have this opportunity to work with LTA and with Sato Kogyo. My team and I are looking forward to providing innovative technical engineering solutions and advisory expertise to help enhance the operations of the LRT network in north-eastern Singapore and to keep Singapore moving safely and smoothly."

Stephane Asselin, chief executive at Aurecon Asia, added, "We are excited to play a key role in realising this important infrastructure project in Singapore's land transport development. This contract win affirms the breadth and depth of Aurecon's rail and mass transit expertise. More significantly, this project will pave the way in Singapore's journey towards achieving its vision for a reliable, people-centred and sustainable land transport system with about 360 km of rail network by the 2030s." ■

Tata Projects appointed as EPC contractor for Noida International Airport

Yamuna International Airport Private Limited (YIAPL) has commissioned Tata Projects to undertake the engineering, procurement and construction (EPC) of Noida International Airport (NIA). The contractor will construct the terminal, runway, airside infrastructure, roads, utilities, landside facilities and other ancillary buildings at NIA.

The passenger terminal will encompass parameters such as short and efficient passenger flows, digital services, and commitment to minimal environmental impact. NIA will be a digital airport in India, enabling contactless travel and personalised services for families/the elderly and business travellers.

"Together with Tata Projects, we're working to deliver a passenger terminal, runway, and other airport infrastructure with a capacity of 12 million passengers annually, by 2024," said Christoph Schnellmann, CEO of Yamuna International Airport Private Limited. "We are aiming to enable, promote and strengthen all-inclusive sustainable development of aviation ecosystem in India. Noida International Airport will bolster employment generation and economic growth in the state as well as the country."

"We are proud to be entrusted the EPC works for the greenfield Noida International Airport at Jewar. Tata Projects will work closely with YIAPL to deliver India's most advanced and environment-friendly airport on time," said Vinayak Pai, CEO and MD Designate of Tata Projects Ltd. "We shall deploy the latest technologies in

its construction, while meeting the highest standards of quality, safety and sustainability."

NIA's design pivots on sustainable development and it set to be India's first net-zero emissions airport. It will be designed and developed keeping in mind the requirements of green infrastructures, like IGBC certified buildings, rainwater harvesting, zero liquid discharge sewage treatment plant and waste management facility, amongst others.

Zurich Airport International AG won the bid in 2019 to develop the airport and has achieved various milestones towards the development of the airport. These include the security clearance, signing of the concession agreement, selection of architects, launch of the brand identity, signing of the shareholder and state support agreements, approval on the masterplan and the development plan, financial close with SBI, as well as selection of concessionaire to design, build and operate a fuel farm and with AAI for CNS-ATM services at the airport.

The concession period has officially commenced from 1 October 2021. Following the groundbreaking ceremony in November 2021, preparation for EPC activities had been initiated with earthworks and boundary construction at the site. With the closure of the EPC contract, the first phase of the airport is on track to be delivered within three years of the commencement of the concession period. ■

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SMC reveals concept for aerocity project in Philippines

San Miguel Corporation (SMC) has unveiled a conceptual masterplan for its massive, green-designed and future-ready aerocity development in Bulacan province, the Philippines. The project is also seen as a major boost to both national and local economies as it will complement the company's PHP740-billion New Manila International Airport (NMIA) development.

SMC's president and CEO Ramon S. Ang revealed that the aerocity designs, carried out by architecture firm Palafox Associates, reflect the vision of a modern Philippine city that provides built-in solutions to various socio-economic, environmental and climate issues, and correct the mistakes seen in many urban developments of Metro Manila.

SMC tapped the firm, headed by the country's top urban planner and green architect, Felino 'Jun' Palafox Jr, to masterplan the airport-driven city concept.

"These designs presented to us by Architect Palafox and his team will be close to actual. There will probably be some adjustments by the time we implement, and we will still continue to improve as needed, but in terms of the overall concept, design, and the features, this is it," said Mr Ang.

"It's very fortunate that when we sat down with Architect Jun Palafox for this project, we had the same vision that the airport and aerocity projects should be sustainably built, geared towards the future, and address social and environmental concerns that have beset our existing cities, including the country's major financial districts. With Architect Palafox's help, all of this can be done."

'Sustainability in mind'

Mr Ang underscored that the aerocity development addresses many of the problems experienced in Metro Manila today. It is designed – and will be built – with sustainability in mind. It will be properly zoned, with areas dedicated to agriculture and food production, logistics, health and wellness, aeronautics, finance, science and technology, commerce, residences, education, tourism, entertainment, recreation, and government, among others.

The development will utilise renewable energy, and will accommodate both traditional and alternative modes of transportation, as well as promote active and healthier lifestyles, added Mr Ang.

The airport city design will adopt green architectural and green urbanism guidelines over and above the country's building and zoning codes, and follow structural codes of other countries similarly situated in earthquake zones like the Philippines.

Furthermore, the development will have ample open spaces and incorporate the latest in digital infrastructure. It will feature easily accessible public transport systems, including mass transit systems, bicycle highways, as well as a waterfront area with landscaped walkways and promenades.

Mr Ang stressed that SMC is fully committed to completing the massive projects, which it will fully fund with no guarantees or subsidies from government, to help boost the country's post-pandemic economy and improve the lives of more Filipinos by boosting various industries and creating millions of quality jobs nationwide.

SMC's 2,500-ha NMIA project will initially feature four parallel runways, a world-class terminal, and a modern and interlinked infrastructure network that includes expressways and railways.



ALL IMAGES:
The conceptual masterplan for SMC's massive, green-designed and future-ready aerocity development in Bulacan province.

"While we need to fast-track the completion of this airport and aerocity to help ease travel congestion and aid in the country's recovery with more jobs and opportunities for more Filipinos, we are mindful that we need to do this the right way and with a vision for a sustainable future. That is why we tapped Architect Palafox for this project," said Mr Ang. ■


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Megawide wins Metro Manila Subway contract

Megawide Construction Corporation, together with its joint venture partners from Japan, Tokyu Construction and Tobishima Corporation, has recently signed the Contract Package 104 (CP-104) of the Metro Manila Subway Project in the Philippines. It includes the construction of underground stations in Ortigas North and South as well as the tunnels connecting these two locations.

The project has a contract value of PHP13,261,303,173.01 and JPY 11,227,496,171.00 (approximately PHP4.49 billion using the exchange rate as of 4 May 2022), which together will have an aggregate estimated value of PHP17.75 billion.

“As the Joint Venture’s Filipino partner, we are honoured for the opportunity to once again participate in our country’s infrastructure development. We thank the government for giving priority to this project which will be a game-changer for the metro’s mass public transportation,” said Edgar Saavedra, chairman and CEO of Megawide.

Tokyu Construction is one of the established Japanese general contractors engaged in commercial, institutional and residential buildings as well as civil engineering works for dams, bridges and transportation systems. It led the redevelopment of the Tokyo Metro Ginza Line Shibuya Station located at the centre of Shibuya, a key district in Tokyo.

Likewise, Tobishima Corporation is one of Japan’s leading

general contractors, involved in large-scale civil engineering works for hydro-electric power plants, dams and railroads, with onshore and offshore projects located in Brunei Darussalam, Indonesia, Pakistan and Myanmar, among others.

In 2020, Megawide together with its joint venture partners Dong Ah and Hyundai Engineering of Korea secured the contract for Package 1 of the Malolos Clark Railway Project, which is now under construction.

Earlier, Megawide said it also participated in several packages of the North South Commuter Line that will run from Manila to Calamba, Laguna that will complete its rail system expertise to elevated, underground and at grade.

“As an infrastructure developer with a strong construction foundation, we are well-positioned to offer operational and cost efficiencies as a contractor, being technologically-advanced and vertically-integrated,” said Mr Saavedra.

“Together with our engineering and innovation DNA, we have a distinct advantage to offer competitive bids and value-accretive propositions for big ticket projects. These can be done through strategic joint ventures or consortiums with local or foreign counterparts to build critical infrastructure such as the MCRP, the Subway, and other rail projects. Moreover, first-world engineering can help ensure efficiencies in project delivery and overall operations for the long term.” ■

First Tadano GR-1000EX-4 rough-terrain cranes in Singapore

Tadano and its distributor Multico have announced the delivery of two GR-1000EX-4 rough terrain cranes to LH Construction & Machinery Leasing Pte Ltd (Lian Hup Brothers Group of Companies) in Singapore.

Lian Hup Brothers Pte Ltd (LH) serves the construction and engineering industries with heavy equipment, large-scale machines, and trucks and other vehicles for building and transportation construction and maintenance. Reliable lifting equipment is an important part of the company’s robust fleet.

Alan Delon Chua, CEO of LH Construction & Machinery Leasing Pte Ltd, described the company’s past experiences with Tadano products, sales and service as “awesomely good.” He also noted that the performance of Tadano cranes has been “superior.”

So, when Mr Chua and his team at LH decided there was a need for a new crane for a particular construction project, they looked to Tadano. After examining the work and jobsite considerations, the team at LH went on to explore options in the rough-terrain crane category.

Lifting capacity and built-in safety functions were considered top priority with their decision. The GR-1000EX-4’s lifting capacity of 100 t fulfilled the lifting requirements, and Tadano’s reputation and record for safety is unmatched. The GR-1000EX-4 also features a 51 m boom – the longest in its class – and the gross vehicle weight of 55 t means easy transportability.

These features, coupled with the previous experiences LH has had with Tadano cranes, led the company to decide that the GR-1000EX-4 was the best model for its needs. LH worked with the sales and service team at Multico to arrange for purchase and delivery, which took place in early 2022.



The GR-1000EX-4 rough-terrain cranes have a lifting capacity of 100 t.

Delivery of the GR-1000EX-4 from Tadano and Multico to Lian Hup Brothers was the first for this crane in the Singapore market, making it a significant milestone for this crane model as well as for all three companies involved in this transaction.

Multico Equipment and Parts Pte Ltd, founded in 1973, is Tadano’s distributor in the Singapore market and has provided sales and service to LH for many years. Having a Demag line of Tadano cranes, Multico offers all-terrain cranes, truck cranes, telescopic boom crawler cranes, lattice boom crawler cranes and rough-terrain cranes. ■

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MyCrane digital platform enters Asian market

MyCrane, the Dubai-based digital disruptor for the cranes and construction sector, is to roll out the world's first online crane rental platform in three key Asia Pacific (APAC) markets, following the signing of a franchise agreement covering Singapore, Thailand and Indonesia.

MyCrane's best-known tool is its free-to-use crane rental service, which allows users to save valuable time and money by entering details of their lifting requirements on a carefully-designed web portal. Registered crane rental companies then respond with their commercial offer, allowing users to select the most attractive proposal and award the job directly on MyCrane's website.

The platform also offers a suite of other services, including support for engineering, a free-to-use Selector tool that enables users to identify the right crane for their lift, and a Marketplace where equipment, rigging equipment, spare parts, auxiliaries and industry vacancies can be posted.

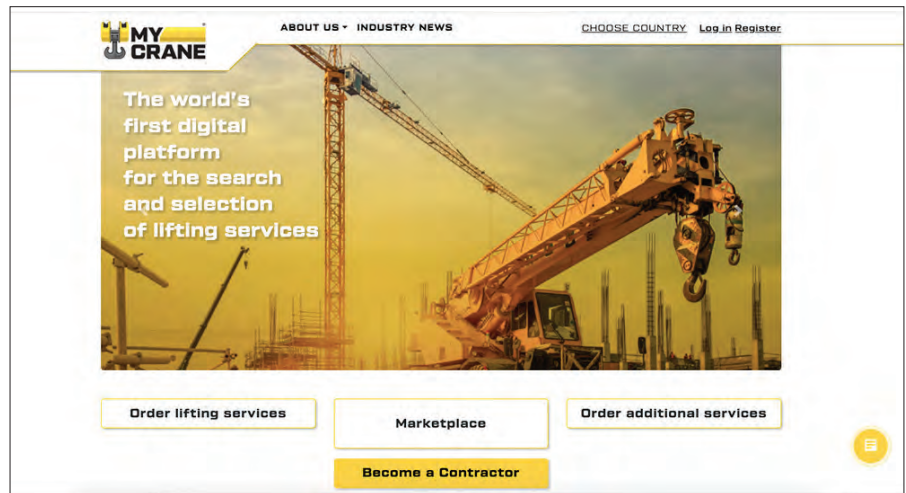
The franchise for Singapore, Thailand and Indonesia has been taken by Singapore-based Allan Taylor, an experienced executive who was previously employed at Mammoet and has extensive experience in the petroleum industry.

