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NOVEMBER - DECEMBER 2022



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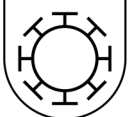
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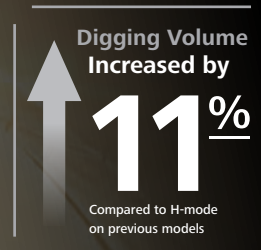
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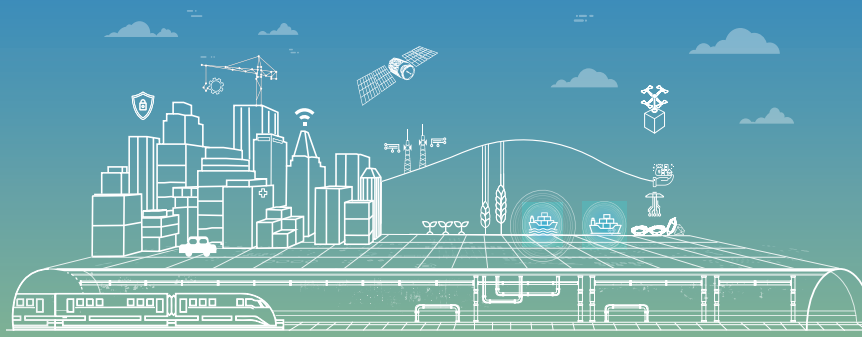
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Geo Connect Asia and Digital Construction Asia return in force in March

The 3rd edition of Geo Connect Asia on the 15th & 16th March in Singapore provides the opportunity to focus on how digital construction and geospatial-based solutions can drive productivity across the building and construction industries.

More than 100 companies will offer digital solutions, combining underground, surface and aerial technologies to assist developers, consultants, contractors, surveyors and engineers improve both their performance and connectivity across projects.

At the heart of the discussion is data, its management, storage and access, being the catalyst for operational and productivity enhancing improvements.

Digital Construction Asia, as an integral part of Geo Connect Asia, is the platform for exchange.

Drones Asia, as a co-located event, offers solutions for aerial data collection and facilities maintenance to offer cost effective methods of improving planning and operations.

In participating you will learn about the latest solutions but also be able to see how related industries are addressing similar challenges, with a focus on sustainability and resilience.



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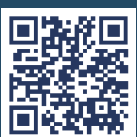


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Geo Connect Asia and Digital Construction Asia is supported across government and the private sector, with a strong focus on the ASEAN market.

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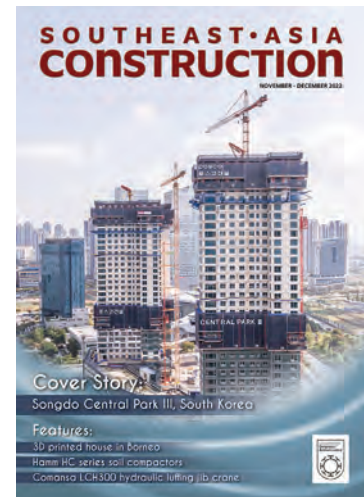
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On the cover:
Construction of Songdo Central Park III residential towers in South Korea
(page 54)

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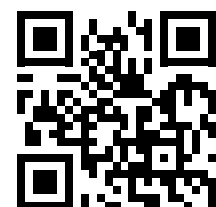
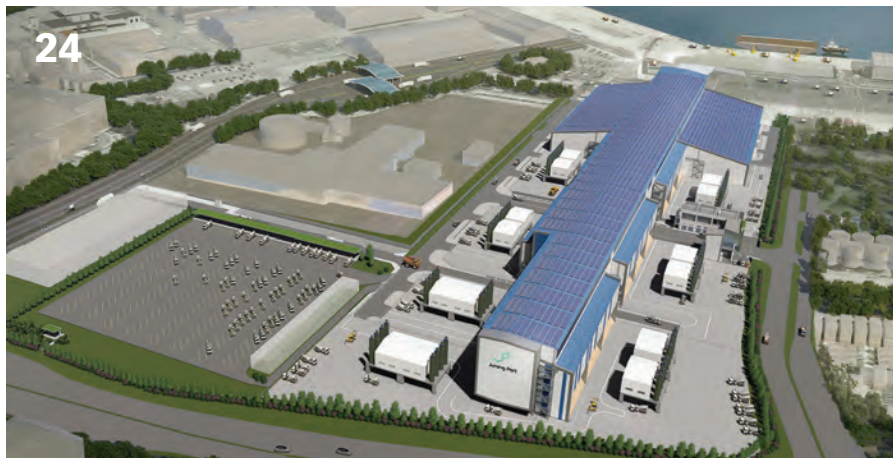
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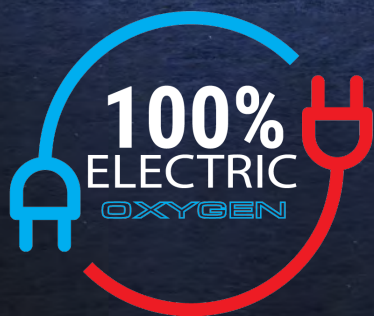
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Amata to develop new eco industrial park in Laos

Amata Corporation has entered into a concession agreement with the Government of Laos to develop a new project in the country, named Amata Smart and Eco City Namor, located in Oudomxay province.

This announcement comes just months after the developer celebrated the groundbreaking of its first project in Laos, the Amata Smart and Eco City Natuey in Luang Namtha province, in the north of the country.

The new 'city' in Namor, once completed, will cover an area of 3,150 ha. The first phase will be developed on 1,292 ha, with the support of Thai and foreign partners, said Amata. The construction of this modern, eco industrial park in the northwest of Laos is scheduled to begin in 2022.

According to Amata, the company started to cooperate and work with the Government of Laos in 2018 to develop the Amata Smart and Eco City Namor, following the concept of Amata Smart and Eco City Natuey, for which a concession agreement was signed in January this year.

Amata's goal is to invest and develop around 200 sq km of land in total in Laos. The investments are made through its fully owned subsidiary, Amata City Laos Company Limited, with an initial investment of US\$500 million.

Vikrom Kromadit, chairman and CEO of Amata Corporation PCL, has also affirmed the company's commitment to achieve the goal of developing the country's most modern and safest industrial cities. "All of Amata's projects are developed within a sustainability framework and with the business philosophy of 'All Win', aiming



The signing ceremony between Amata and the Government of Laos.

to jointly succeed and share benefits to all parties and sectors and environment, striving for an inclusive, sustainable growth," he said.

"To publicise the new projects in Laos, Amata plans to invite various global companies and organisations from government sectors, such as Yokohama Industrial City or Japan External Trade Organization (JETRO), to participate in the projects and to jointly promote them among potential investor groups.

"We want to collaborate with professional partners from various countries, in particular from Laos, Thailand, China, Japan and Singapore, to develop the various elements of Amata's smart and eco cities and to boost investment and trade between Thailand and Laos." ■

Construction of Singapore's Cross Island Line Phase 2 to start in 2023

Singapore's Land Transport Authority (LTA) has announced the alignment and station locations of the Cross Island Line Phase 2 (CRL2) from Bright Hill to Jurong Lake District.

The new rail line is approximately 15 km and comprises six underground stations – Turf City, King Albert Park, Maju, Clementi, West Coast and Jurong Lake District. It aims to improve public transport accessibility for residents living in the west of Singapore, including areas such as Sunset Way and West Coast that are not currently served by an MRT line.

Two of the six stations will be interchange stations, with King Albert Park station connecting commuters to the Downtown Line, and Clementi station to the East-West Line. Construction works are expected to begin in 2023, and the stations are slated to open by 2032.

Together with the 12 stations in CRL Phase 1 (CRL1) and four stations on CRL-Punggol Extension, CRL2 will provide alternative travel options for commuters and help to redistribute commuter load across the entire rail network, said LTA. It will also enhance connectivity for eastern, western and north-eastern areas and provide accessibility to existing and new growth areas such as West Coast and Jurong Lake District. This will help LTA achieve its target of having 8 in 10 homes within a 10-minute walk to a train station.

LTA also explained that to facilitate the construction of CRL2, three part lots of private land – consisting of two industrial units owned by JTC that are currently leased to private entities, and a

stratum of subterranean space located under part of a private land parcel – will be acquired by the government.

The Singapore Land Authority (SLA) has gazetted the acquisition of the affected land. SLA and LTA will work closely with the affected landowners and sublessees and assist them through the acquisition process.

CRL is Singapore's eighth and longest fully underground MRT line, featuring more than 50 km long. It will serve existing and future developments in the eastern, north-eastern and western corridors. The entire project will be constructed in three phases.

Announced in 2019, CRL1 is 29 km long with 12 stations from Aviation Park to Bright Hill. Since March this year, all the civil contracts for CRL1 have been awarded. Construction works have commenced and are expected to be completed by 2030.

A 7.3-km extension to CRL, which connects Pasir Ris to Punggol, was announced in 2020. This CRL-Punggol Extension consists of four stations, namely Punggol, Riviera, Elias and Pasir Ris. Construction works are expected to commence by end 2022, with completion in 2032.

According to LTA, the Environmental Impact Study and Heritage Impact Assessment for CRL2 have been completed and the reports will be published on LTA and the Urban Redevelopment Authority's (URA) respective websites for public feedback.

Meanwhile, engineering studies for CRL Phase 3 are currently ongoing, which will serve the Jurong Industrial Estate. More details will be announced after these studies are completed. ■

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Philippines and ADB sign US\$1.87 bil civil works contracts for South Commuter Railway Project

The Philippines' Department of Transportation (DOTr) has signed four civil works contracts totalling US\$1.87 billion for the South Commuter Railway Project. This project, which will lay nearly 55 km of railway segment to connect Metro Manila with Laguna province, is being financed with US\$4.3 billion in loans approved by the Asian Development Bank (ADB) in June 2022.

The South Commuter Railway Project is part of the North-South Commuter Railway (NSCR) network, which is ADB's largest infrastructure financing in Asia and the Pacific to date. The Bank is also financing construction of the Malolos-Clark Railway Project, which comprises the northern segment of the railway network.

"This project will open tremendous opportunities for economic integration across Metro Manila and neighbouring provinces and create a significant positive impact on the local economy," said Winfried Wicklein, deputy director general for Southeast Asia at ADB. "It will strengthen the country's economic recovery, create as many as 35,000 construction jobs and more than 3,000 permanent jobs during the railway operation, and improve access for residents of Laguna province to employment in Metro Manila."

When completed, the South Commuter Railway will provide affordable, safe and fast public transport, help ease road traffic congestion, and contribute to a reduction in greenhouse gas emissions in line with the Philippines' climate change agenda.