MyCrane CEO and founder Andrei Geikalo, himself a former commercial director at Mammoet, said, "We are delighted to welcome Allan at a time of great opportunity for those serving the thriving cranes and construction industry in Asia. APAC is often seen as an exciting region for business development – and with good reason."

APAC countries are expected to generate considerable activity for crane operators in the coming years. The construction industry in Indonesia, for example, is likely to record growth of 7.2% in real terms in 2022, surpassing pre-pandemic output levels, according to data and analytics company GlobalData. It also noted that the Indonesian government has allocated US\$27.1 billion for infrastructure development, including six new airports, 6,624 km of railway and 205 km of new road.

Mr Taylor said, "I am looking forward to helping equipment suppliers in the three countries to increase the utilisation of their fleets, while also working with contractors to help them save time and money on the crane procurement process. I can't wait to get started with MyCrane and welcome local crane suppliers and contractors to get in touch to learn more about the benefits."

Mr Geikalo added, "As the world rebuilds following protracted pandemic disruption, countries in APAC are expected to continue their ambitious infrastructure plans in the coming years. MyCrane will be well-placed to serve the local cranes and construction industries when we shortly begin operations in Singapore, Thailand and Indonesia.



ABOVE: MyCrane's best-known tool is its free-to-use crane rental service, which allows users to save valuable time and money by entering details of their lifting requirements on a carefully-designed web portal.

LEFT: MyCrane founder and CEO Andrei Geikalo (left) and his new franchise holder for Singapore, Thailand and Indonesia, Allan Taylor.

BELOW: The MyCrane platform also offers a free-to-use Selector tool, which enables users to identify the right crane for their lift.

"In the meantime we continue to explore ways to roll out our services in other key Asian markets such as China, Malaysia and Vietnam."

MyCrane operates on a franchise basis and enquires are welcomed from entrepreneurs who may be interested in operating the platform in their home countries. Franchise holders are responsible for recruiting crane rental providers to the platform and marketing the service to customers. They earn a commission when projects are awarded using MyCrane. ■

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Lintec & Linnhoff and Gainwell form manufacturing partnership to ‘Make in India’

Lintec & Linnhoff Holdings (LLH) and Gainwell Commosales Private Limited (formerly Tractors India Private Limited) have signed a strategic manufacturing and distribution partnership agreement to cement an even greater presence in the South Asian market.

Gainwell’s manufacturing arm, Gainwell Engineering Pvt Ltd, will be heading the licensed manufacturing of Linnhoff asphalt plants and Eurotec concrete plants. Gainwell will handle the distribution and servicing of Linnhoff asphalt and Eurotec concrete plants in India, Nepal and Bhutan. This will be backed up with end-to-end customer and technical support, including after-sales support, retrofit and refurbishment of plants, and the supply of spare parts and components.

The collaboration will bring in synergies of Gainwell, a leading player in the field of construction, mining and energy and transport sector and LLH, a global leader in asphalt and concrete batching plants. The two companies hold a rich experience in supporting nation-building through powerful and innovative solutions for the infrastructure industry.

Reaffirming LLH’s commitment to the Indian market, where over 500 of its plants have already been sold, the partnership with Gainwell seeks to leverage the success its brands have enjoyed over the past three decades. The new tie-up will deliver stronger brand and product offering to meet a diverse array of project needs. These will range from standard plants to more complex or customised solutions purposely designed for the domestic market. Both companies also expect to attract a new pool of customers while better serving existing clients.

“The Make in India local manufacturing initiative has been pivotal to our re-entry into the market, as we envisage scaling up the business with our perfect blend of high quality, local production based on the very best of European engineering design. Our commitment and investment in India reflects the confidence we have in this globally-important economy,” said Daniel Chan, chairman of Lintec & Linnhoff Holdings.

“Additionally, in the long-term, we plan on using India-based licensed manufacturing to support some of our regional customers, so finding a partner with a similar business ethos, as well as the capability and resources to meet our high standards in manufacturing and distribution, was a critical part of the selection process.”

Gainwell has been delivering outstanding value with integrated solutions and service excellence since 1944. The company has established capabilities in the areas of product support and project execution to emerge as a technology-driven world-class solutions provider to the customers in the infrastructure, mining, energy and transport segments.

Gainwell Engineering represents the best in engineering design, manufacturing, marketing and maintaining equipment for the global underground mining customer base across India, Australia, Singapore and the US.

“We are delighted to partner with Lintec & Linnhoff to indigenously manufacture state-of-the-art high-technology products and support the building of sustainable infrastructure for the nation. The endeavour uniquely represents India’s abiding



Daniel Chan, chairman of Lintec & Linnhoff Holdings (left) and Sunil Chaturvedi, chairman and managing director of Gainwell Commosales Private Limited.



The Linnhoff DRX DurableMix asphalt plant (pictured) and TSD1500 MobileMix asphalt plant will be locally manufactured and sold by Gainwell.



The Eurotec Swiftec SWT concrete plant (pictured) and Smartec SMT concrete plant will also be locally manufactured and sold by Gainwell.

commitment to emerge as a self-reliant nation or Atmanirbhar Bharat,” explained Sunil Chaturvedi, chairman and managing director of Gainwell Commosales Private Limited.

“Our endeavour to extend ‘Solutions for Growth’ reaffirms our commitment to providing excellence in customer experience and outstanding value to all our stakeholders. We focus on embedding technology into the end-to-end customer life cycle to provide solutions throughout the customer journey. Leveraging automation, cloud, AI, analytics and service technology models, we will leave a deep footprint of world-class service on this business as well.” ■

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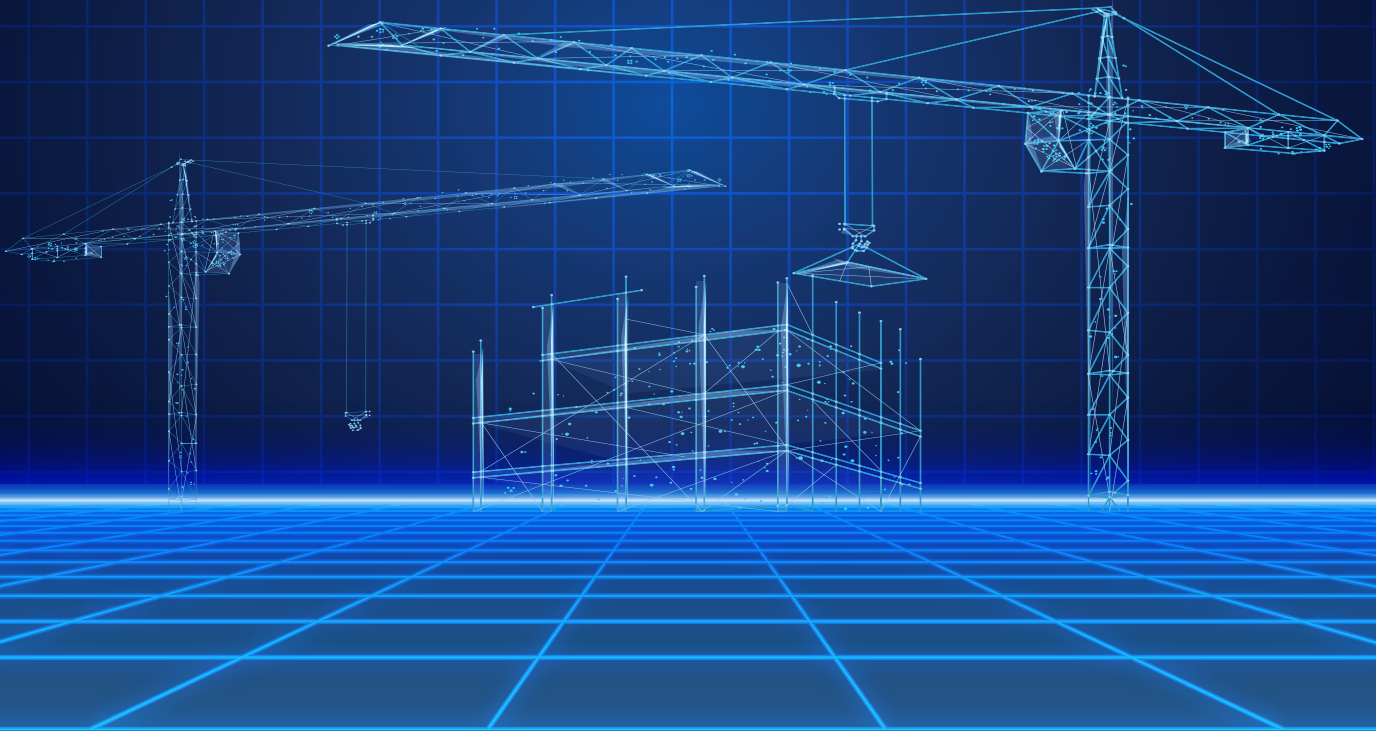
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Kobelco integrates production facilities in China and enhances production capacity in India

Tokyo, Japan-based global manufacturer Kobelco Construction Machinery (KCM) has announced that it will integrate its Chinese production subsidiary, Hangzhou Kobelco Construction Machinery Co Ltd, into its manufacturing and sales subsidiary Kobelco Construction Machinery (China) Co Ltd. In addition, KCM will enhance the production capacity for fabrication products at the plant of Kobelco Construction Equipment India Pvt Ltd.

These latest initiatives will mark the completion of a series of measures undertaken by KCM to reorganise and enhance its global production system of excavators, which also include transfer of the North American hydraulic excavator plant and production capacity expansion at the Ogaki plant in Gifu Prefecture, Japan.

In terms of worldwide demand for hydraulic excavators, KCM said that demand in developed countries has generally remained stable despite a decline due to the Covid-19 pandemic, and demand in developing countries – excluding China – is expected to grow steadily although there are highs and lows depending on the area.

KCM plans to steadily increase sales of its hydraulic excavators in terms of number of units by strengthening its local sales networks and expanding product models and specifications to meet market needs.

China, on the other hand, presents a different picture, noted KCM. The Chinese market of hydraulic excavators, which in recent years has accounted for approximately 50% of worldwide demand, has been on a declining trend, and competition from Chinese domestic manufacturers is becoming fiercer. The current market share of foreign-capital manufacturers has fallen to some 20% (it was roughly 50% in 2018). Furthermore, sales prices have fallen sharply, which will inevitably have a negative impact on the Kobelco Group's construction machinery business that relies on China as a major source of earnings.

'Stabilise earnings and lower production costs'

KCM highlighted that the aim of the measures to restructure its worldwide production and supply system is to stabilise earnings and lower production costs, by optimising the supply system from a global perspective in light of changes in the market environment in China.

The production of KCM hydraulic excavators for the Chinese market, which has currently been taking place at two locations, Hangzhou Kobelco Construction Machinery and Kobelco Construction Machinery (China), will be integrated and fall under the operation of Kobelco Construction Machinery (China). As part of this move, production (assembly) capacity in China will be reduced from 10,500 units/year to 5,500 units/year.

Moreover, part of Hangzhou Kobelco Construction Machinery's supply capacity for fabrication products will also be shifted to Kobelco Construction Machinery (China), with much of the remainder being shifted to the plant in India. These transfers are being made in stages and are expected to be completed in or around January 2023.

KCM aims to stabilise earnings by adjusting production capacity in China to a scale suitable for the business environment and cutting fixed costs.

KCM will expand its production capacity for fabrication products from 3,000 units/year to 4,700 units/year by making Kobelco Construction Equipment India – which enjoys strong cost competitiveness – a supply base of fabrication products mainly for Kobelco Construction Machinery Southeast Asia Co Ltd located in Thailand.

The North American plant of Kobelco Construction Machinery USA, a KCM's North American subsidiary, suspended its operations in May 2021 due to engine certification problems. The plant was transferred to Takeuchi Mfg Co Ltd, at a price of about 3.95 billion yen, and the production of hydraulic excavators at the North American plant will be transferred to KCM's Itsukaichi factory in Hiroshima, Japan to increase competitiveness.

Construction of a new assembly line for hydraulic excavators at KCM's operations in Ogaki will add production capacity of 3,000 units/year, increasing total production capacity from the current 8,500 units/year to 11,500 units/year. The new assembly line will be dedicated to the assembly of two types of hydraulic excavators – the 7-t class, which has been produced at the Itsukaichi factory and the 5-t class, which has been produced on the existing lines in Ogaki.

Building of an enhanced production system in which the new assembly line and the Itsukaichi factory complement each other will enable flexible production management in response to changes in the number of units. Together with the installation of the new assembly line, the Ogaki plant will expand its supply capacity for fabrication products as well.

According to KCM, while the integration of production facilities into Kobelco Construction Machinery (China) is scheduled to be completed in January 2023, the production capacity enhancement at Kobelco Construction Equipment India is slated for completion in April 2024.

The transfer of Kobelco Construction Machinery USA's North American plant was completed in April 2022, and the production capacity expansion at the Ogaki plant is expected to be completed in August 2023.

Through the implementation of the series of measures aimed at steadily optimising the business operations in China, enhancing production capacity in areas of high demand, and strengthening the earnings structure of business operations in India, KCM anticipates the company's annual earnings to be around 10.0 billion yen (in fiscal 2024 and beyond, after all related investments are completed).

Under the corporate philosophy of 'user hands-on approach', KCM stressed that the company will continue to strive towards further development of technologies, towards provision of products with better value, and towards an improvement of the quality and stability of its business operations in which its manufacture and sales sectors coordinate seamlessly.

As members of the Kobelco Group, "we will continue to provide solutions to the needs of society by making the best use of the talents of our employees and our technologies in order to realise a world in which people, now and in the future, can fulfill their hopes and dreams while enjoying safe, secure and prosperous lives," concluded KCM. ■



CALENDAR OF EVENTS

// Events in Asia

Worldbex 2022

31 Aug to 3 Sept 2022

World Trade Centre Metro Manila
Metro Manila, The Philippines
Website: www.worldbex.com

OS+H Asia 2022

14 to 16 Sept 2022

Suntec Singapore
Singapore
Website: www.osha-singapore.com

Building Construction Technology Expo 2022

21 to 23 Sept 2022

Impact Exhibition and Convention Centre
Bangkok, Thailand
Website: www.bct-construction.com

ConsBuild Asia 2022

28 to 30 Sept 2022

Show DC Hall
Bangkok, Thailand
Website: www.consbuild-asia.com

Cambuild 2022

16 to 18 Nov 2022

Diamond Island Exhibition & Convention
Centre
Phnom Penh, Cambodia
Website: www.cambuildexpo.com

bauma China 2022

22 to 25 Nov 2022

Shanghai New International Expo Centre
Shanghai, China
Website: www.bauma-china.com

Infrastructure Connect!

23 to 25 Nov 2022

Jakarta International Expo
Jakarta, Indonesia
Website: www.infrastructureconnect.id

Natural Disasters Expo Asia

7 to 8 Dec 2022

Singapore Expo
Singapore
Website: www.naturaldisastersshowasia.com

bauma Conexpo India

31 Jan to 3 Feb 2023

India Expo Centre (IEC)
Greater Noida, Uttar Pradesh, India
Website: www.bcindia.com

Trenchless Asia 2023

17 to 18 May 2023

Kuala Lumpur Convention Centre
Kuala Lumpur, Malaysia
Website: www.trenchlessasia.com

// Events outside Asia

bauma 2022

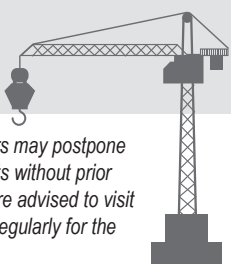
24 to 30 Oct 2022

Munich Trade Fair Centre
Munich, Germany
Website: www.bauma.de

World of Concrete 2023

17 to 19 Jan 2023

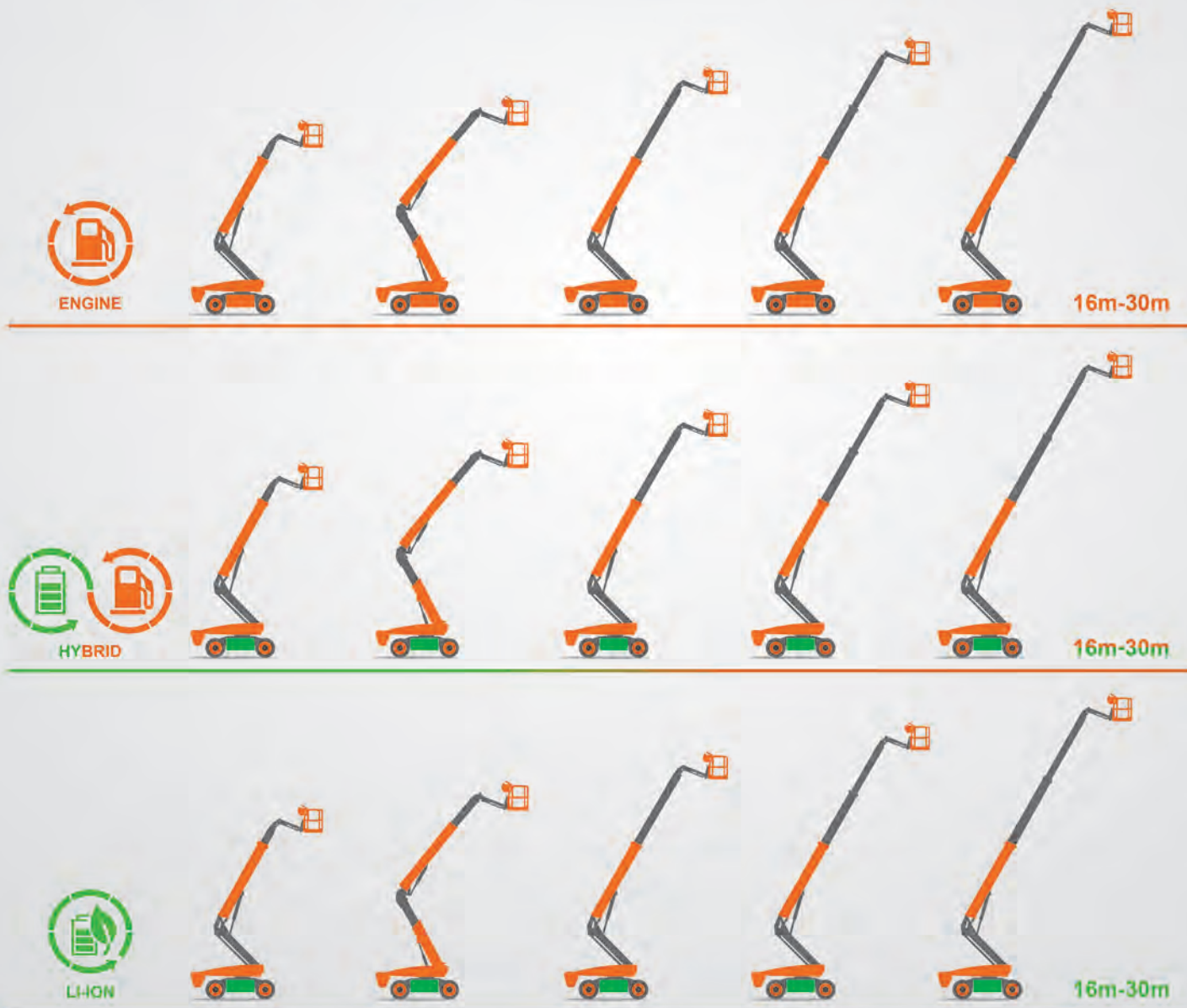
Las Vegas Convention Centre
Las Vegas, Nevada, USA
Website: www.worldofconcrete.com



Note: The organisers may postpone or cancel their events without prior notice, so readers are advised to visit the event websites regularly for the latest updates.

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IPAF launches Women in Powered Access initiative

The International Powered Access Federation (IPAF) has launched an initiative that aims to recognise and celebrate the contributions of women in powered access, as well as outlining career pathways for women both already in the industry and looking to enter it.

This initiative has been inspired by new IPAF president Karin Nars, who became the first woman elected to the role. In her inaugural address to the IPAF Summit, she said, "I never doubted I could reach my dreams because I was a woman. That's why I would like every girl and young woman who wants to work in our industry to be offered that chance and to receive the support to do so. IPAF is in a good position to promote equal opportunities for all – I aim to use my voice as president to promote such a programme."

In outlining the new Women in Powered Access initiative, Ms Nars explained, "Inclusion is important because it enables people to share different perspectives in a supportive environment. Safety is a joint effort to which everybody can and should contribute to. Therefore, we cannot afford to exclude anybody from the conversation surrounding safety in our industry and the actions we recommend. While we may work in a male-dominated business, there is more to the story than that."

"An important first step is to encourage more women to bring their knowledge, passion and work ethic to our industry. The difference they can make can be a positive



surprise in many ways. We already have thousands of women in our industry whose stories have not been told. And their stories are something young women need to see and hear – to help them become inspired and learn about paths women have taken in our industry. As an organisation, we can help share such stories."

Ms Nars added, "With the Women in Powered Access initiative, we invite women of all ages and different professional roles to share their stories of inclusivity. Through these stories and role models, we want to communicate the broad opportunities our industry can offer women. And we do not want to compare or exclude anyone. We are inviting everybody with a passion for our industry, and a passion for safety in powered access, to be heard and to contribute. It is all about cooperation and

bringing different perspectives to the table – for the good of our industry."

The initiative is set to include a number of key actions, including providing a platform to tell the stories of women in powered access in both the media and at industry events. IPAF will also use its own print, web and social media platforms to share these inspirational case studies, and will also continue to invite prominent women speakers to present at IPAF events.

Peter Douglas, CEO and managing director of IPAF, commented, "IPAF wants to play a big role in promoting and sustaining inclusivity in the powered access industry. That is why we are launching this Women in Powered Access initiative. Over the next few months, we will be giving a platform to various women who are brilliant examples of achievement and success in our industry, in a variety of different roles." ■

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Geospatial community gathers at Geo Connect Asia 2022

The second edition of Geo Connect Asia (GCA), Southeast Asia’s flagship geospatial and location intelligence technology trade event, came to a successful close after a two-day run at Marina Bay Sands Expo and Convention Centre in Singapore, from 1 to 2 June 2022.

Organised by Montgomery Asia, GCA 2022 was attended by close to 2,000 geospatial professionals from 36 countries. The event drew over 40 exhibitors from 14 countries, plus 79 prominent speakers and moderators.

“Geospatial development is an important dimension of our Smart Nation initiative, and we have developed a Geospatial Masterplan to guide the development and adoption of geospatial solutions,” said Singapore’s Minister for Culture, Community and Youth and Second Minister for Law, Edwin Tong SC, who was the guest of honour at the event.

A key highlight of the opening ceremony was the signing of a Memorandum of Understanding (MoU) between the Singapore Land Authority (SLA) and the Real Estate Developers’ Association of Singapore (REDAS). The MoU aims to fortify collaboration between the two organisations to promote awareness of geospatial technologies, and to organise joint events and capability-development programmes in order to address challenges faced by the real estate and related industries.

“The value of geospatial is more apparent than ever before. By coming together as a geospatial ecosystem, I believe our co-innovations and our partnerships will collectively shape the next bound of our common geospatial future,” said Colin Low, chief executive of SLA.

This year’s GCA was held alongside its two complementary industry events – Digital Construction Asia (DCA) and Unmanned



ALL IMAGES: GCA 2022 was held alongside its two complementary industry events – Digital Construction Asia (DCA) and Unmanned Aerial Vehicles (UAV) Asia.

Aerial Vehicles (UAV) Asia. Strategic partners of GCA 2022 included the SLA, SLA’s geospatial industry centre, GeoWorks, and SGTech.

GCA 2022 was supported by over 60 trade organisations, associations and government agencies, including the Construction Industry Joint Committee (CIJC), GovTech Singapore (GovTech), Economic Development Board (EDB), Infocomm Media Development Authority (IMDA), National Parks Board (NParks) and Singapore Tourism Board (STB).