It is estimated that the project will reduce net greenhouse gas emissions by over 284,000 t of carbon dioxide annually as commuters switch from road to rail transportation. More than 600,000 passengers are expected to use the entire NSCR system daily by 2040.

Under the project, 18 elevated and at-grade stations will be built and provide safe access for all, including the elderly, women, children and people with disabilities. The South Commuter Railway will connect to the future Metro Manila Subway system and be designed to withstand typhoons and earthquakes. Travel time between Manila and Calamba using the railway will be reduced by over half, from 2.5 hours currently by road.



ABOVE AND LEFT: When completed, the South Commuter Railway will provide affordable, safe and fast public transport. It will also help ease road traffic congestion and contribute to a reduction in greenhouse gas emissions.

ADB is funding the civil works for the railway viaduct, stations, bridges, tunnels and depot buildings, while the Japan International Cooperation Agency (JICA) is funding the rolling stock and railway systems.

The project is one of the Philippines' infrastructure flagship projects (IFP). Other IFPs financed by ADB include the Metro Manila Bridges Project approved in 2021, the EDSA Greenways Project in 2020, the Angat Water Transmission Improvement Project in 2016 and additional financing in 2020, the Malolos Clark Railway Project in 2019, and the Improving Growth Corridors in Mindanao Road Sector Project in 2017. ■

LiuGong Machinery appoints TotalEnergies as lubricants supplier in Indonesia

PT LiuGong Machinery Indonesia has appointed PT TotalEnergies Marketing Indonesia as its lubricants supplier for the period of 2022-2024. The range of lubricants for LiuGong includes engine, transmission, axle and hydraulic oil, under the trade name of LiuGong Genuine Oil.

TotalEnergies has been present in Indonesia for more than 50 years. Its expansion into downstream sector in early 2003 through PT TotalEnergies Marketing Indonesia started with lubricants that were distributed nationwide.

According to TotalEnergies, its strategic vision in Indonesia is to develop an extensive network of business and contribute to the expansion of the country's economy. This involves providing consumers with superior services combined with the most advanced products developed through the company's world-class R&D technology. ■



Tu Anh Hoang (right), managing director of PT TotalEnergies Marketing Indonesia and Levi Lin, president director of PT LiuGong Machinery Indonesia celebrate the new partnership.

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Hong Kong's Oyster Bay development to proceed

Hong Kong's MTR Corporation has announced its acceptance of the government's land exchange offer for its existing depot at Siu Ho Wan and will now proceed with the proposed development named 'Oyster Bay'.

To cater for the transportation needs of the new community, MTR has also entered into a project agreement with the government for the financing, design, construction, operation and maintenance of a new Oyster Bay Station.

In the Hong Kong Chief Executive's 2020 Policy Address, the development of the Siu Ho Wan depot site was announced, which is expected to provide a total of about 20,000 public and private residential units in the medium to long term. As part of the Hong Kong community, MTR said it "strives to construct and operate a safe, reliable and highly efficient railway network, and to build communities well served by a railway service."

Upon the announcement of the 2020 Policy Address, MTR began a series of preparation work and has obtained planning permission from the Town Planning Board for the layout plan of the development. It will comprise residential, commercial, public transport interchange, as well as government, institution or community (GIC) and supporting facilities.

In order to proceed with the development of Oyster Bay, MTR applied for a land exchange for the depot conversion



LEFT: The site where the Oyster Bay development will be located. When completed, it will feature residential, commercial, public transport interchange, as well as government, institution or community (GIC) and supporting facilities.

BELOW: The new Oyster Bay Station will also be built. Construction is scheduled to commence in 2023, with completion slated for 2030.

with a podium deck and property enabling works for topside property development. The project will be developed in phases, with the first phase commencing in the short term. The intake of the first batch of residents is expected to take place in 2030.

The new Oyster Bay Station will also be built to serve the property development and future population growth. It will be located at Siu Ho Wan between Sunny Bay and Tung Chung stations on the Tung Chung Line. Construction of the new station is scheduled to commence in 2023, with completion slated for 2030 to serve the first intake of residents.

MTR will "proceed with the Oyster Bay development at full speed to build a sustainable community served by environmentally-friendly rail transport," said Dr Jacob Kam, CEO of MTR Corporation. "This is part of a plan to enhance connectivity of Lantau North,



with three new stations to be added along the Tung Chung Line, including Oyster Bay Station, as well as the Tung Chung East and Tung Chung West stations currently being planned under the Tung Chung Line Extension project, providing new impetus for development of the community."

According to MTR, it has commenced detailed design and advance preparation work on the property development project as well as planning and design of Oyster Bay Station to cater for the development and transportation needs of the future residents in Siu Ho Wan. ■

Vinci to build foundations of major property complex in Hong Kong

Vinci Construction, through its local subsidiary Bachy Soletanche Group Limited, has won a contract to build the foundations of a major property development in Hong Kong's central business district.

Totalling about €80 million, the contract includes the construction of diaphragm walls and bored piles. Scheduled for completion by 2024, the works will be conducted in a highly complex environment, immediately next to an underground urban motorway and the metro.

According to Vinci, a part of the wall will be built at limited height using two compact Hydrofraise machines, one of which will be equipped with grippers for drilling into very hard ground. These machines have been specifically designed and manufactured by Soletanche Bachy for excavation works in hard surfaces.

Soletanche Bachy is a world leader in foundation and soil technology projects that require advanced technical expertise. With some 50 years of experience operating in Hong Kong, the company has participated in numerous large-scale projects in



Scheduled for completion by 2024, the works will be conducted in a highly complex environment.

the region – including dams, metro lines, high-rise buildings and, more recently, in the construction of the third runway at Hong Kong International Airport and in foundation works in the West Kowloon cultural district. ■

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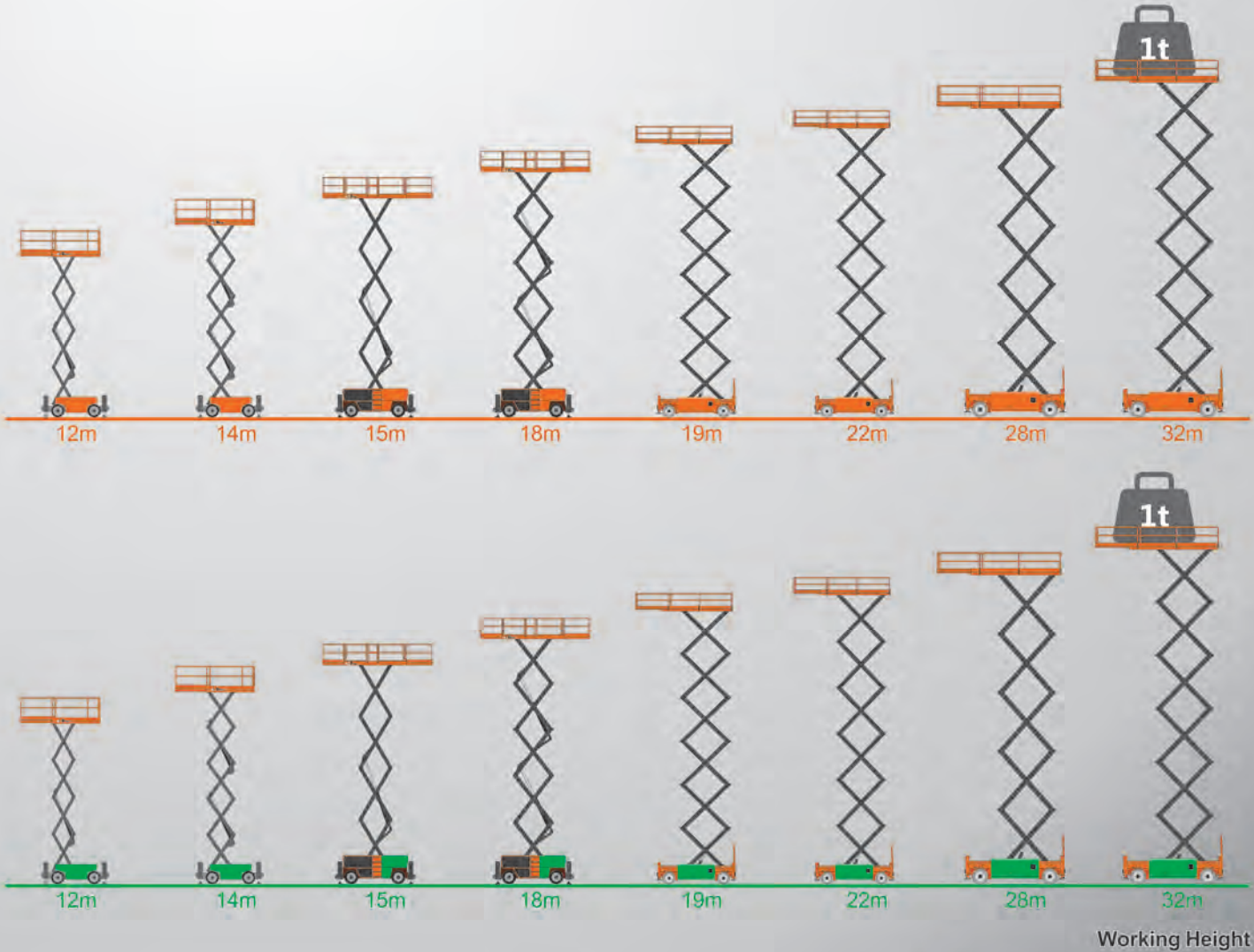
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Shimizu-led JV secures contract for Jakarta MRT North-South Line Phase 2 CP202 underground work

A joint venture of Japanese contractor Shimizu Corporation and Indonesian state-owned company PT Adhi Karya (Persero) Tbk has won the Contract Package 202 (CP202) for the Jakarta MRT North-South Line Phase 2. Awarded by PT MRT Jakarta, the contract involves a 1,840-m-long underground section with three stations – Harmoni, Sawah Besar and Mangga Besar.

Jakarta MRT is Indonesia's first urban high-speed railway incorporating a metro system. The 15.7-km-long Phase 1 of the project, between Central Jakarta and South Jakarta, commenced its operation in March 2019. The civil and building work for the first phase comprised six design-and-build contract packages, with Shimizu responsible for three of them, two as a JV lead company and one as a JV member.

Phase 2 of the project will construct a 6.0-km rail line, extending from Bundaran HI Station at the northern end of the already-operational section up to the Kota district in northern Jakarta, where the seven new stations will be built. The construction work is divided into three contract packages, of which the CP201 – with a length of 2,676 m – from Bundaran HI Station to Harmoni Station was awarded to Shimizu-Adhi Karya JV in March 2020 as the first construction contract of the three packages.