The GCA 2022 Conference, Expert Stage and Tech Talk programmes saw robust knowledge sharing on topics such as opportunities in the metaverse; smart construction using building information modelling (BIM) for integrated digital delivery (IDD); biodiversity and the greening of communities; earth observation and satellite technology advancements; drone-based business solutions; and the latest technology for capturing, surveying and mapping subsurface utilities; among others.

GCA is set to return on 15 and 16 March 2023 with full focus on a face-to-face show format, featuring more hands-on opportunities for visitors to experience different elements, modules and applications of geospatial data.

According to Montgomery Asia, GCA 2023 will also see the launch of a dedicated UAV-focused industry show, Drones Asia, covering an entire hall with several on-site showcases of drones, cameras, launch and recovery systems, and sensors, as well as the latest technology for satellite and remote sensing, launch and recovery systems, surveillance and reconnaissance, and training and simulation. ■

Website: www.geoconnectasia.com

BCT Expo returns to Bangkok in September 2022

As Thailand and its surrounding ASEAN region continue to ease travel restrictions, the Building Construction Technology Expo 2022 (BCT Expo 2022) – one of the region's key exhibition platforms for the construction industry – is set to return to its face-to-face setting, taking place at the Impact Exhibition and Convention Centre in Bangkok, Thailand from 21 to 23 September 2022.

The return of BCT Expo after a two-year hiatus due to the pandemic is timely, since Thailand's construction equipment market is expected to grow at a CAGR of 6.34%, fuelled by demands in construction, transportation and renewable energy sectors as government investments in highway, metro and airport construction projects continue to rise, according to the show organiser, Impact Exhibition Management Co Ltd.

Correspondingly, the building and construction material market is also seeing an increase of between 3% and 5% growth this year, as it gets ready to re-engage and re-connect in a physical market setting during the BCT Expo, added Impact Exhibition Management.

BCT Expo 2022 is expected to take up over 5,000 sq m of exhibition space, showcasing a comprehensive range of building and construction technologies, digital and machinery systems and equipment, as well as products and solutions from over 100 exhibitors to over 4,000 trade visitors coming from all sectors of the building and construction industry across Thailand and the surrounding ASEAN region.

In keeping with digital transformation trends, the organiser said the event will continue with its theme 'Towards Digitalisation of the Building and Construction Industry – Are you Ready?', with focus on digital transformation of the building and construction industry to help drive the digital acceleration changes in every aspect of architectural design, building and construction through the adoption of digital technologies.

BCT Expo 2022 also aims to serve as a key regional knowledge exchange and networking platform for the building and construction communities to meet and share the latest technologies, updates, issues and trends through its series of interactive conferences, seminars and workshops.

The event is supported by over 37 international and local organisations, including Thailand's Department of Public Works and Town and Country Planning, Italian Trade & Investment Agency, China Council for Promotion of International Trade, Thailand Building Information Modelling Association, India BIM Association, Thailand Facility Management Association, and Thailand Contractors Association, to name a few. ■

Website: www.bct-construction.com



ABOVE: BCT Expo 2022 will take place at the Impact Exhibition and Convention Centre.



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Conexpo 2023 aims to bring success to firms globally

Conexpo-Con/Agg and the co-located International Fluid Power Exposition (IFPE), slated to return to Las Vegas on 14-18 March 2023, have gained a reputation for bringing results to global visitors and exhibitors, and is working to expand that reputation for the 2023 edition.

Among the world's largest construction equipment trade shows, Conexpo-Con/Agg – along with IFPE – is expected to bring in more than 130,000 visitors to see 2.7 mil sq ft of exhibits at the Las Vegas Convention Centre.

“For us, and coming from Spain, Conexpo-Con/Agg is the best platform to reach customers from the US as well as from the world, especially from Central and South America,” said Jorge Cuartero, director general of ANMOPYC, the Spanish association of manufacturers of construction and mining equipment based in Zaragoza, Spain.

“The show features the latest equipment, products, services and technologies for the construction industry, as well as industry-leading education. And we know it will be the event of the year in our sector for 2023.”

One of the biggest values for international exhibitors and visitors is the International Trade Centre, which offers them an opportunity to meet and network with industry peers from around the world. The centre is hosted by the Association of Equipment Manufacturers (AEM), co-owner of Conexpo-Con/Agg and IFPE.

“If you haven't already, now is the time to start putting your Conexpo-Con/Agg and IFPE plans together,” said Conexpo-Con/Agg show director Dana Wuesthoff. “Whether you are an exhibitor or attendee, start planning now. Knowing who from your team will get the most value out of coming, and what you hope to accomplish is the best way to make this show a positive investment in your company's future.”

Machinery parts provider Blumaq, based in Vall de Uxó on Spain's Mediterranean coast, said Conexpo-Con/Agg is an “unmissable event.”

“Blumaq's participation in the 2020 show has resulted in an increase in visibility and sales for our brand,” said Juan Manuel Buils, marketing department manager at Blumaq. “We have exhibited before Conexpo-Con/Agg, the best and largest showcase in the American heavy machinery and spare parts market, and as a result, we have generated a large number of leads and even closed sales at the fair itself.”

From Leicester, the UK, electrical and fabrication specialists Ventola Projects Ltd came away from the 2020 show with six figures in orders, and a huge jump in export business.

“We departed Las Vegas in 2020 with a confirmed order of US\$60,000, and further orders totalling more than US\$100,000 weeks later,” said Ventola's projects managing director Mick Ventola. “We have taken our exporting from approximately 40% of our turnover in 2019/20 to now almost 90% in 2021/22. Our forecasts show our turnover to continue an upward trend, even during these uncertain times.”

Conexpo-Con/Agg and IFPE 2020 hosted 130,000 in registered attendance, with 86% of attendees serving in decision-making roles.

“It is such a huge event, of people and organisations, acres of exhibits and dozens of mini events inside the venue. Even if you have a show plan built, if you are an international exhibitor or attendee, connect with the AEM-International Trade Centre team



The International Trade Centre at Conexpo provides global exhibitors and visitors an opportunity to meet and network with industry peers from around the world.



ABOVE AND BELOW: The next edition of Conexpo, along with IFPE, is expected to bring in more than 130,000 visitors to see 2.7 mil sq ft of exhibits at the Las Vegas Convention Centre.



before, or on Day 1,” said Kim MacDonald of professional services firm 13 Factors, based in Halifax, Nova Scotia, Canada. “The centre became my go-to hub, and I am looking forward to using it even more in 2023!” ■

Website: www.conexpoconagg.com

New Cat D8 GC dozer delivers easy maintenance

The new Cat D8 GC bulldozer is designed to fit a variety of customer business needs with solid dozing/ripping performance, simplified options for a lower initial purchase price, and fully mechanical systems for easy maintenance.

The machine is cost effective to own and operate, and according to Caterpillar, customers can expect up to 10% lower owning costs compared to the D8T model. The D8 GC dozer replaces the D8R with 220 kW of nominal net power and an operating weight of 37,557 kg.

The D8 GC is powered by a Cat 3406C DITA engine. A three-speed planetary powershift transmission and Caterpillar exclusive torque divider ensure that more useable power gets to the ground for solid all-around performance in various applications. These mechanical components make up a robust power train that is easy to diagnose and maintain, even in remote locations.

For a lower initial purchase price, customers can choose new options like General Duty undercarriage, a simplified fixed ripper, and a basic 4-LED light package. Dozing performance and competitive fuel efficiency help contribute to lower overall owning costs.

Everything about the D8 GC is designed to help make it easy to own. Simple mechanical systems and widely available parts help make maintenance and repairs easier. Major components are modular for easy maintenance and repair access.

Individual radiator cores can be quickly replaced for ease of service. Exclusive new Cat hydraulic and power train oil filters offer extended service intervals to save time and money. Product Link telematics help simplify maintenance by tracking machine location and service hours.

The elevated sprocket also makes maintenance easier with modular components that are simple to remove/install for service. Segmented sprockets are easy to replace. The undercarriage is optimised with strong structures for stability and durability.

A Desert/High Abrasion package is available from the factory to enhance machine performance in extremely sandy or



The new Cat D8 GC dozer has 220 kW of nominal net power and an operating weight of 37,557 kg.

abrasive underfoot conditions. The cooling system is designed for high debris environments, with easy access for cleanout. The specially coated fan and radiator help resist abrasion and a core protection grid helps keep debris out of major systems. A high ambient fluids package helps handle the heat, while the sealed bottom guard and added seals help keep fine abrasive particles out of components.

For extreme cold weather work, the D8 GC can be outfitted from the factory with features like heavy-duty batteries, arctic undercarriage and thinner oil for better lubrication in extreme conditions.

The D8 GC can be ordered with a cab or canopy, each with integrated roll over protective structure (ROPS/FOPS). Customers can choose Heavy Duty undercarriage for aggressive/high impact applications, or General Duty undercarriage for low to moderate impact work.

Semi-universal (SU) blade provides the capacity for a wide range of earthmoving jobs. Customers can add an optional rock guard and wear plate to the blade for added durability and longer wear life. A fixed ripper gives a simplified, lower cost option, or select an adjustable parallelogram single-shank ripper with pin puller to enable shank position changes from the cab. ■

Website: www.cat.com

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Wirtgen introduces small milling machine in 1-m class

With the new W 100 HR, Wirtgen offers a 1-m-class cold milling machine for cost-efficient operations. Suitable for use on tight jobsites, this model is available to customers in Latin America, Asia Pacific and Russia.

Both the Wirtgen W 100 HR and W 130 HR models are powered by a fuel-efficient engine with a rated output of 155 kW. It drives a newly developed milling drum with HT22 toolholders at any one of three pre-selectable milling drum speeds.

The two small milling machines have excellent manoeuvrability. Their all-wheel drive systems with selectable hydraulic flow dividers ensure consistently high traction and gradeability in all situations. With a speed of 8 km/hr, the machines can be easily relocated and positioned on the jobsite.

The W 100 HR and W 130 HR are designed to deliver high daily production rates with the greatest possible efficiency. Featuring a width of 400 mm, the high-performance belt conveyor carries large volumes of material to transport vehicles at a rate of up to 92 cu m/hr. The conveyor can be slewed by 25° to either side with the joystick of the machine's intuitive operating concept.

Automatic functions such as a load limitation regulator or a storage function for saving milling depth settings increase productivity, reduce the operator's workload with standardised workflows, and make daily work much easier.

Depending on the requirements and on-site conditions, the milling drum of the W 100 HR can be set to mill at three different speeds. Simply by pressing a button, the engine speed can be automatically regulated to deliver milling drum speeds of 1,800 rpm, 2,000 rpm, or 2,200 rpm.

Setting 1 should be selected for low diesel fuel consumption and reduced pick wear; setting 2 enables maximum milling performance in all situations; and setting 3 should be chosen when surface quality requirements are particularly high.

Developed by Wirtgen specifically for cold milling machines, the Level Pro Plus levelling system is also available as an option for the W 100 HR. Fully integrated into the machine control system, this levelling system assures consistently precise milling depths. The high degree of automation reduces the operator's workload and enables faster milling processes with high quality.

During milling, the machine is controlled with the control elements integrated in the adjustable armrest of the operator's seat. These allow, for example, hydraulic height adjustment at two different speeds. The controls for numerous essential machine functions are integrated in the ergonomically-designed, intuitively operable joystick and are therefore always at the operator's fingertips when needed.

There is also a multifunctional display that supports multiple languages and gives the operator a good overview of all process-relevant data, for instance with a digital milling depth indicator.

An additional option available for the machine is a camera system comprising a camera for mounting at the end of the discharge conveyor and a high-resolution monitor. This allows the operator to view the truck bed of the transport vehicle without having to turn aside from the machine's direction of travel to look. As such, it increases safety, comfort and efficiency. ■

Website: www.wirtgen-group.com



ABOVE: The new W 100 HR can be set to mill at three different drum speeds.

LEFT: The W 100 HR has an operator's cabin with armrest controls and a multifunctional display.

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Liebherr launches six new electric machines

The new electric models from Liebherr include the LRH 100.1 unplugged and LRH 200 unplugged piling rigs, LB 25 unplugged and LB 30 unplugged drilling rigs, and LR 1130.1 unplugged and LR 1160.1 unplugged crawler cranes.

A highlight of these battery-powered unplugged units is zero emission. They do not produce any exhaust fumes and are extremely quiet, making them suitable for noise-sensitive areas.

The battery is charged using a conventional jobsite electric supply, and operation can continue as normal while charging. In order to change to battery operation, users just need to pull out the plug (hence, unplugged).

According to Liebherr, whether attached to the electric supply or not, the performance and range of application remains unchanged. All six models are available in both conventional and battery-operated versions and feature identical performance specifications.

The LRH 200 unplugged has been newly developed and closes the gap between the LRH 100 and LRH 600 in the series of piling rigs. A 200-kWh battery pack ensures that the unplugged models can operate in battery mode for 4 to 5 hours in average pile driving applications. Optionally, it can be upgraded to 400 kWh for 8 to 10 hours of operation.

The new design of the LRH 200 extends the range of applications and makes it even more versatile. In addition to piling, the machine can be used for continuous flight auger, full displacement and down-the-hole drilling, as well as for soil mixing work. A torque of 250 kNm provides the necessary power.

When fitted with the Liebherr H 6 hydraulic hammer, the LRH 200 and the LRH 200 unplugged can lift piles up to 24.5 m long and weighing 16 t. The machine especially excels with its large working range. A radius of up to 8.7 m has the advantage that the machine does not have to be constantly moved.

The design of the leader enables inclinations of up to 18° in all directions. Furthermore, it is also possible to raise or lower the leader by 6.5 m (for example, when working in a foundation pit), which makes the machine even more flexible.

The Ground Pressure Visualisation of the new LRH model calculates the current ground pressure in real time and compares



The LRH 200 unplugged piling rig.

it with the specified safety limits of the respective construction site. The ground pressure is displayed in the operator's cabin. This means the operator is permanently aware of whether the machine is situated in, or is approaching, a critical area.

The operation of the new LRH 200 piling rig is based on the proven concept of the LRH 100 and is therefore user-friendly. The integrated data recording makes the analysis of the pile data very easy and saves a significant amount of time.

The new LB 25 unplugged and LB 30 unplugged are identical to their conventional version in terms of application possibilities, weight or transport; however they have the additional advantage of zero emission. These drilling rigs can be used for all common applications in the field of deep foundation.

Thanks to the optional extension of the drilling axis, the machines can be deployed for drilling diameters of up to 3.4 m. The optional rear support and the new design of the modular rear counterweight ensure higher stability and longer service life.

Besides their standard design, both models are available in a low head version with a total height of 14.1 m, or as ultra-low head with only 7.7 m.

For battery operation, the charging cable only needs to be unplugged and, for unlimited operation, reconnected to the construction site power supply. The battery is designed for a working time of 4 hours in Kelly operation. Whether in battery or plugged-in operation, the drilling performance remains unchanged.

The new LR 1130.1 unplugged and LR 1160.1 unplugged extend the range of crawler cranes from Liebherr's Nenzing, Austria facility. The electro-hydraulic drive of these new cranes has the same performance specifications as the



The LB 30 unplugged drilling rig (above) and LR 1130.1 unplugged crawler crane (below).

conventional version. Both versions are operated in the same way, which is highly practical if the crane driver often has to change between machines in one fleet.

The capacity of the battery is designed for an average lifting operation of 8 hours. Alternatively, the main boom with luffing jib can be completely erected. The battery can be recharged within only 2.5 to 4.5 hours. As an option, the performance can be increased by 20 to 60% using additional batteries.

In idling mode, the sound pressure level of three unplugged cranes is equivalent to that of a normal conversation on the jobsite. This corresponds to a value of only 60 dB(A). If it is taken into account that a crawler crane is in idling mode for 60% of the time on the jobsite, this low noise level is an advantage with great resonance.

The latest system is the Gradient Travel Aid for safe negotiation of slopes and inclines. The crane's control system automatically calculates the centre of gravity and warns the operator before the crane leaves the safe area. While travelling, the operator receives information about the permissible and actual gradient, and the crane's overall centre of gravity at all times. ■

Website: www.liebherr.com

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Ammann brings recycling technology to central China

Henan Guanpu Construction Engineering Co Ltd has become an asphalt recycling technology pioneer in central China.

Three years ago, the company purchased an Ammann ABP 320 HRT (high recycling technology) asphalt batching plant. The unit was selected because of its low emissions, high efficiency, consistency and ability to produce mix with high ratios of recycled asphalt (RAP).

The ABP 320 HRT is supporting the construction of new roads, and the renovation of old, in Zhengzhou, the capital of Henan province. The long-term goal is to help Zhengzhou become the largest national city in central China.

After starting production in 2020, the plant quickly drew attention with its outstanding performance. In about a year's time, it supplied 180,000 t of high-quality asphalt mix for highway and municipal projects in Zhengzhou.

According to Ammann, the Henan Guanpu ownership group has praised the quality of the finished material and the high stability, reliability and environmental friendliness of the plant. The ABP 320 HRT is also fully clad, providing pleasing aesthetics in addition to top-quality asphalt.

The standard mix produced contains a high percentage of RAP. Roads created with a proper ratio of RAP meet all performance requirements while re-using old materials. RAP is increasingly being used in Beijing, Shanghai, Tianjin and other locations.

Zhengzhou resides in the middle of China. The Beijing-Hong Kong-Macau Expressway connects north and south, the Lianhuo Expressway connects east to west, and four national and nine provincial highways connect to the surrounding cities. In fact, the central city cluster has one of the denser expressway networks in all of China. The city has attracted 41 Fortune 500 companies and seen a population boom, with more than 12.6 million residents in 2020.

Traffic on arterial and urban roads has become heavier as Zhengzhou's population has climbed. As a result, many roads need to be built, overhauled or upgraded every year. A great deal of resources can be preserved if thousands of tonnes of asphalt are recycled – protecting the environment and reducing construction costs, too.

The parent company of Henan Guanpu is Zhengzhou Jinlu Municipal Engineering Co. The latter's project portfolio includes Zhengzhou Shangcheng Road, Xili Road, Jingqi Road, Zheng San Street, Sauling Road and Rainwater Improvement Project, Xinhe Road and many more. ■

Website: www.ammann.com



TOP AND ABOVE: Ammann ABP 320 HRT asphalt batching plant is working for Henan Guanpu Construction Engineering in central China. The unit supports various road projects in Zhengzhou, the capital of Henan province.



RIGHT: The ABP 320 HRT plant delivers low emissions, high efficiency, consistency, and the ability to produce mix with high ratios of recycled asphalt (RAP).

Dingli aerial work platforms take part in global projects

Dingli aerial work platforms (AWPs) have been used in a wide range of construction projects globally, including high-speed railway stations, airports, large facilities, rail transports and urban developments, to name a few.

In Southeast Asia, for example, Dingli AWP have been involved in the expansion of Suvarnabhumi International Airport in Bangkok, Thailand, and a variety of other projects.

According to Dingli, the penetration rate of its equipment in various international construction projects “has been increasing, and the market response of new energy aerial work platform is getting better and better.”

In the industrial sector, Dingli electric equipment has recently been selected by Sharp Aviation K, one of the largest airline service companies in South Korea.

Sharp Aviation K, which provides aircraft maintenance services, has cooperation with eight airports and 11 major airlines in South Korea. The company chose the zero-emission AWP from Dingli to fulfill its sustainability commitments.

Jackie Han, sales director of Asia Pacific region at Dingli, said, “At present, the first batch of new energy aerial work platforms mainly contains modular electric booms, large electric scissors and dozens of small scissors, and we will provide new energy equipment with more complete working height coverage in the future.”

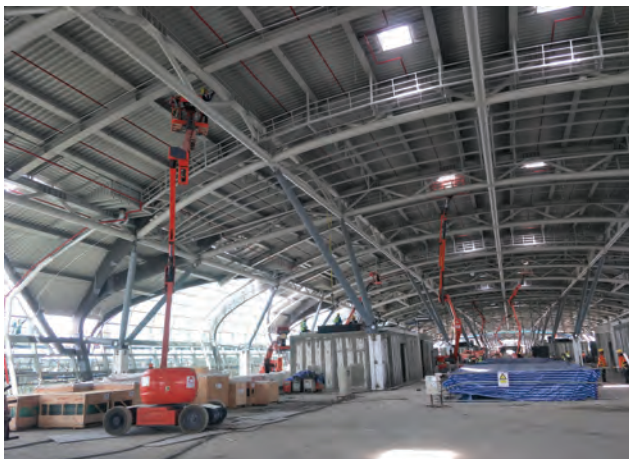
Dingli further emphasised that its “noiseless, zero-emission green footprint will continue to expand worldwide.” ■

Website: <https://en.cndingli.com>



ABOVE AND BELOW LEFT: Dingli’s aerial work platforms being used on the Suvarnabhumi International Airport project in Bangkok, Thailand.

BOTTOM LEFT: In recent years, Dingli has carried out major efforts to electrify its full range of machines. This ‘green’ portfolio will continue to be expanded worldwide.





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Doka UniKit: Smart infrastructure solutions



Doka UniKit is a modular shoring system suitable for small and large infrastructure projects, such as bridges, tunnels and power plants. The system can be individually adapted to meet customer needs and saves both time and manpower. It includes several elements that can be optimally combined: the primary and secondary beam, the 480 tower and the 1250 truss.

The coupleable UniKit primary and secondary beams are perfect all-rounders when it comes to high load capacity and safe load transfer on the construction site – not only in terms

of height, but also span width. They are made with higher steel grades compared to other similar products, which means that fewer beams are required, even for extremely high loads. This ensures greater access possibilities and shorter crane times. It also means that less space is needed on the construction site for pre-assembly or storing materials.

The UniKit 480 tower can support almost anything. With a load capacity of 480 kN/leg, it is able to handle highly challenging shoring construction in infrastructure projects. Additionally, spans



The 480 load tower is a perfect solution for transferring high loads in civil engineering.



The connectable beams offer high load-bearing capacity and free up space on the jobsite.



The 1250 truss can be used for spans from 15 to 21 m.



of 15 to 21 m can be easily achieved with the 1250 truss. The components of the tower and the truss can be connected using an innovative plug & play system. Where once laborious and time-consuming screw connections were necessary, now a 6-pin plug enables the components to be connected quickly and securely.

The modular UniKit system is both economical and sustainable. For one, its standard elements can be rented, thus lowering investment costs for users. It also offers an advantage in terms of sustainability since all the parts can be reused. Furthermore, reducing the number of interfaces minimises the time and effort involved in coordinating between different suppliers. ■

Website: www.doka.com

OPPOSITE AND LEFT: The UniKit system is ideal for infrastructure projects, such as bridges, tunnels and power plants. It has several versatile standard elements that can be optimally combined, including the primary and secondary beam, the 480 tower and the 1250 truss.

Hyundai unveils its first articulated haulers



Hyundai Construction Equipment is entering the articulated dump truck market with two models, the HA30A and HA45A, featuring rated payloads of 28 t and 41 t respectively. The machines are built around a full-time six-wheel drive concept, with front and rear limited slip differentials and a longitudinal differential that can be manually locked, for maximum drive and traction on difficult terrain.

The trucks have a compact chassis design, to aid manoeuvrability, with a sloping rear frame and a front-mounted differential integrated into the ZF transmission, allowing for a shorter front frame section. This results in the smallest turning radius in the sector and outstanding stability. Self-levelling hydro-gas suspension on the front axle further supports a comfortable ride, delivering maximum tractability in tough ground conditions.

The turning ring is mounted in front of the chassis articulation point, resulting in an equal weight distribution to the front wheels in all driving situations, for increased stability and traction. Having equal weight distribution allows the operator to use the limited slip differentials with just a 45° locking value, maintaining drive to both front wheels even when steering.





ALL IMAGES:
The new
Hyundai
articulated
haulers include
the HA30A and
HA45A, with
rated payloads
of 28 t and 41 t
respectively.