The newly awarded CP202 contract is a 1,840-m underground construction section from Harmoni Station to Mangga Besar Station, which includes construction of Harmoni Station with a length of 235 m, featuring two levels; Sawah Besar Station with a 200 m length and four levels; and Mangga Besar Station with a 220 m length and four levels.

The tunnelling work consists of four shield tunnels connecting the stations (two sections for inbound and outbound respectively,



An artist's impression of the ground level entrance and exit at Sawah Besar Station.

with each bound's total tunnel length of 1,184 m), with a length of 394 m between Harmoni-Sawah Besar and a length of 790 m between Sawah Besar-Mangga Besar. The construction period is approximately 89 months starting from July 2022. The second phase is scheduled to begin its operation in 2029.

According to Shimizu, as part of the CP202 contract package, large-scale underground stations will be built using the cut-and-cover method under a trunk road with extremely heavy traffic. Construction activities will be carried out while diverting the traffic lanes various times, and it will also be necessary to partially cover the canal that runs through the centre of the trunk road. In addition, there are many buildings and underground pipes in proximity, "making this a highly challenging urban civil engineering project requiring a construction plan with careful consideration of the impact on the surrounding areas," said Shimizu. ■

Leighton Asia awarded building project in India

Leighton Asia has been selected to construct a high-rise residential project in Mumbai, India, for Birla Niyaara, a flagship mixed-use development by Century Estates.

Construction work comprises the delivery of a 70-storey and a 72-storey residential building, including three common basements, a podium and a terrace. A club house and retail section are also to be constructed across a 6.6-ha site with a total built-up area of approximately 273,000 sq m.

"We are pleased to continue to contribute our international experience and local knowledge to support ongoing growth in the region. We are committed to ensuring that the community will benefit through local procurement and employment," said Brad Davey, managing director of Leighton Asia, a CIMIC Group company.

Construction of the project commenced in September 2022 and is scheduled to complete in mid-2027. The contract will generate revenue of around A\$129 million for Leighton Asia.

"Leighton Asia has been delivering landmark projects in India for more than 23 years. This award highlights the team's ability to deliver quality works safely and on time to meet our client's vision and our experience in delivering premium residential and



Construction work on the project involves the delivery of a 70-storey and a 72-storey residential building.

commercial projects," said Juan Santamaria, executive chairman of CIMIC Group. ■

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Toyota launches Tokyo A-Arena project

Toyota Motor Corporation, Toyota Fudosan Co Ltd and Toyota Alvarc Tokyo Corporation have unveiled the Tokyo A-Arena project, a next-generation arena to be built on the site of the former Toyota showroom facility Mega Web in Koto-ku, Tokyo, Japan.

Covering a site area of approximately 27,000 sq m, this new venue will have a capacity of about 10,000 people. It is scheduled to start operations in the second half of 2025. Toyota is the landowner, Toyota Alvarc Tokyo is the operator, and Toyota Fudosan is the builder-owner that will be responsible for the development of the project.

Toyota Alvarc Tokyo, a member of the B. League First Division, will use the new arena as its home court. It will also stage indoor sports such as volleyball and table tennis, urban sports, parasports, e-sports and more.

“This arena will become the new home of Alvarc Tokyo, Toyota’s basketball team; but we hope it will also become a sacred ground for all kinds of other competitions, and provide power to parasports and competitions with a low number of competitors, low recognition and few supporters,” said Akio Toyoda, president of Toyota and chairman of Toyota Fudosan.

The project is located in a corner of Palette Town in the Aomi district. “It will comprise three facilities: the main arena, the sub-arena and the Alvarc building,” explained Tomohide Yamamura, president of Toyota Fudosan.

“There are two rooftop spaces outside the arena: the Family Park and the Sports Park. We hope that the diverse use of these

spaces will create a lively atmosphere outside the arena 365 days a year.”

A wide range of seating options will be available, added Mr Yamamura, including various VIP seats and a Sky Lounge with a view of the Aomi area.

As for sustainability, the facility will target the LEED certification. “While there are currently no LEED-certified arenas in Japan, we hope to achieve an international level in terms of the environment,” said Mr Yamamura.

Furthermore, the project is expected to foster sustainable lifestyles. “For example, we hope to gain cooperation in recycling and reusing waste generated by the facility and minimise plastic waste and food loss by organising food drives in collaboration with the local community,” said Kunihiko Hayashi, president of Toyota Alvarc Tokyo.

“We will also take other measures to promote sustainable lifestyles while making use of the technologies and knowledge of our partners. As a new landmark in Aomi, the arena is potentially a driving force for making the area more attractive, along with the redevelopment of neighbouring Ariake and other projects.”

Mr Toyoda further revealed that, apart from using Toyota’s mobility technology, the three partners plan to collaborate with various companies in adopting their services and technologies to enhance the arena experience. “Our goal is to open up the potential of mobility technology and create an unprecedented arena experience,” he said. ■



ABOVE AND ABOVE RIGHT: Tokyo A-Arena will occupy a site area of approximately 27,000 sq m, with a capacity of about 10,000 people. The development will comprise three facilities: the main arena, the sub-arena and the Alvarc building.

BELOW AND BELOW RIGHT: Targeting the LEED certification, Tokyo A-Arena is scheduled for opening in 2025. It will become the new home of Alvarc Tokyo, Toyota’s basketball team.



IJM wins major hospital and LHDN building contracts

Malaysia's IJM Construction Sdn Bhd, a wholly owned subsidiary of IJM Corporation Berhad, has secured two contracts in Selangor – an RM831 million design-and-build turnkey construction contract for a new 312-bedded government hospital in Kapar, and another contract worth RM150.8 million for the construction of an office tower in Shah Alam for the Inland Revenue Board of Malaysia (Lembaga Hasil Dalam Negeri Malaysia, or LHDN in short).

Construction work for the hospital with specialist medical facilities is scheduled to commence in November 2022. It is expected to complete within 48 months by November 2026. The project is a 60:40 joint venture between IJM Construction Sdn Bhd and Ganda Imbuan Sdn Bhd.

“We are proud to have been selected to build Hospital Kapar,” said Liew Hau Seng, group CEO and managing director of IJM Corporation. “IJM has been delivering important infrastructure in communities across the country for close to four decades, including a sizeable portfolio of healthcare related facilities.”

IJM Construction's scope of works under the contract includes earthworks and ground treatment works, piling and foundation works, interior design for the main areas in the hospital, mechanical and electrical services inclusive of related medical equipment, information and technology works, external and infrastructure works, environmental and protection enhancement works, maintenance works, and construction of 120 units of staff quarters.

The development of Hospital Kapar and its specialist medical services aims to reduce the congestion of other government hospitals in the Klang and Shah Alam areas. Hospital Kapar will



The construction of Hospital Kapar in Selangor, Malaysia, is scheduled to complete by November 2026.

serve as a dedicated centre with its infectious disease facility for the surrounding Klang community.

“This award clearly demonstrates IJM's strength within the healthcare sector, reflecting our outstanding track record in this area. We are committed to leveraging our experience in building and infrastructure projects and contributing to the future of healthcare in Kapar and the surrounding Klang community,” said Mr Liew.

Meanwhile, construction work for the 18-storey LHDN office tower in Shah Alam is scheduled to commence on 1 November 2022. It is expected to complete within 36 months by 31 October 2025. ■

Bentley and Fukui Computer partner to accelerate adoption of digital workflows in Japanese construction industry

Fukui Computer, a CAD vendor for the construction industry, has entered into a strategic partnership with the infrastructure engineering software company Bentley Systems to accelerate the adoption of digital workflows in the Japanese construction industry and support the promotion of digital transformation (DX) in the infrastructure field.

According to both partners, there are concerns about the increasing shortage of labour in the infrastructure field in Japan, which is impacting the ability to take measures to mitigate ageing infrastructure. This situation is further aggravated by the intensification and frequent occurrence of natural disasters.

To help combat this, Fukui Computer will leverage the Bentley iTwin platform to augment its cloud-based data sharing service Cimphony Plus with 3D/4D visualisation, simulation and digital twin capabilities. The company will launch a digital solution that supports the entire infrastructure lifecycle, spanning project management, design, construction and maintenance.

Fukui Computer will also launch Trend Road Designer for road design, a new 3D application that will leverage Bentley's OpenRoads Designer, an industry standard for road concept, design, construction and operations.

By entering into this strategic partnership, Fukui Computer will provide solutions for digital transformation (DX) in the infrastructure

field promoted by the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), leveraging Bentley's cutting-edge digital technology.

The partnership aims to contribute to the improvement of productivity in the construction industry by introducing and utilising 3D and digital twin solutions in the design, construction and maintenance management sectors under the i-Construction and BIM/CIM strategy promoted by MLIT.

Carsten Gerke, senior vice president of strategic channels at Bentley Systems, said, “Collaborating with Fukui Computer benefits all parties. End users will benefit from cutting-edge, world-class digital technology and trusted local expertise. Bentley will address the demanding Japanese infrastructure market and i-Construction regulations through the market leader in Japan, while Fukui Computer will provide the most innovative digital twin solutions to dramatically improve the construction industry in Japan.”

Tadashi Sugita, president of Fukui Computer, said, “The strategic partnership with Bentley Systems will allow us to introduce cutting-edge digital technology to the ICT field in the construction industry in Japan. As a software company being trusted by the construction companies who support the infrastructure in local communities, we will strive to contribute to society by providing useful products and valuable support services.” ■

Global growth in construction of US\$5.6 trillion forecast by 2037 as world transitions to clean energy

Oxford Economics has teamed up with Aon's Global Construction and Infrastructure Group to publish a new global construction forecast report to 2037. It will map growth for the top 50 construction markets globally, at a time when climate change mitigation efforts drive up growth in key markets.

Scheduled to be published in the first quarter of 2023, the new report will give an overview of the health of the global economy and examine how rising populations and rapid urbanisation in emerging markets are expected to impact growth in key construction markets.

The report is sponsored by the largest and most well-known names in construction, according to Oxford Economics. It will identify the high-growth markets for construction and provide decision-makers in construction with a powerful resource for forward planning and strategy during a period of unprecedented uncertainty.

Continued shift to emerging markets

Growth of US\$5.6 trillion in construction is expected over the 15-year period from 2022 to 2037 – representing a growth of over 60% in the size of the global construction market.

Construction will see a continued shift to emerging markets. The fastest-growing region globally is expected to be emerging Asia, growing by US\$4.2 trillion to an US\$8.5 trillion construction market by 2037.