The two-rear axles employ a tandem bogie drive design, with a single central differential and twin internal gear drives on each side of the truck. These tandem reduction gearboxes rotate in total by almost 40°, allowing maximum oscillation of the rear axles to maintain ground contact on rough terrain. The single central differential increases ground clearance beneath the truck.

The HA30A and HA45A are equipped with a full hydraulic retarder, combined with an electronic engine brake as standard. This supports the oil-cooled wet disc brakes to achieve an extended service lifetime of up to 15,000 hours. A hydraulically-activated mechanical parking brake holds the machine when stationary. The trucks are supplied with a gradient meter, with flip-over protection and a Body Over Centre of Gravity function, to assist drivers when tipping and operating on rough terrain.

The sloping rear chassis section evenly spreads the load between the front and rear axles. The HA30A has a 16.8 cu m heaped body capacity, which rises to 17.8 cu m with a tailgate fitted. The larger HA45A offers a 24.4 cu m heaped capacity, rising to 26.0 cu m with a tailgate. Both dump bodies can be optionally heated by the engine exhaust gases, to prevent freezing and sticking of materials when operating in colder temperatures. Internal wear plates are available as an option for hard rock use.

Proven powertrain

Hyundai has employed the EU Stage V-compliant Scania diesel engines to power both trucks. The HA30A uses a five-cylinder, 9.3-l DC9 turbocharged diesel, developing 276 kW and 1,876 Nm of torque. The larger HA45A employs a six-cylinder, 12.7-l DC13

diesel engine, producing a maximum 368 kW and 2,476 Nm of torque.

Both engines drive through eight-speed ZF automatic transmissions, with integrated retarders. The torque converter has lock-up in all gears, reducing fuel consumption and increasing efficiency. Fuel, AdBlue diesel engine exhaust fluid and a standard auto-lube greasing system can all be easily accessed from ground level, for improved site safety. The engine canopy tilts forward for access to filters and fill points, while the complete cab structure can also be tilted towards the rear of the truck, to provide access for repair and maintenance.

Hyundai's Himate telematic monitoring system is standard, with satellite and GSM connectivity, to reach the most inaccessible construction and mining sites across the world. This allows customers to remotely monitor productivity, fuel consumption, system warning and maintenance status, reducing unplanned downtime and improving fleet utilisation.

Comfort and protection

The Hyundai ADT has an ROPS/FOPS cab, featuring an ergonomic layout to the controls, which are easily reached from the air-suspended operator's seat. The specification includes an MP3 and Bluetooth-compatible radio, USB charger, all-round safety rails and a foot rest. There is plenty of storage around the cab interior, with room for an optional cool/hot box and 12-V power sockets for operator phones and other accessories. Full cab climate control is standard on both models and the cab boasts an internal sound level of just 72 dB(A), for maximum comfort throughout the working day.

The sloping bonnet provides an excellent view to the front of the truck and there are

sliding side windows with hand rails to the side of the seat. A comprehensive monitor panel provides an integrated payload meter, to prevent overloading and to record productivity. Diagnostic functions are included within the monitoring system and the operator can remotely check hydraulic and transmission oil levels from the cab. A gradient meter ensures that the truck is driven safely within its limits, while an integrated rear-view camera and large mirrors provide excellent all-round visibility, when reversing under an excavator or into the tipping area.

Designed primarily for major earthmoving and muckshifting projects, highways construction and mine and quarry operations, Hyundai's articulated haulers provide maximum drive and traction in the worst site conditions, maintaining all-year round productivity for the customer. The two machines are the first visible sign of the new cooperation between Hyundai Construction Equipment Europe (HCEE) and Hyundai Doosan Infracore (HDI), since the purchase of the Doosan business last year by Hyundai Heavy Industries Group. HCEE and HDI now operate as separate divisions within Hyundai Genuine, maintaining their independent management and dealer network structures.

Further technological integration will create natural synergies between the two companies, in research and development, design, engineering, procurement and manufacturing, boosting profitability for the group. The two companies will develop integrated platforms for excavators and wheeled loaders, while their individual sales power will be strengthened, through the marketing of complementary equipment. ■

Website: www.hyundai-ce.com

Haulotte enters low-level access equipment market



Haulotte has expanded into low-level access equipment segment, offering seven models designed for working below a 6 m height. Compact and lightweight, they are ideal for space-restricted jobsites and sensitive flooring.

These new machines provide a safe and effective alternative to ladders and scaffolding, featuring enhanced productivity and more convenient working conditions. They can be used indoors for maintenance applications, renovation, warehousing or fit out and finishing work.

The Move Up vertical mast range has two push-around models (push-around and electric lifting), delivering a maximum working height of 4.6 m and 5.6 m respectively.

The Swift Up scissor lift range is available in a push-around version (working height of 3.8 m or 4.5 m). The self-propelled version (electric drive and elevation) is named Swift Up SP and has a maximum working height of 4.5 m, 5 m or 5.9 m according to the model.

“As a promoter of safe and valuable working at height solutions, we have been following the evolution of this segment of the aerial industry for several years. Today, we are pleased to present a complete range of low-level access lifts, perfectly adapted to our customers’ needs,” said Remi Heidelberger, marketing manager at Haulotte.

Higher productivity

Low-level access lifts increase operators’ productivity, as they allow work at heights more quickly and efficiently than with mechanical methods like ladders and scaffolding, explained Haulotte.

The Move Up, Swift Up and Swift Up SP models are ready to use in just a few seconds. They require no assembly/disassembly time compared to traditional forms of access and enable users to quickly reach the work area. The self-propelled version can move while raised, allowing faster movement to the next task.

Easily transportable, this low-level access equipment can be loaded directly into a van or pick-up truck using the dedicated forklift pockets. With a small footprint, the machines suit all indoor projects.

Their compact size (maximum width of 75 cm) makes it easy to navigate through confined spaces, such as narrow store aisles, data centres, open-plan offices or warehouses, without damaging the working environment.

Their narrow turning radius enables tight manoeuvres without difficulty. The machines easily fit into elevators and pass comfortably through a standard single doorway.

Haulotte’s low-level access lifts are designed to work in low floor-load areas such as hotels, gymnasiums and theatres.



Lightweight and equipped with non-marking wheels, they are perfectly adapted to sensitive floors, like carpet, wood floor, marble and tiles.

The machines' robust platform can carry a load from 159 to 240 kg depending on the model. Their excellent stability allows a 360° range of motion.

Greater safety and comfort

Haulotte further highlighted that its low-level access platforms not only improve productivity, but also operator well-being and safety while working at height.

By providing an ergonomic working position, the access platforms help lower the risk for musculoskeletal disorders on the jobsite. The equipment also avoids wasteful and exhausting motion; it reduces the worker fatigue associated with repetitive climbing up and down. Plus, it ensures that the operator is always working at the right height.

For extra safety, the stable, anti-slip and fully guarded platform reduces the risk of injury and falls. The wheel lock system prevents unintentional movement while the worker is on the platform and the tilt sensor alarm ensures safe lifting.

These new Haulotte low-level access platforms are equipped with intuitive controls for ease of use. They are designed for one-person indoor operation.

"Our range of low-level access solutions guarantees user-friendly operation, whatever the job to be done. The AGM batteries and easily accessible components ensure minimal maintenance and operating costs," said Eloïse Guillet, marketing product manager at Haulotte.

All of the models are available in Europe (except Russia and



ALL IMAGES: Haulotte's new low-level access lifts consist of seven models, designed for working below a 6 m height. They can be used indoors for maintenance applications, renovation, warehousing or fit out and finishing work.

the UK), Asia Pacific (except Korea), and South American countries (only the Swift Up SP self-propelled scissors). ■

Website: www.haulotte.com



Road Smart



TOP AND ABOVE: An Ammann AFW 500 asphalt paver works at widths up to 5 m, helping NDE Readymix to deliver the project on time.

A major road expansion project is currently underway in Bangladesh, linking Feni to Noakhali. Feni is the only connection between the area's key tourist destinations and other important districts. Noakhali is a coastal district that produces major crops such as paddy, soybeans, peanuts and a variety of vegetables.

This 17.6-km stretch of road is being carried out by NDE Readymix Concrete, one of the biggest suppliers of ready-mix concrete and asphalt in the country. The company, headquartered in Banani, in the capital Dhaka, serves highway departments and municipalities.

To help deliver the job, the NDE team has selected Ammann equipment consisting of an ABC 120 EcoTec asphalt plant and an AFW 500 wheeled asphalt paver.

"Road connectivity is important between Feni and Noakhali for trade and commerce and agricultural production," said Shak Md. Rejaul Karim, AGM (EME) of electro mechanical engineering at NDE Readymix.

The project calls for resurfacing two lanes of existing highway, plus adding two more lanes. The scope includes earthwork, soil compaction and paving.

Ammann equipment is familiar to the NDE team. "We have been using an Apollo drum-mix plant for seven years and it is still working well," said Mr Karim. The company has also been utilising 15 Ammann and Apollo pavers.



ABOVE AND BOTTOM: An Ammann ABC 120 EcoTec asphalt plant is designed for ease of operation and maintenance. NDE Readymix uses the standard plant configuration, which has served the company well.

Producing asphalt mix for the project, the Ammann ABC 120 EcoTec plant is "easy to operate and maintain," said Mr Karim. "The control system layout is very user friendly, even for inexperienced operators."

NDE Readymix chose the standard plant configuration, which has served the company well. "The simplicity of design is what we like the most about this plant," noted Mr Karim. "The filler elevator being integrated in the tower leg allows for a smaller footprint, too."

When it's time to pave, NDE Readymix puts the Ammann AFW 500 wheeled asphalt paver to work at widths up to 5 m. "The paver has helped us on multiple jobsites," revealed Mr Karim. "We have

used this paver on four different sites since its delivery, and it has been meeting our expectations and the varying working conditions."

The paver's instrument panel is well-designed and features advantageous components, according to Mr Karim. "The user-friendly dashboard colour display includes the important parameters, and we found that very useful."

Both the plant and the paver are helping NDE Readymix achieve all project deadlines. "We feel proud doing every single project because we are part of building the important national infrastructure," said Mr Karim. ■

Website: www.ammann.com





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Restoring *Raffles Hotel*

The Raffles Hotel is Singapore's oldest and most iconic hotel. Named after the founder of modern Singapore, Sir Stamford Raffles, it was opened in 1887 and has gained both local and international recognition.

The building reflects a Neo-Renaissance architecture with tropical touches, such as high ceilings, extensive verandahs, electric lights and powered ceiling – this was considered a first for any hotel in the region back in the 19th century.

In 1987, the hotel was declared a national monument by the Singapore Government and underwent two restoration works in its 132 years: in 1989 and 2017.

The latest restoration work aimed to infuse technology for modern conveniences and update the interior while ensuring its unique historic charm would be preserved.

Three new suite categories increased the hotel's current suite count from 103 to 115. The other nine suite categories were upgraded as well. More than 30 retail, dining and lifestyle brands were revamped and opened.



TOP AND ABOVE: The latest restoration work aimed to infuse technology for modern conveniences and update the interior while ensuring the hotel's unique historic charm would be preserved.



The masonry walls of the hotel were restored with products from the Mapei-Antique line. Several stone and marble floors in the hotel were renovated using Mapei adhesives and grouts for joints.

New restaurants were introduced. The former Jubilee Hall was converted into a 300-guest ballroom for weddings and events. The interior now has a new marble floor in the lobby and walkways.

Restoring facades and masonry structures

Mapei Far East, the local subsidiary of Mapei Group, was engaged to help restore the building's structure. The company collaborated with restoration consultant Maek Consulting Pte Ltd, main contractor Sunray Woodcraft Construction Pte Ltd (in charge of the structure and facades restoration), and subcontractor PQ Builders Pte Ltd (in charge of artisan works on the balustrades and columns).

The paint on the masonry structure and facades was carefully stripped back by hand to minimise damage and existing plasters were removed to the brick surface.

For the first phase of restoring old brickwork, Mapei-Antique Allettamento salt-resistant masonry mortar was applied to fill in the cavities in between the bricks to create a solid foundation. The Mapei-Antique F21 super-fluid, salt-resistant cement-free hydraulic binder was injected to fill up cavities and consolidate masonry in the old wing.

For brickwork without cavities, a different product system was chosen, made up of Mapei-Antique Rinzafo cement-free scratch-coat, Mapei-Antique MC macroporous de-humidifying render and



Mapei-Antique MC was applied for built-up thickness.



Mapei-Antique FC was applied to give a smooth finishing.



LEFT: The balustrades were restored using Mape-Antique Intonaco NHL base render, which is ideal for application on masonry in historic buildings.

BOTTOM: The external walkway and courtyard were covered with granite installed by using Keraflex Maxi S1 adhesive and Keracolor GG grout.

Mape-Antique FC Civile transpirant skimming mortar for a smooth finishing coat.

For the washroom areas, two layers of Mape-Antique Strutturale NHL mortar for breathable render, reinforced with Mapenet 150 fibre glass mesh, were applied to consolidate the masonry. This system was proposed as it required a resistant, mechanically strong solution to hold the ceramic tile covering in place.

The restoration of the hybrid brick structures within the hotel required the application of Mape-Antique Intonaco NHL transpirant base render based on natural hydraulic lime and

Eco-Pozzolan. The same product, which is ideal for use in existing masonry buildings, including those of historical interest, was also used for patching artisan works/decorative motifs and balustrades.

Renovating stone coverings

Furthermore, Mapei adhesives and grouts for joints were used to renovate stone coverings in several areas of the hotel. In the main lobby and walkway, new white marble floors were installed with Keraquick S1 and joints were grouted with Keracolor SF.

In the bathrooms, the Kerabond T+ Isolastic system was applied to install marble on the walls and floors before joints were grouted with Keracolor SF. The kitchen's floor and wall coverings were installed with Keraflex adhesive while Kerapoxy epoxy grout was selected for the joints, considering that the environment is exposed to foods and variant thermal temperature and subjected to frequent washing.

The white marble floor at the staircases situated along the perimeter of the hotel was installed with Keraflex Maxi S1 and joints were grouted with Keracolor FF. The external walkway and courtyard were covered with granite using Keraflex Maxi S1 and joints were grouted with Keracolor GG.

After a two-year revamp, the hotel was reopened in August 2019. This project has won the AHEAD Asia award, the hospitality awards programme celebrating hotel design. ■

Website: www.mapei.com.sg



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Philippines calling



With the construction sector in the Philippines predicted to grow by 16.1% during 2022, following a strong recovery of over 12% in 2021, Eurotec concrete batching plants from Lintec & Linnhoff have been a popular choice for construction projects.

Contractors and concrete producers in the north of the country, in particular, have been working on a variety of major projects throughout the recent growth period. Under the national government’s Build Build Build programme, PHP1.18 trillion (US\$2.252 billion) has been allocated to the improvement of infrastructure in 2022, raising expectations of a minimum 10% annual growth rate until 2025.

Ready for take-off

A Eurotec PTT120 portable concrete batching plant has been deployed on a challenging two-year project, producing high-quality ready-mix concrete at the Manila International Airport.

Because the project site was close to the airport runways, all equipment had to comply with Manila International Airport Authority’s requirements. In the event of a security or safety threat, any plant on site must be able to be relocated at short notice.

Even though the PTT120 is the largest model in the PTT/PTP range, with an impressive 120 cu m/hr output capacity, its completely modular design and construction lends itself to being quickly and easily disassembled before being economically transported to another location, ensuring compliance with the edict.



TOP: A Eurotec PTT120 plant produced high-quality concrete for a two-year project at the Manila International Airport. This unit is designed in modules for enhanced portability and easy transportation.

ABOVE: A Eurotec ECT90 plant being used on a power plant project in Quezon. This unit is equipped with a highly efficient electric motor to reduce energy consumption and deliver superior performance.

Approximately 110 km to the northwest, in Pampanga province, a Eurotec PTT90 – the second-largest model in the range – is being used to supply large volumes of ready-mix concrete to contractors working on various commercial projects, including the construction of a manufacturing facility in the Clark Freeport Zone, and building projects in San Fernando city.

Delivering an output of 90 cu m/hr, its highly productive twin-shaft mixer design was a prime attraction for the customer. As

on the PTT120, the mixer has a two-stage planetary gearbox for strong, equal torque and low heat generation. Manufactured in Italy, the mixer delivers a rigorous mixing intensity that enables large-volume production.

“The superb reliability offered by this design was a key factor in our customer’s purchasing decision,” said R. Sakthi, CEO of Lintec & Linnhoff Concrete Pte Ltd. “This customer already owns several other Eurotec concrete plants, which is a testament to their satisfaction with the brand, and their trust in its quality and durability.”

Compact and modular

In two provinces close to Manila, suppliers are relying heavily on Eurotec’s Ecotec ECT60 portable batching plants to produce ready-mix concrete for commercial sales to local contractors, leveraging the compact, modular design that makes them a popular choice for smaller jobsites.

To the west, in the municipality of Mariveles, Bataan province, one Eurotec customer installed its ECT60 on the site of a 450-ha residential and commercial development that is set for completion later this year. To the south, in San Pascual, Batangas, a plant was installed in 2019 to supply nearby commercial projects.

With their 60 cu m/hr output capacity, these compact plants offer convenience from start to finish. Transportation is both easy and economical; after arriving onsite, they can be quickly installed as they need little or no foundation. Two-sided aggregate bins, in a quadrant design, enable materials to be loaded effortlessly, with minimal or no loading ramps.

The same can be said of the Eurotec ECT90 – which is being used for the production of high-quality ready-mix concrete for the construction of the country’s first ultra-supercritical coal-fired power plant, at Barangay Villa Ibaba, near the town of Atimonan, Quezon province. Certified as an Energy Project of National Significance (EPNS), work on the US\$3 billion Atimonan One Energy Inc., (A1E) 2 x 600 MW plant began in September 2020.

With the aim of providing a stable, reliable and cost-competitive power supply, the plant will be the most efficient coal-powered facility in the country. In accordance with the sustainable objective of MGen, the power generation arm of the Philippines’ largest power distributor, the concrete plant was equipped with a highly efficient electric motor to reduce energy consumption throughout its 90 cu m/hr production cycle.

One customer in Batangas has been using the ECO90 stationary concrete batching plant to supply up to 90 cu m/hr of ready-mix concrete for its own projects, as well as for those of other construction companies, since 2020. “Our customer purchased this unit after recommendations from another owner about the reliable customer support provided by Lintec & Linnhoff,” said Mr Sakthi. “Almost two years later, they’re now just as enthusiastic about the reliability, efficiency and quality of



ABOVE: In Batangas, a Eurotec ECO90 plant has been supplying up to 90 cu m/hr of ready-mix concrete for commercial projects.

LEFT: In Laguna, a Eurotec PTT120 plant will be providing ready-mix concrete for commercial projects such as roads, residential and commercial buildings, and highway projects.

our concrete production!”

Designed with simplicity and functionality first and foremost, this affordable solution offers no compromise in the quality of concrete production, and is ideal for customers who demand the most cost-effective batching plant for high-quality concrete production.

Building Laguna

As the province of Laguna prepares itself for a spate of long-awaited infrastructure projects beginning over the next year or two, one concrete supplier in Calamba city has recently finished the installation of a Eurotec PTT120 portable concrete batching plant to meet the expected increase in demand for its services.

Known as the Spring Resort Capital of the Philippines due to its many hot spring resorts, Laguna is likely to enjoy an even-greater influx of tourists once several major transport projects have been completed. Ready-mix concrete produced from the Eurotec PTT120 plant will be used for commercial projects including roads, residential and commercial buildings, and highway projects.

With so much potential work on the horizon, the Eurotec concrete plants throughout the country are set for a challenging decade. “But we are confident they can handle whatever the Philippines demands of them,” concluded Lintec & Linnhoff. ■

Website: www.lintec-linnhoff.com

Towering over Singapore



Two Liebherr 710 HC-L luffing jib cranes working on the Central Boulevard Towers.

The Central Boulevard Towers in Singapore are currently under construction. Located in the city centre, near the popular Lau Pa Sat food market, the development will have two office towers of 16 and 48 storeys. One of the highlights is an urban ‘sky park’ with green spaces. Small recesses are to be incorporated into the greenery as meeting areas, and the park will also include a jogging track

In this project, two new Liebherr 710 HC-L 32/64 luffing jib cranes are helping to build the 48-storey tower. These units, with jib lengths of 40 and 45 m, were put into operation in November 2020.

According to Liebherr, what makes the project “a world first” is that, for the first time ever, the 710 HC-L cranes are using a 24 HC 1000 tower system to climb inside the building.

Fewer climbing stages, less downtime

Both cranes will reach their maximum tower height of 245 m in just 10 climbing stages. This is made possible by a 57-m-high tower.

“The number of times a crane has to climb impacts how long the downtime is for customers,” said Liebherr Tower Cranes project manager Eric Konijn, stressing the advantages of this solution. “We were able to offer our customer a solution with 10 climbing stages, which saves them valuable time and consequently money.”

Liebherr revealed that one climbing stage takes about two hours, so the cranes stand still for as short a time as possible. In addition, there are significantly fewer storeys to reinforce, which also has a positive impact on cost efficiency.

Due to the amount of guying that is legally required, and the resulting significantly increased costs, having the cranes climb completely on the outside of the building wasn’t a viable option. Plus, there isn’t enough space on site to use exterior climbing cranes.

The high-performance Liebherr 710 HC-L was chosen because of the tight conditions on site, and the project’s heavy load and handling capacity requirements. This model features a maximum lifting capacity of 64 t and is the largest luffing jib crane from Liebherr. It can easily lift and precisely position the precast concrete parts, weighing up to 30 t, which are needed for the skyscraper’s construction.

When completed, the 48-storey tower – where the Liebherr 710 HC-Ls are in use – will accommodate office and retail space. The two luffing jib cranes will be working on this site, which borders on high-traffic roads, for several more months. They will continue to climb skywards section by section. ■

Website: www.liebherr.com

The development will have two office towers of 16 and 48 storeys. For the first time ever, the Liebherr 710 HC-L cranes are using a 24 HC 1000 tower system to climb within the structure due to tight conditions on site.





TAIPEI

A new world-class art capital

Inspired by a traditional Chinese wood block puzzle, the new Taipei Performing Arts Centre (TPAC) has recently opened to the public. This iconic landmark was built to meet the demands of the city's contemporary art scene and advance Taipei as a world-class art capital.

Designed by OMA (Office for Metropolitan Architecture), for Taipei City Government's Department of Cultural Affairs, the new 58,000 sq m complex features three theatres plugged into a central cube-shaped building that contains backstage areas, foyers, front-of-house and support facilities.

The three theatres – a 1,500-seat grand theatre, an 800-seat Blue Box multi-form theatre, and an 800-seat Globe Playhouse – can be used independently or combined when necessary.

Arup was commissioned to provide structural engineering, mechanical engineering, sustainable building design, computational fluid dynamics (CFD) and fire engineering services for the project.

"To give freedom for architectural planning of the theatres and other large spaces, we turned the faces of the cube into a stiff braced steel box carrying the building's lateral loads and much of the gravity force," revealed Arup. "The cube works in conjunction with columns beneath the auditoria to support and stabilise the three projecting volumes."



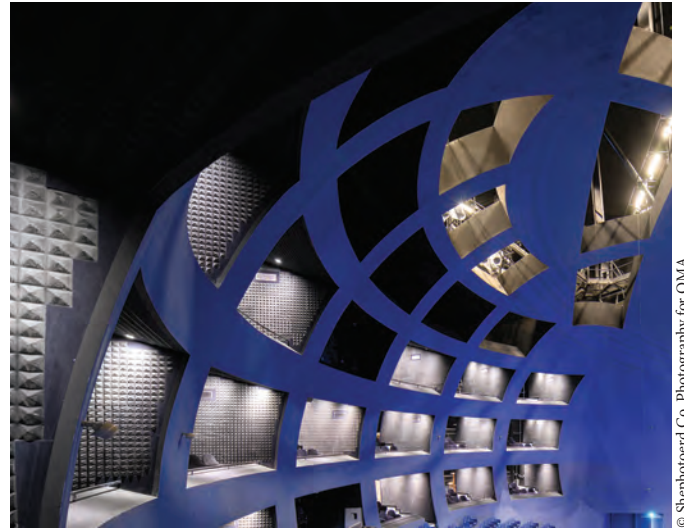


The newly opened Taipei Performing Arts Centre features three theatres plugged into a central cube-shaped building.