India is expected to be the fastest-growing major construction market globally and will double its size from 2022 to 2037. China is expected to contribute US\$3.3 trillion of growth to the global construction market to 2037 – over 50% of global growth for construction. Growth in non-residential sectors such as healthcare and biotech will outstrip growth in infrastructure or housing as China's economy transitions towards a market-led economy.

Rising populations and rapid urbanisation in emerging markets will be a key growth driver for construction. Global population is expected to rise by one billion people, from 7.9 billion in 2022 to 9.0 billion by 2037. Population growth and urbanisation will grow fastest across sub-Saharan Africa.

Latin America is expected to grow at the same pace as North America, while Western Europe and the developed economies of Asia Pacific are expected to be the slowest-growing regions.

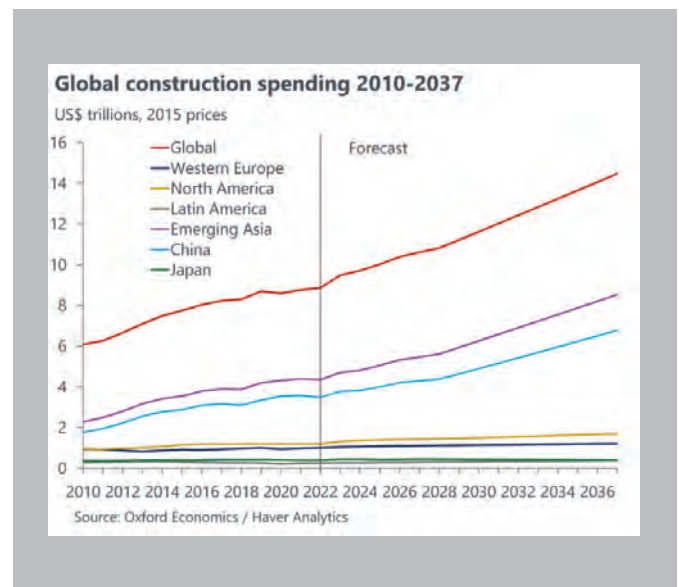
The construction market in Japan is expected to remain the same size in 2037 as it was in 2022 with growth declining from 2028, as the population shrinks.

The climate challenge for construction will be its greatest opportunity. "The challenges of dealing with climate change will be a significant growth driver for construction globally and will create new industries and employment," said Graham Robinson, global infrastructure and construction lead at Oxford Economics.

"With the built environment accounting for almost 40% of all greenhouse gas emissions globally, the transition to clean energy and new resilient infrastructure will boost growth for construction."

Big potential in infrastructure

Climate change is arguably the greatest challenge for construction.



Construction will see a continued shift to emerging markets, with emerging Asia expected to be the fastest-growing region globally. China will account for over 50% of global growth in construction.

The need to build resilient infrastructure and the race to achieve net zero by 2050 will mean huge programmes of infrastructure. Investment in the transition of energy grids to renewable sources of energy and transport networks towards green mobility will remain high growth markets as the US\$1.2 trillion Infrastructure Plan in the US and €750 billion Next Generation EU promote growth and recovery from the pandemic.

Current inflationary pressures across economies are expected to largely dissipate starting in 2023 as the effects of an unprecedented surge in demand post-Covid normalise, and supply-chain disruptions are resolved. Headline inflation is not expected to return to pre-pandemic levels until late 2023 while persistent inflation for key construction materials and labour is likely to remain for longer, into the medium term, until supply chain disruptions ease.

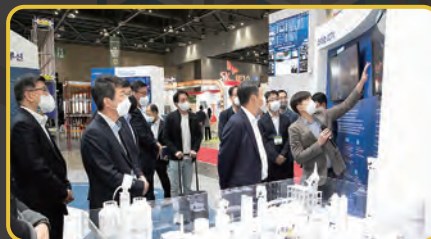
With central banks firmly focused on bringing inflation down, the risk of a near-term recession has increased – a global recession is expected to be avoided, but contractions in GDP in both Europe and North America during 2023 are expected. The Eurozone looks particularly vulnerable to any further shocks as the Russia-Ukraine war continues and the German construction market is already experiencing a sizeable downturn this year.

"The use of technology to build the digital twins of real assets and the adoption of modern industrialised construction will drive decarbonisation and improve productivity massively. The digitalisation of construction supports innovative risk management solutions as construction risks become more transparent and auditable," said James MacNeal, global head of construction and infrastructure at Aon Global Infrastructure and Construction Group. ■

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Singapore to transform built environment sector

The refreshed Built Environment Industry Transformation Map (BE ITM) will help stakeholders within the sector collaborate more effectively across the value chain, said Desmond Lee, Singapore's Minister for National Development and Minister-in-charge of Social Services Integration, at the opening of the International Built Environment Week (IBEW) 2022 in early September.

The Construction ITM and Real Estate (Facilities Management) ITM, previously launched as two separate ITMs in 2017 and 2018 respectively, have been amalgamated into one BE ITM to transform the sector through the three key stages of a building's life cycle – from planning and design, construction, to operations and maintenance.

Planning and design phase

The first key transformation area is on integrated planning and design (IPD), where stronger collaboration across the building's life cycle can optimise resources. This will build on the existing efforts for integrated digital delivery (IDD), which allows project stakeholders to collaborate with one another through digital platforms.

Design considerations for the building's entire life cycle, including facilities management (FM), are factored in at the design stage, enabled by digitalisation, common data environment (CDE) standards and progressive procurement.

"We have worked with the industry to develop CDE data standards for all built environment stakeholders to adopt," said Mr Lee. "We will drive the adoption of these standards through the new Corenet X platform, which we are currently working on."

Under the refreshed BE ITM, the Building and Construction Authority (BCA) expects to increase the IDD adoption rate by gross floor area (GFA) for new developments from 34% today to 70% by 2025. The BE ITM also encourages the industry to move towards collaborative contracting where contracting parties, including the builder and facilities management firm, work together towards shared project goals at the start of the project.

According to BCA, seven government procuring agencies have identified nine upcoming projects to pilot collaborative contracting. Contract management consultants such as Turner & Townsend, WT Partnership, AECOM and Threesixty are also supporting this effort by providing advisory services to private sector clients.

Construction phase

The second key transformation area is through advanced manufacturing and assembly (AMA), to enhance the efficiency of the supply chain and construction process by mainstreaming design for manufacturing and assembly (DfMA). This has helped firms reduce their reliance on foreign manpower and raise productivity.

Moving forward, BCA targets to increase the DfMA adoption rate by GFA from 44% today to 70% by 2025. Under AMA, more off-site production will be done in a factory environment with greater adoption of automation.

"Firms that have leveraged DfMA technologies, such as prefabricated prefinished volumetric construction (PPVC), have produced some good results," noted Mr Lee. "Hence, we will continue to mainstream DfMA as the default method of construction."

By improving the quality of work and working environments, including at the construction site, the industry hopes to attract and



Both images © Jurong Port

TOP: Singapore's first integrated construction park at Jurong Port is scheduled to progressively start its operations from December 2022.

ABOVE: The integrated construction park will provide a platform for firms to develop their DfMA solutions and production facilities.

retain talent in the sector, said BCA. The shift from a project-based building approach to a modular, product-based one also enables industry firms to reap greater economies of scale.

"We aim to be less reliant on low-skill foreign manpower and really go upskill and up the value chain in construction technology. Our latest move is to require all large building projects to adopt DfMA technologies from April this year," explained Mr Lee.

"We will also continue to support [the industry] in this DfMA journey. For instance, we recently extended the Productivity Innovation Project (PIP) scheme, which co-funds up to 70% of the cost premium of DfMA technologies. This includes funding for equipment and systems required in integrated construction prefabrication hubs, or ICPHs. Firms can continue applying for support under PIP until March 2024."

He added that the industry "can do more to maximise the benefits of shifting construction activities to off-site, factory-like settings. For example, we can incorporate more automation and robotics into the production of precast and PPVC modules, to deliver greater manpower savings and achieve even higher productivity."

At the same time, BCA is working with stakeholders to establish new integrated construction parks (ICPs) across Singapore. In ICPs, construction facilities such as aggregate terminals, aggregate storage yards, ready-mix concrete (RMC) batching plants and precast plants will be co-located for greater synergy across the entire supply chain.

The ICPs will provide a platform for firms to develop their DfMA solutions and production facilities. Synergistic construction supply chain activities will be co-located within the park to streamline logistics. ICPs will also leverage advanced technology to make production more productive, greener and cleaner.

The first ICP at Jurong Port is scheduled to progressively begin its operations from December 2022. “We will be trialling the ICP concept at Jurong Port before looking into how this concept can be further replicated in other locations,” said Mr Lee.

“By bringing these facilities closer together, co-locating them together, we can achieve greater efficiencies in producing construction components. For instance, raw materials like cement, sand and granite can be transported to the RMC batching plants using mechanised conveyor systems, rather than hauling them across the island in lots of vehicles.

“Production facilities such as ICPs will be allocated a longer tenure than typical traditional yards, so that the operators can invest in advanced technologies to operate in a much more productive manner.”

Operations and maintenance phase

The third key transformation area, sustainable urban systems (SUS), will facilitate the ramping up of decarbonisation efforts in the industry for a more sustainable and liveable built environment. SUS aims to achieve low-emissions buildings and districts with efficient building management enabled by Integrated, Aggregated and Smart FM.

Under SUS, BCA will continue with existing efforts to meet its ‘80-80-80 in 2030’ targets set under the latest edition of

the Singapore Green Building Masterplan. BCA will also aim for a more ambitious target of 80% of public buildings adopting Smart FM by 2030, and set a new target for 40% of private buildings by GFA to adopt Smart FM by 2030.

Announced earlier this year, the S\$30 million Integrated Facilities Management (IFM) and Aggregated Facilities Management (AFM) Grant for firms which wish to adopt IFM/AFM is already open for applications.

BCA further highlighted that, as Singapore embarks on the BE ITM, there is also a need to adopt a more ambitious approach in transforming the value chain as a whole, and push for best-in-class outcomes in projects. Developers and sector leaders are beginning to recognise the pivotal role they play in transforming the industry by running and developing a capable supply chain.

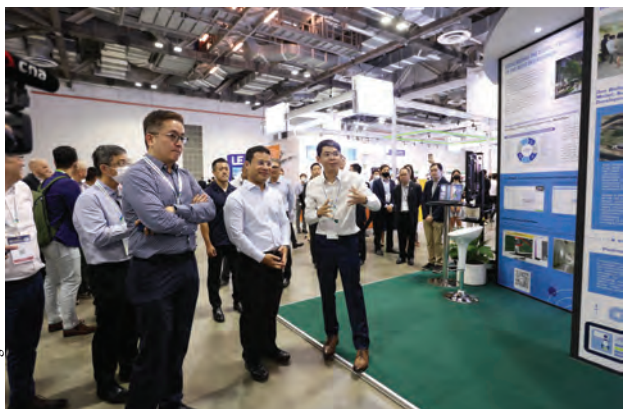
To this end, BCA has been developing the Growth and Transformation Scheme (GTS) to pilot this value chain approach. A set of outcomes for the GTS has been developed with inputs from the industry over the past year to support these strategic alliances.

Lastly, in recognition of projects that have embodied the transformation goals of the ITM, the newly launched Built Environment Transformation Award recognises firms and industry practitioners who have honed their capabilities to build projects that exemplify productivity, digitalisation and sustainability. This year’s winners include The Tapestry, PSA Liveable City, Eunoia Junior College as well as JTC’s 1 and 7 North Coast developments in Woodlands North Coast. ■



ABOVE: Desmond Lee, Singapore’s Minister for National Development and Minister-in-charge of Social Services Integration, speaks at the IBEW 2022.

BELOW: Mr Lee tours the BEX Asia exhibition, part of IBEW 2022. The trade show displays a variety of new digital technologies and solutions for the built environment industry.



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Singapore Expo
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Website: www.naturaldisastersshowasia.com

World Of Concrete Asia

5 to 7 Jan 2023

Shanghai New International Expo Centre
Shanghai, China

Website: <https://en.wocasia.cn>

bauma Conexpo India

31 Jan to 3 Feb 2023

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

Modular & Pre-Con Korea

16 to 19 Feb 2023

Korea International Exhibition Centre (KINTEX)
Goyang, South Korea
Website: www.modulkorea.com

Geo Connect Asia

15 to 16 Mar 2023

Sands Expo & Convention Centre
Marina Bay Sands, Singapore
Website: www.geoconnectasia.com

BuildTech Asia

28 to 30 Mar 2023

Singapore Expo
Singapore

Website: www.buildtechasia.com

Trenchless Asia

17 to 18 May 2023

Kuala Lumpur Convention Centre
Kuala Lumpur, Malaysia

Website: www.trenchlessasia.com

Korea International Construction & Industrial Safety Expo (K-Con Safety Expo)

13 to 15 Sept 2023

Korea International Exhibition Centre (KINTEX)
Goyang, South Korea

Website: www.k-consafetyexpo.com

Building Construction Technology Expo (BCT Expo)

20 to 22 Sept 2023

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

// Events outside Asia

World of Concrete

17 to 19 Jan 2023

Las Vegas Convention Centre
Las Vegas, Nevada, USA

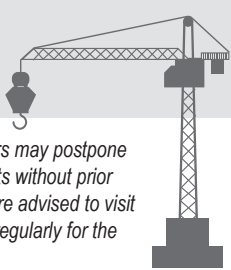
Website: www.worldofconcrete.com

Conexpo-Con/Agg

14 to 18 Mar 2023

Las Vegas Convention Centre
Las Vegas, Nevada, USA

Website: www.conexpoconagg.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 update.

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IPAF Asia Conference makes post-pandemic return

After a two-year hiatus, the International Powered Access Federation (IPAF) Asia Conference & Showcase made a successful return on 28-29 July 2022 at the Singapore Expo & Hilton Orchard Singapore – with more than 250 physical attendees joining the first in-person edition of the event since the pandemic.

Following an equipment showcase on the morning of 28 July featuring MEWPs and devices from XCMG, Haulotte, Zoomlion and EQSS, the ninth Asia Conference was split over two days, with an open-forum symposium on day one at the Singapore Expo and an IPAF members' conference on the second afternoon at the Hilton Orchard Singapore. It was a hybrid event, offering live-streams of presentations that were also recorded for review at a later date.

The symposium speakers included: Peter Douglas, CEO and managing director, IPAF; Bernard Kwok, deputy director (engineering safety), Singapore's Ministry of Manpower; Prof Goh Yang Miang, of the National University of Singapore; Brian Parker, head of safety & technical, IPAF; Caesar Tanquingcen, product manager, Oshkosh-JLG; Romina Vanzi, head of international development & MCWPs, IPAF; Angel Ibañez, representative for MCWPs and related products, IPAF; Julien Micheli, Asia Pacific product marketing manager, Haulotte; Peter Lee, FP S&S application manager, MSA Safety (APAC); Vincent Koay, product manager (MEWPs), Manitou Asia; and Andrew Delahunt, global business development manager, EQSS.

The chairman of the Workplace Safety and Health Council's (Construction and Landscape) Committee, Yam Ah Mee, who was guest of honour at the event, said, "This event is a great platform to communicate with the industry the safe and effective use of powered access equipment." He highlighted that the WSH Council has worked with industry stakeholders including IPAF to develop a Guide for Safe Use of MEWPs.

Shawn Ong, chairman of IPAF Singapore Council, gave a speech, in which he discussed how falls from height had become the most



The IPAF Asia Conference in Singapore.

common cause of fatalities in the workplace, within which human error is the main underlying factor. This prompted IPAF to launch the 'Don't Fall For It!' global safety campaign for 2022, and he reiterated that workplace safety should not be taken for granted. "Safety is everyone's responsibility. Look out for each other and this will help ensure everyone goes home safely to their family."

The second day featured a market-focused half-day conference, followed by networking dinner. Speakers at this conference included IPAF CEO Peter Douglas; Tim Whiteman, CEO of Sinoboom BV; Yanglei, general manager of Beijing Xiangyuncheng Building Decoration Engineering; and Sharon Foong, general manager of Terex (Genie) Singapore.

The event continued with a regional rental market discussion, which involved IPAF members from Malaysia, Vietnam, China, Korea, Thailand, the Philippines, and Singapore. The topics centred on powered access technology, creative solutions for safer work at height, and the challenges the industry has experienced as the world stabilises after the pandemic. ■

IPAF works with Kerala chapter to spread India safety message

An agreement between the International Powered Access Federation (IPAF) and a local chapter of the National Safety Council of India will see the two organisations work together in the state of Kerala to spread awareness about key risks and mitigations when using mobile elevating work platforms (MEWPs) to work at height.

Jason Woods, IPAF's regional manager for the Middle East and South Asia, recently met with representatives of the Kerala Chapter of India's National Safety Council to discuss safety standards and the need to promote risk awareness and quality training for operators of powered access.

"It is important for IPAF to collaborate with like-minded safety professionals, and recently it was my pleasure to meet Dr Ramesh VM, honorary secretary of the National Safety Council, Kerala Chapter," said Mr Woods. "One of India's leading safety associations, the National Safety Council (NSC) of India was founded in 1966, and hosts 17 individual chapters throughout India. The NSC's Kerala Chapter was founded in 1970, to promote education on safety-related topics under the mantra 'safety touches everyone'.

"Our conversations were set around understanding where we currently are with safety standards in this region – not surprisingly,

falls from height were a key topic of our discussion. Falls from height pose a risk factor to many workers locally, especially as they are often sent to work with almost zero fall-protection equipment. However, local NSC members are making ongoing efforts to prevent these common risk factors. Training programmes are also being initiated by NSC to address safety concerns."

Mr Woods continued, "As times change and equipment advancements are made, there is a sense of real optimism that working together in this way IPAF and the NSC can make a real difference and that clear steps to fostering safe working conditions will be put in place. MEWPs are increasingly being used to conduct work at height in Kerala – as across India – and so it is also very important to encourage quality training of operators to all managers and planners of work at height using this equipment.

"IPAF will be supporting the NSC in every way possible, starting with the mutual promotion of IPAF's quality training across the region, and sharing our free-to-download safety and technical guidance, including IPAF's series of Andy Access awareness posters and Toolbox Talk workplace safety briefings to all NSC members." ■

IAPAs entries open; next event to be held in Berlin

Entries are now open for the 2023 International Awards for Powered Access (IAPAs), which will be hosted alongside the Summit of the International Powered Access Federation (IPAF) on 19 April 2023 at the H4 Hotel Berlin Alexanderplatz in Germany.

The IAPAs represent the global access industry at its highest level and encourage all individuals and companies, big or small, that demonstrate best practice through their equipment or services to take part. There are 12 all-encompassing award categories to enter, ranging from new products and innovations to sustainable initiatives and safety and training. The deadline for entries is 15 December 2022.

The 2023 award categories are as follows: The Sustainability Award; Access Rental Company of the Year; Contribution to Safe Working at Height; Innovative Technology Prize; Digital Development Award; IPAF Training Centre of the Year; IPAF Training Instructor of the Year; Products of the Year – Mast Climbing Work Platforms & Hoists, Scissor Lifts & Vertical Masts, Self-Propelled Booms & Atrium Lifts, Vehicle and Trailer-Mounted; and the IPAF/Access International Lifetime Achievement Award.

An independent judging panel, consisting of leading industry experts, will be announced soon. They will review each entry, and select a shortlist for each award category based on evidence of excellence in business practice, innovation and forward-thinking, quality, and client satisfaction. Judges ask that all entrants



The 2022 IAPAs took place in London.

use their entry form to tell them why they believe their company, project or product is special and why it deserves to win.

The awards are free to enter, and both companies and individuals can enter themselves or nominate others. They can submit entries for more than one award, and more than one entry per category. Awards are for activities undertaken, and for products launched, between September 2021 and October 2022.

More information about the IPAF Summit, including first speakers, conference topics, networking and site visit details and sponsorship opportunities will be updated in due course, with bookings set to open in the next few weeks.

“This year’s IAPAs saw a record number of entries across the categories and led to a fantastic sell-out gala event in London, UK. After two years in which we were not able to get together owing to the pandemic, it

was great to be able to celebrate the IAPAs shortlists and eventual category winners in person,” said Peter Douglas, CEO and MD of IPAF.

“We are very much looking forward to another strong set of entries, and I urge anyone thinking about putting themselves or their products forward to check out the award categories as detailed on the website and start preparing their submissions. We are excited to take the event to Berlin, Germany, for the first time, and to toast the best in our industry together next spring.” ■

Website: www.ipaf-summit.info

Entries must be submitted in English using the official entry form available via the specific award category page on the website (www.ipaf-summit.info). Entrants are kindly requested to supply a company logo when submitting the form(s). Deadline: 15 December 2022.



haulotte.com.sg

World of Concrete getting ready for 2023 edition

World of Concrete, Informa Markets' premiere exhibition serving the global concrete and masonry industries, will return from 17 to 19 January 2023 (education: 16 to 19 January) at the Las Vegas Convention Centre (LVCC) in Nevada, the US.