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In the ellipsoidal Globe Playhouse, the 26-m cantilevering volume is framed by a three-dimensional space truss.



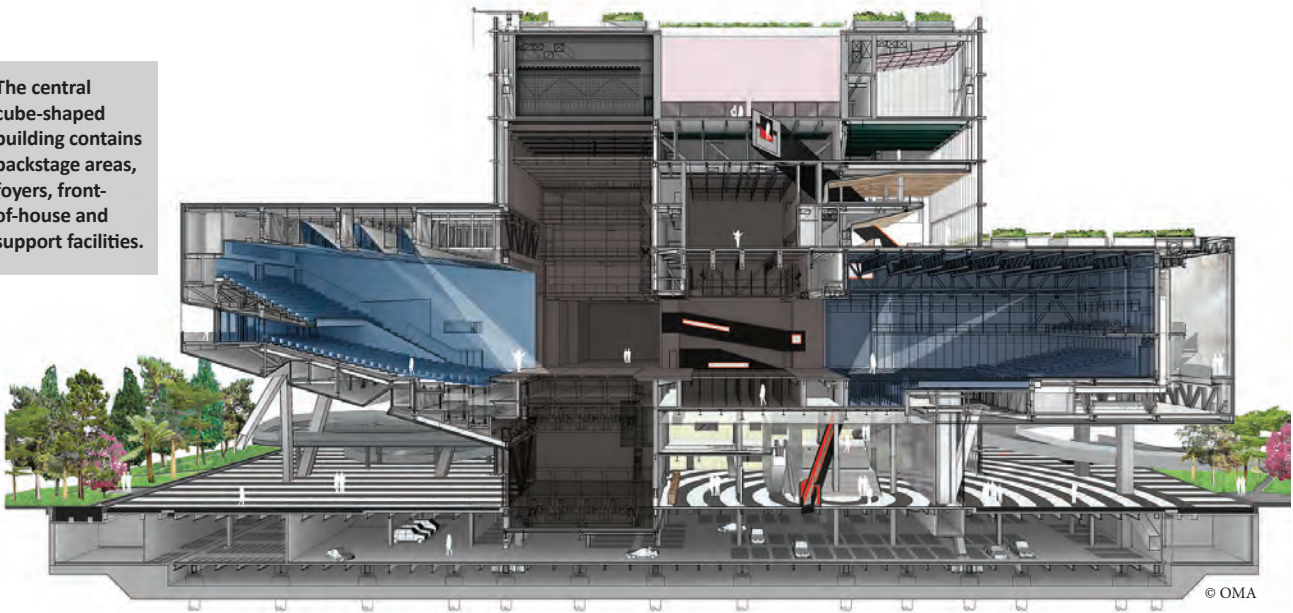
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The Globe Playhouse auditorium.



© Dirk Heindoerfer

The central cube-shaped building contains backstage areas, foyers, front-of-house and support facilities.



The project is seen here during construction. Arup was commissioned to provide structural engineering, mechanical engineering, sustainable building design, computational fluid dynamics (CFD) and fire engineering services.



Resilient structural system

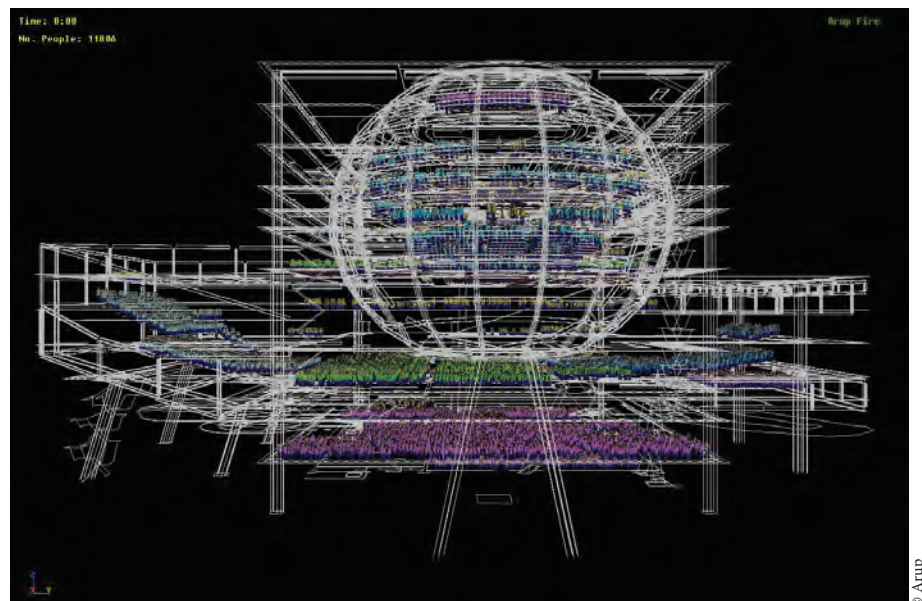
Due to Taipei's high seismicity, Arup said the whole superstructure is base-isolated to attenuate the transmission of ground motions into the building, reducing the forces experienced by the structure and finishes by over 60% and enabling structural element sizes to be decreased and detailing simplified. With the first use of friction pendulum isolators in Taiwan, the structural system realised the most economic and resilient building possible for the location.

The three theatres are supported on their projecting columns via networks of trusses, added Arup. In the ellipsoidal Globe Playhouse, the 26-m cantilevering volume is framed by a three-dimensional

space truss occupying the space between the auditorium and outer shell, supported on the cube perimeter structure as well as the flying V-column. Balconies, circulation routes and servicing are threaded in between the truss elements.

Fire safety design

Arup pointed out that the architectural design of the transformable theatre space posed major challenges to fire engineering and ventilation. The myriad variations in stage and seating layouts of the 'super theatre' configuration, in which the two main theatres are connected to create a giant auditorium with a 60-m-long central stage, made it difficult to be fully compliant

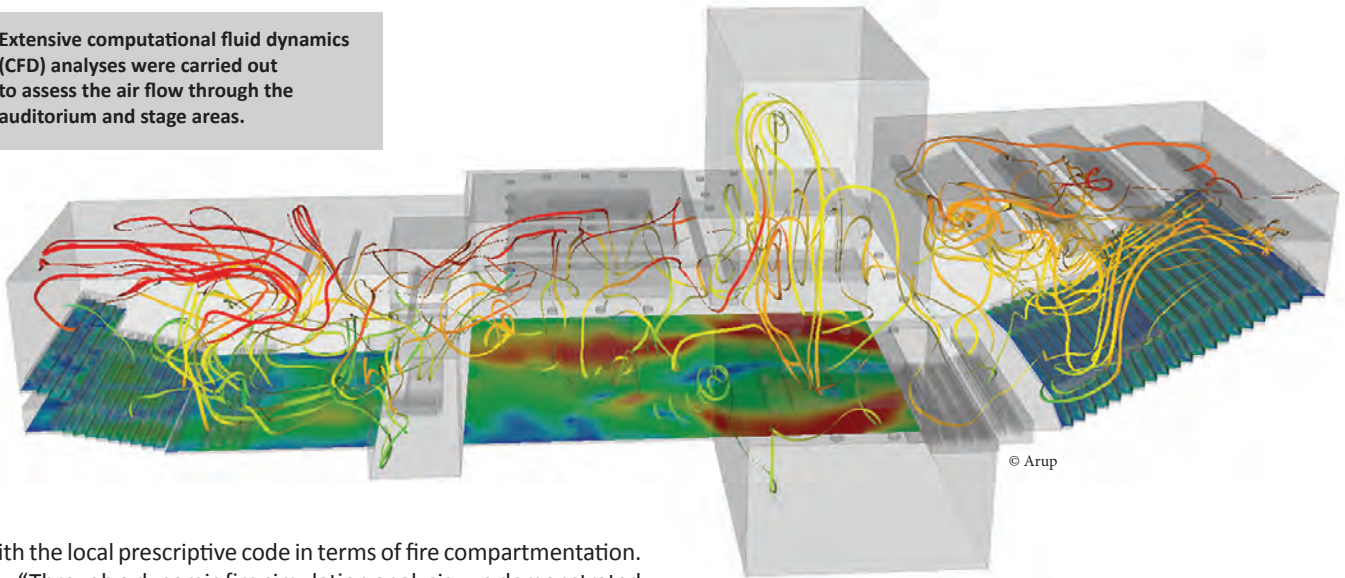


Through a dynamic fire simulation analysis, Arup demonstrated that regardless of the theatre configuration, the building could be evacuated safely in the event of a fire without conventional fire separation methods such as enclosing the central stage area with fire shutters.

View through the corrugated facade. Base isolation enabled the unique architectural form to be feasible in a highly seismic region.



Extensive computational fluid dynamics (CFD) analyses were carried out to assess the air flow through the auditorium and stage areas.



with the local prescriptive code in terms of fire compartmentation.

“Through a dynamic fire simulation analysis, we demonstrated that regardless of the theatre configuration, the building could be evacuated safely in the event of a fire without conventional fire separation methods such as enclosing the central stage area with fire shutters,” explained Arup.

“In addition, we rationalised the building escape routes to optimise the theatre seating arrangements, reduce the number and width of staircases, and extend the safe travel distance. This solution created a more open and integrated space in the building and increased the number of seats, hence providing more revenue for the client.”

With such an approach, Arup successfully convinced the authorities that its comprehensive fire strategy meets the best safety standards despite the deviations from the local code. This in turn has set a benchmark for other complex buildings in Taiwan.

Furthermore, the compact design of TPAC brings about advantages in sustainable operation, including energy efficiency, self-shading and passive design.

Arup highlighted, “To ensure our ventilation strategy would achieve optimal occupant comfort, we carried out extensive computational fluid dynamics analyses to assess the air flow through the auditorium and stage areas in their various configurations, taking into full consideration the needs of audience and performers as well as location and speed of air supplies.

“This demonstrated that satisfactory comfort could be achieved in the combined super theatre arrangement, avoiding the need to install additional ventilation equipment.” ■

Website: www.arup.com



The theatres can be used independently or as a single venue by orientating towards each other and combining many of their backstage functions.







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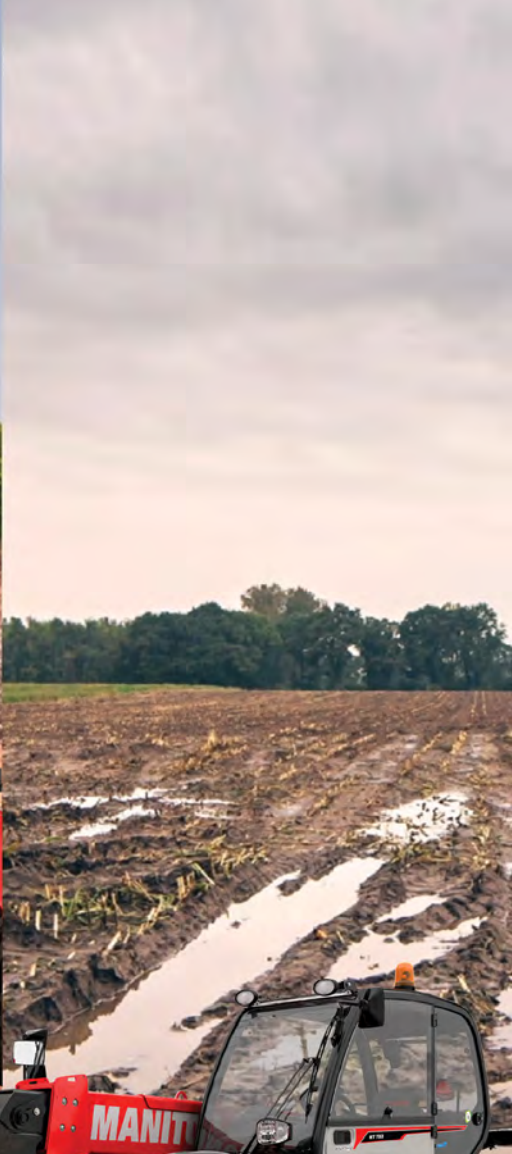
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