The last edition of WOC, held in January 2022, drew close to 37,000 registered professionals. The event occupied 632,000 net sq ft (58,715 sq m) of exhibition space and hosted over 1,000 industry-leading suppliers, with just over 140 first-time exhibitors.

The upcoming 2023 edition is expected to attract 1,000+ exhibitors, covering more than 600,000 net sq ft (55,742 sq m) of indoor and outdoor exhibit and event space, plus a world-class education programme.

Work Truck Live!

This is an all-new experiential initiative designed to showcase the innovations in a contractor's most important asset, trucks. Located at the Central Hall, presented by Modern WorkTruck Solutions, the programme will highlight innovations in the design and configuration of work trucks and innovative accessories that will help contractors increase safety and productivity.

WOC will also be debuting a Ride and Drive experience that provides an opportunity for visitors to test-drive select Class 1 – Class 7 vehicles. Approved drivers and passengers can experience the feel of the vehicle in a closed, short loop at the Central Hall. This programme will take place on Tuesday and Wednesday during the event.

Education programme

With more than 160 technical, business, and safety sessions developed to deliver valuable insights and practical applications, the 2023 WOC education programme offers something for every concrete/masonry professional. In addition to popular business and project management seminars, industry certifications, and interactive workshops, next year's line-up will highlight a variety of new technical topics such as petrography, mass concrete, fibre reinforcing, reshoring, superflat floors, repair/restoration, 3D printing, defect litigation, and more.

WOC will also introduce several new education alliances with industry associations, consulting firms, and media partners – Women's Association of Concrete Professionals, The FORGE Foundation, National Association of Hispanic Contractors, Family Business Institute, AAC Worldwide, and Modern WorkTruck Solutions.

Visitors will see many new additions to the 2023 education offerings, including eight concrete basics and leadership seminars



presented in Spanish, a revamped 3-hour seminar concrete repair track, and new workshops focusing on women in construction, securing quality employees, concrete material testing, staining and sealing, and stamped concrete.

Other highlights at the event include: CIM Silent & Live Auction; Spec Mix Bricklayer 500 World Championship, showcasing the world's best bricklayers; Western Star Trucks Get Tough Challenge; Decorative Concrete Live!; Mason Contractors Association of America's (MCAA) Fastest Trowel on the Block; and MCAA's Masonry Skills Challenge.

Visitors can register online by 22 December 2022 to save on Exhibits-Only fees and to book hotel rooms through onPeak for the best rates and locations. ■

Website: www.worldofconcrete.com



ALL IMAGES: World of Concrete is set to return from 17 to 19 January 2023 (education: 16 to 19 January) at the Las Vegas Convention Centre.

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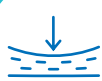
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Tadano unveils AC 4.070-2 all terrain crane

Tadano has introduced its new four-axle all terrain crane, the AC 4.070-2. This 70-t-capacity model features a compact design, with a total length of 11.7 m, a width of 2.55 m and a travelling height of 3.8 m.

With a main boom length of 50 m, the crane can lift a good 7.1 t at a radius of 12 m, and this goes up to a total of 7.3 t at a radius of 10 m. "No other crane in its class can reach these lifting capacities," said project manager Sascha Scholler, who was responsible for the development. As such, the AC 4.070-2 is an excellent assist crane for erecting large lattice boom crawler cranes, and also an ideal crane for residential and functional building construction projects.

Tadano offers two extensions for the 50-m main boom – a swing-away jib with a length of 6.5 m and a double folding swing-away jib with a length of 16 m, making it possible to reach a system length of up to 66 m. An optional runner is available as well.

The AC 4.070-2 can transport a sizeable maximum counterweight of 11.9 t by itself while staying within an axle load limit of 12 t, and it can still manage an impressive 4.4 t when the axle load is reduced to 10 t, said Tadano. This makes the AC 4.070-2 an extremely flexible and versatile taxi crane.

The IC 1 Plus control system determines the crane's lifting capacity for every boom position as a function of the superstructure's slewing angle. The way these computations are carried out directly in the cab means the lifting capacity for a specific radius is no longer limited to the lowest value for a pre-calculated 360° lifting capacity, but is instead determined in real time. Thus the AC 4.070-2 is always able to take advantage of the maximum lifting capacity available to it, and the advantages



ALL IMAGES: The new Tadano AC 4.070-2 all terrain crane has a main boom length of 50 m. This model features a compact design, with a total length of 11.7 m, a width of 2.55 m and a travelling height of 3.8 m.

provided by this system deliver invaluable support for lifts over the outriggers.

According to Tadano, when the IC 1 Plus control system is used together with the Flex Base outrigger system, it enables the crane to take care of jobs that would normally be the exclusive purview of larger cranes. In fact, the Flex Base can be deployed to extend the outriggers in asymmetrical configurations instead of predefined extension positions, thereby allowing crane operators to get the outriggers as close to obstacles as possible and use the maximum possible outrigger spread in any scenario.

The Tadano IC-1 Remote telematics system for location-independent crane and fleet management is also available for the AC 4.070-2. This cloud solution provides remote access to all relevant crane data from anywhere, enabling online troubleshooting by Tadano Support.

Another highlight of the AC 4.070-2 is the Tadano Surround View system, which features a separate monitor in the carrier cab. It provides 360° visibility and graphically shows the maximum possible extension lengths for the outriggers and the counterweight tail-swing radius from a bird's eye view perspective. With this system, the crane can be positioned at work sites more easily without the need for additional personnel.

Furthermore, the AC 4.070-2 can be fitted with E-Pack, an electro-hydraulic system that has an integrated 32-kW electric motor to deliver extremely quiet zero-emission crane operation. The E-Pack can be used to carry out all crane functions without any negative impact on the corresponding maximum lifting capacity. On top of this, the cost-effective single-engine design allows for climate-friendly crane operation, thanks to its compatibility with various alternative diesel fuels, such as HVO. ■

Website: www.tadano.com

Doka Xsafe Catch Fan boosts construction site safety

Doka has introduced its new Xsafe Catch Fan to improve safety on construction sites. The system can be deployed and re-positioned quickly, in just a few simple steps.

Two clever mechanisms are at the heart of Doka's development. In combination with the innovative suspension of nets, the easy-lock system enables efficient installation via a snap mechanism of the floor shoe. A safety lever swiftly secures the vertical tube of the Xsafe Catch Fan in place; previously, this had to be done by fastening couplers.

With the quick-folding mechanism, the net is folded from the upper slab by simply pulling on a rope. This now no longer requires two workers working simultaneously on two levels, but only one. Doka's new folding rope enables the net to be folded by just one user, saving manpower and crane time during re-positioning and cleaning.

The vertical extensions of the Xsafe Catch Fan are specifically designed to meet the customer's needs. Compared to common round tube-in-tube designs, the square tubes no longer require strenuous hole alignment when securing with bolts.

Once assembled on the ground, the Xsafe Catch Fan can be easily lifted and quickly re-positioned from floor to floor without adjustment to the vertical extensions.

"With the development of the Xsafe Catch Fan, we identified the potential to provide more safety on construction sites.



© Doka

Doka Xsafe Catch Fan can be deployed and re-positioned quickly. The system helps improve safety on construction sites.

Customers benefit from efficient and simple workflows, allowing them to focus fully on the essentials of day-to-day construction site operations," said Thomas Lattacher, Doka's product manager for Xsafe Catch Fan. ■

Website: www.doka.com

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Agility is the key to reaching confined spaces. At only 4 ft. 9 in. (1.45m), the ultra-narrow width of the Snorkel S2755RT fits in places where a standard width machine would have difficulties. While it can reach a maximum working height of 33 ft. 1 in. (10.1m), this machine is also lightweight and can be towed on a car trailer between jobs. Add to that rugged 4-wheel drive and optional bi-energy for a highly versatile scissor lift that can go the distance on all terrains.



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Wirtgen introduces 280 SM(i) surface miner

The new Wirtgen 280 SM(i) is a high-performance surface miner designed for reliable and selective extraction of primary resources by direct loading, sidecasting or cut-to-ground. Raw materials are extracted and crushed in situ in purest quality in a single operation – without drilling and blasting, and with minimal environmental impact.

The 280 SM(i) is driven by four steerable and height-adjustable crawler units. This 120-t-class machine is highly manoeuvrable and can be quickly turned at the end of a cut. The Level Pro Active automatic levelling system maintains the specified cutting depth with consistently high precision and without further aids.

The 2,750 mm cutting drum unit with a cutting depth of up to 650 mm is precisely adaptable to each specific application and achieves outstanding cutting performance with minimal pick wear. Wear-resistant toolholder systems ensure optimal pick utilisation and minimal downtimes. The soft rock cutting drum unit is designed especially for high material flows in soft rocks. In contrast, the hard rock cutting drum unit ensures maximum durability and long life in hard rocks.

The high-performance, hydraulically height-adjustable, rear discharge conveyor with a movable counterweight can be slewed to the right and left by 90° and enables the loading of mining trucks with payloads of up to 100 t. What's more, the operator can continuously vary the speed of the belt independent of the engine speed to reduce belt wear dependent on the material volume and the piece-size of the mined material.

The 280 SM(i) is also equipped with a dust-sealed and air-conditioned positive-pressure cabin with fresh air filtration, which effectively prevents the ingress of dust into the operator's workplace. Mounted on the front left chassis column, the operator's cabin with all-round glazing is decoupled from the machine body and can be rotated by 90° in both directions. Up to six cameras can be installed to provide even better all-round vision.

Various automatic functions further contribute to the operator's comfort, reduce the risk of fatigue, assist the operator in the achievement of high productivity rates and make the overall process more efficient.

In addition, the new 280 SM(i) is environment-friendly, thanks to the reduction of carbon emissions by low specific fuel consumption, an efficient water management system and effective solutions for the minimisation of dust pollution. ■

Website: www.wirtgen.com



ABOVE AND BELOW: With the Wirtgen 280 SM(i) surface miner, primary resources are extracted in purest quality and crushed in situ in a single operation – without drilling and blasting, and with minimal environmental impact.

BOTTOM: The air-conditioned and soundproofed operator's cabin with all-round glazing provides a productive working environment with a low risk of fatigue.



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New scissor and boom lifts from Dingli

Dingli has expanded its oil-free & all-electric series with three new scissor lift models – the JCPT1012PA, JCPT1008PA and JCPT0808PA. They have a maximum working height of 10 m and maximum load of 450 kg.

The first batch of the series, comprising six models, was launched in the first half of 2022. All of the machines use electric actuators for lifting, lowering and steering, instead of traditional hydraulic oil cylinders.

One of the advantages is low energy consumption. According to Dingli, the total transmission efficiency of the direct motor drive systems can reach up to 95%, resulting in more than 30% energy saving compared to the traditional hydraulic system.

Another advantage is easy maintenance. With no hydraulic system, various problems can be avoided, such as valve core stuck, oil leakage, oil change, or high- and low-temperature efficiency reduction. The machines are equipped with a maintenance-free permanent magnet synchronous motor and AGM battery, which significantly reduces maintenance costs.

This oil-free & all-electric series also provides higher levels of water and dust resistance, with built-in position sensors and real-time data monitoring of the full stroke. The drive system enables temperature, load and variable torque control, thus increasing safety.

Greater comfort is a further advantage, said Dingli. The full stroke proportional control eliminates “the jitter and abrupt feeling” caused by self-gravity lowering of the hydraulic system.

In addition, the oil-free & all-electric series is more environment-friendly. It features a lower noise level than that with the hydraulic system. Plus, it delivers zero-emissions and better environmental protection.

M-series modular boom lifts

Dingli has also introduced the first models of its new M-series modular boom lifts, the electric powered BT34ERT and diesel powered BT34RT. The machines have a maximum working height of 34.14 m and maximum load of 454 kg.

Designed by the company’s Italian R&D centre, the M-series boom lifts cover maximum working heights from 24 to 34 m. Dingli revealed that the design of the BT34ERT and BT34RT models is based on its original modular boom series, with the centre of gravity shifted down and featuring four-section booms. Thus the machines offer several benefits, including a large load capacity, strong power, easy maintenance, high chassis, great energy saving, stable control and easy transportation.



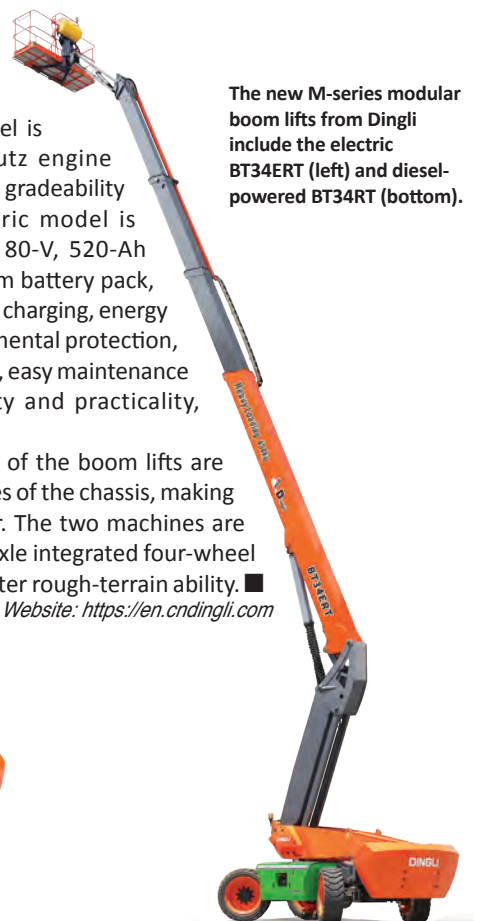
The JCPT1008PA (left) and JCPT1012PA (right) scissor lifts are two of the new models in the oil-free & all-electric series from Dingli.

With a modular design, the M-series has been developed on the same platform base. Dingli said 90% of the main components and more than 95% of the structural parts are common, minimising the storage cost and simplifying the maintenance of the machine.

The diesel model is powered by a Deutz engine and has a maximum gradeability of 45%. The electric model is equipped with an 80-V, 520-Ah high-capacity lithium battery pack, providing 1.5-hr fast charging, energy saving and environmental protection, as well as zero noise, easy maintenance at low costs, safety and practicality, among others.

All components of the boom lifts are located on both sides of the chassis, making maintenance easier. The two machines are also fitted with an axle integrated four-wheel drive system for better rough-terrain ability. ■

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



The new M-series modular boom lifts from Dingli include the electric BT34ERT (left) and diesel-powered BT34RT (bottom).



Liebherr Transform: New service for machine upgrades, modifications and overhauls

The new Liebherr Transform is an upgrade, modification and overhaul service for Liebherr's crawler cranes (up to 400 t), deep foundation equipment and duty-cycle crawler cranes.

The company offers a number of retrofits and upgrades, which increase versatility and performance, or ensure compliance with more stringent regulations, thus opening up a wider spectrum of opportunities.

"It is inevitable that equipment becomes outdated over time but that does not mean it has to be replaced. Existing machines can be transformed using affordable complete or partial machine overhauls, retrofits and upgrades," explained Liebherr.

"This not only saves the increased capital expenditure of investing in new machines, but also reduces the carbon footprint by avoiding the need for new equipment through the extension of the service life. At the same time, operators do not have to get used to new machines and can continue to benefit from their vast experience with existing equipment."

This new initiative by Liebherr helps to lighten the load through a comprehensive range of structural, electrical, mechanical, ergonomic or digital modifications. The company manages the entire planning and implementation of Transform projects – from consultation, through to installation and technical support and service. ■

Website: www.liebherr.com



ABOVE: Liebherr Transform offers a number of retrofits and upgrades, which increase versatility and performance, or ensure compliance with more stringent regulations.

BELOW: The service is available for crawler cranes (up to 400 t), deep foundation equipment and duty-cycle crawler cranes.



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Brokk surface grinder for safer, faster material removal

The new Brokk Surface Grinder 530 (BSG 530) attachment is designed for material removal, such as paint and asbestos, surface preparation and polishing on walls, floors and ceilings in renovation and restoration applications.

Compatible with the Brokk 170, Brokk 200 and Brokk 300 demolition robots, the BSG 530 allows contractors to tackle a range of previously labour-intensive projects up to 10 times faster. Pairing the surface grinder attachment with Brokk's remote-controlled operation also provides greater worker safety over manual methods.

"The Brokk Surface Grinder addresses a gap in the surface grinding market where there is a long history of using handheld tools for ceilings and walls," said Martin Krupicka, CEO of Brokk Group. "The Brokk Surface Grinder offers a faster, safer option than manual methods, especially when dealing with hazardous material. We see huge potential for concrete renovation in buildings from the 1970s when asbestos was often used for insulation and fire resistance."

The BSG 530 is fully remote-controlled through the Brokk control box, making it an automated method of stripping plaster, contaminated material, tile adhesive and paint from walls, ceilings and floors. The pairing efficiently removes material through constant contact and high pressure on the surface, resulting in a more even, consistent removal over large areas that is not possible with handheld grinding tools.

The attachment can reach 2,300 newtons of grinding pressure for wall applications and 1,100 newtons of grinding pressure for ceiling applications. The BSG 530 also has a feature that continually adjusts the grinding pressure to keep it constant.

Along with substantial efficiency and quality gains, a Brokk robot and the surface grinder attachment deliver greater operator safety and comfort than handheld tools. Thanks to the remote control, operators can position themselves a safe distance from the removal site, reducing the risk from falling debris and missteps on scaffolding or ladders. They can also distance themselves from dust, especially in decontamination applications.

In addition, remote operation eliminates worker strain from the constant vibration of handheld tools. Reducing wear and tear on workers' bodies helps prevent long- and short-term injuries that affect productivity. To further ensure safety when contractors remove hazardous material, Brokk provides an optional dust extraction system with the attachment to capture harmful particles.

With the addition of the optional tools, the BSG 530 can be used for surface preparation, creating a texture ideal for bonding new material. Brokk also offers optional tools for polishing concrete and natural stone on walls, ceilings and floors.

The BSG 530 has an operating weight of 230 kg with a length of 140 cm, a width of 64 cm and a height of 65 cm. The attachment is available in Europe, Asia, Africa, Oceania and Latin America. ■

Website: www.brokk.com



The BSG 530 surface grinder has an operating weight of 230 kg with a length of 140 cm, a width of 64 cm and a height of 65 cm.



The BSG 530 is fully remote-controlled through the Brokk control box, making it an automated method of stripping plaster, contaminated material, tile adhesive and paint from walls, ceilings and floors.



The BSG 530 is compatible with the Brokk 170, Brokk 200 and Brokk 300 demolition robots. Together they can remove material up to 10 times faster than handheld methods.

Ammann ARS 30 and ARS 50 soil compactors

The ARS 30 and ARS 50 soil compactors from Ammann are single-drum machines featuring weights of 3 t and 5 t respectively. They are the most compact rollers in Ammann's soil compaction product line.

The two machines are suitable for compacting a wide range of materials and can even be more flexible given the smooth or padfoot drum options. They are ideal for road construction businesses and rental fleets that need a small, durable and powerful product for use on a daily basis.

Due to their compaction power and manoeuvrability, the ARS 30 and ARS 50 are a good fit for small landscaping projects, forest roads, municipal roads and walking/bicycle paths.

A combination of a well-balanced engine, fully hydrostatic drive system and control deliver exceptional fuel consumption of 5 l/hr. This efficiency and a large fuel tank of 98 l mean a roller need to be fuelled only once every three working shifts.

The ARS 30 drum has a working width of 1,200 mm. The strong single-stage vibratory system and two different frequencies supply compaction power of 37 kN and 68 kN.

The working width of the ARS 50 is 1,400 mm, featuring a boosted single-stage vibratory system with two frequencies. It provides compaction power of 53 kN and 85 kN.

A smooth drum is standard on both models. The ARS 30 has a drum thickness of 15 mm, while the ARS 50 drum is 18 mm thick. To improve versatility and profitability, the rollers are available with a padfoot (PD) drum (with a smooth shell kit) and a dozer blade.

The drums are designed to be maintenance-free as part of Ammann's ECOdrop philosophy. The focus of ECOdrop is to reduce the volume of fluids required, make service points extremely accessible – and make all new products more environment-friendly.

ECOdrop on the ARS 30 and ARS 50 offers: improved fuel economy and lower fuel consumption due to available EcoMode; a maintenance-free vibratory system with lifetime grease bath instead of oil bath; a lifetime maintenance-free steering joint with bearings placed in cage storage; and no drive gearboxes – and therefore no gear oil is needed.

The no-rear-axle concept makes the rollers more compact and enables a lower engine location that improves the centre of gravity – which provides better stability, even on slopes. The design also improves visibility and manoeuvrability. These factors, combined with stability, promote jobsite safety.

Also available for installation is the ACEforce system, which allows operators to easily monitor compaction progress. This intelligent compaction system shows the actual kB value on the display, significantly reducing the time required to achieve maximum compaction.

An optional telematics system can help monitor the machine's position, assist with control and provide other important jobsite information. All the data can be monitored via the web.

The machine's standard twin-lock drive improves traction and reduces slipping of axles. This fully automatic traction control system is activated without electronic controls. It constantly adjusts the drive performance depending on actual jobsite conditions.

The torque is uniformly distributed into axles to ensure ground contact and prevent slipping of the front drum and rear wheels – and to ensure the quality of the final compacted surface.



The ARS 30 (above) and ARS 50 (below) soil compactors feature weights of 3 t and 5 t respectively. These compact machines are ideal for small landscaping projects, forest roads, municipal roads and walking/bicycle paths.



A new articulated joint further boosts drive performance and stability, and enhances manoeuvrability. The central steering joint with integrated oscillation connects key components and ensures balanced weight distribution and consistent ground contact. The hydrostatic power train and articulation joint are essentially maintenance-free.

The machine's operator station with a wide-opening entrance provides unrestricted access to the spacious, quiet cab. An easy-to-reach operator seat with an adjustable armrest optimises comfort, as does the fully vibration-isolated platform. All control switches are accessible and highly visible – essential for quick operator overview.

A multi-functional control display is located on the main dashboard, making it easy for operators to monitor. The machine design ensures all objects are visible to the operator beyond a 1-m-by-1-m area both in the front and back of the compactor.

The machine's engine compartment is easily accessible, with a heavy-duty design that protects all major components during operation. All maintenance and servicing points can be reached from the ground. The compactor is equipped with external draining points for essential fluids such as engine oil or cooling liquids. ■

Website: www.ammann.com

Manitou electric booms and heavy-load telehandlers

With four new models, Manitou is accelerating the rollout of its 'Oxygen' low emissions range. The 200 ATJe rough-terrain electric boom lift – with a working height of 20 m – is now available with four-wheel steer for greater manoeuvrability and a basket that can now take 250 kg of load, 30 kg more than on the two-wheel drive version. According to Manitou, the total cost of ownership (TCO) is reduced with an almost 50% decrease in maintenance costs compared to the internal combustion version.

The 'Oxygen' range also welcomes two new models, the 160 ATJe and 180 ATJe. Featuring a working height of 16 m and 18 m respectively, these electric boom lifts see their capacity increased by 50 kg for a basket that can take a total weight of 250 kg. There is another version named 160 ATJ+ e, with capacity significantly increased to 400 kg. A range extender solution is presented in the form of a removable generator common to all the machines, allowing for a week of autonomy.

The 160, 180 and 200 ATJe models come with a safety pack, protecting the operator and the site teams, as well as alerting fleet managers to any high-risk behaviour. The innovations in this pack include forgotten harness detection and detection of obstacles around the machine's chassis. A 'lighting' pack ensures excellent safety for platform loading and unloading operations with a number of lights positioned on the platform to see and be seen.

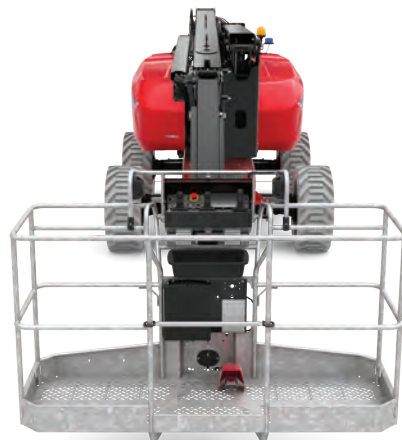
"With all these new products, Manitou Group is the first manufacturer to have a range of 100% electric rough-terrain platforms from 16 to 20 m," said Arnaud Boyer, VP of marketing and product development at Manitou. "The acceleration of our electric development allows us to now offer low-emission solutions across our platform ranges, as well as on our telehandlers. We will continue to extend this energy to other ranges in accordance with the objectives of our CSR roadmap."

Furthermore, a new version of the 120 AETJ boom lift has been added to the industrial range. This model has been entirely redesigned and is fitted with AC (asynchronous) motors providing comfort and flexibility of use. A lot of work has been done on the accessibility of the components, such as the pivoting battery containers and tool-free access, for savings on machine maintenance. This new generation of industrial articulated platforms is equipped with the same diagnosis system as the rough-terrain range for rapid maintenance without the need for external tools.

In addition, the new MHT range of telehandlers is designed to handle heavy and bulky loads, on all types of terrain, in complete safety. Its performance has been greatly improved with capacities from 9 to 33 t, for a working height of up to 12 m.

The ergonomics have been enhanced with a comfortable and easy-to-reach operator's station featuring wide, non-slip steps, a large door and the 'Easy Step' floor cut-out that allows safe entry and exit to the cab. The new Manitou JSM joystick now incorporates a capacitive system for automatic and precise detection of the operator's hand for safe working.

Among the models in the MHT range is the MHT-X 11250 mining version, with a lifting height of 11 m for a maximum load of up to 25 t. This versatile model is designed for safe handling of heavy, bulky loads, particularly for mining maintenance activities. The ergonomics have been improved with a comfortable, easy-access driver's cab with wide non-slip steps and a wide door.



TOP: The new 160 ATJ+ e electric boom lift.

ABOVE: A new version of the 120 AETJ boom lift has been added to the industrial range.

LEFT: The 200 ATJe electric boom lift is now available with four-wheel steer for greater manoeuvrability.

BELOW: The MHT range of telehandlers is designed to handle heavy loads on all types of terrain.

Fitted with a hydraulic system providing a 275 l/min flow rate and a load detection pump, the MHT-X 11250 telehandler ensures a high productivity level. Its engine speed adapts automatically to the needs of the transmission, thanks to the Eco-Mode system that can be activated from the cab, thus reducing fuel consumption during travel. ■

Website: www.manitou-group.com

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Online Marketplace for new and used lifting equipment

MyCrane has launched a free-to-use online Marketplace, allowing users around the world to quickly and easily buy and sell new and used lifting equipment, and much more.

The MyCrane Marketplace (market.my-crane.com) features various types of cranes, rigging equipment, spare parts and auxiliaries, as well as global job vacancies spanning a wide range of crane-related roles.

Lifting equipment available on the platform includes mobile cranes, crawler cranes, tower cranes, boom trucks, aerial platforms, manlifts, mini cranes and hydraulic gantry systems.

The Marketplace is supported by the new MyCrane Inspections App, which provides extensive, real-time reports and high-quality images of the crane listed for sale – wherever it is in the world.

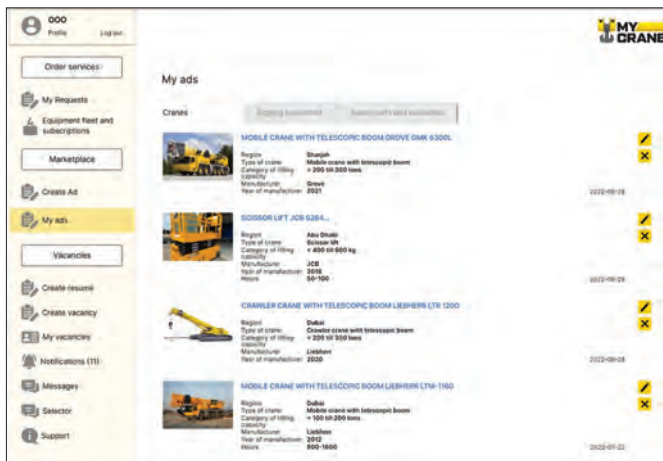
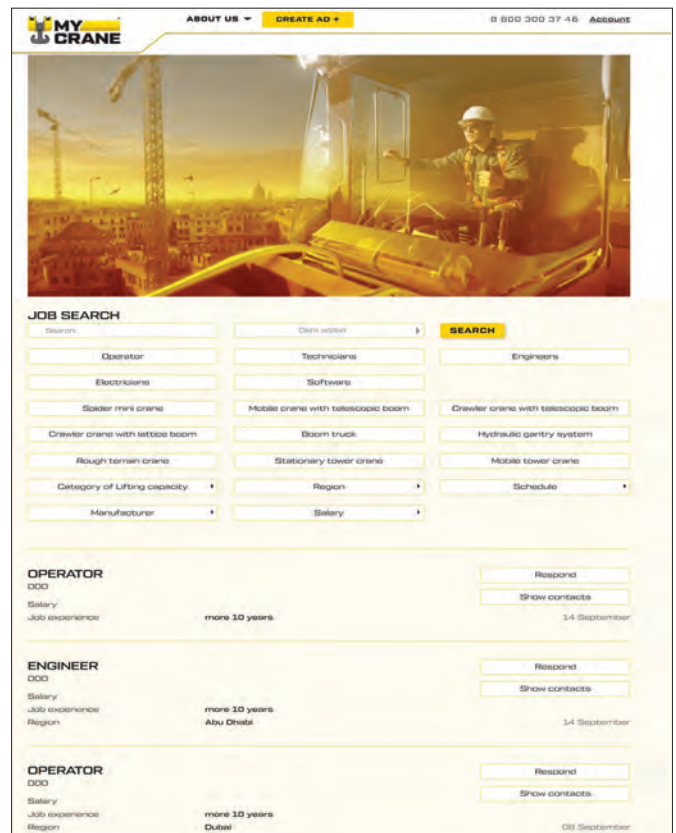
Powered by artificial intelligence (AI) and machine learning (ML), the app allows sellers to easily upload and modify condition reports, eliminating the need for expensive, specialist crane inspections.

Unlike the majority of existing sales channels, MyCrane does not charge listings fees – nor any commission – for sales conducted on the Marketplace. Sellers just need to complete a simple registration to create and publish their advertisements, while the Marketplace is available for browsing without registration.

Andrei Geikalo, MyCrane’s CEO and founder, said, “Launching MyCrane one year ago, we pledged to ‘Unite the Lifting Community’. Thanks to our global network of franchisees and owned offices, MyCrane has subject matter experts around the world that can connect customers with real buyers, and achieve the best price for their equipment. It is this on-the-ground presence that enables our Marketplace to combine digital technology with personal relationships.”

He added, “Skilled labour shortage is affecting the crane industry greatly. At our job portal, crane suppliers can find the best people, while at the same time we offer new opportunities for those seeking a career move.

“By increasing the scope of services offered by MyCrane, we can add more value to our global customer base. Whether you need to rent a crane, buy one or even find your next job role – you can do it all at MyCrane.”



ALL IMAGES: MyCrane’s online Marketplace is a free global sales portal for everybody in the cranes and construction industry. It features various types of cranes, rigging equipment, spare parts and auxiliaries, as well as global job vacancies spanning a wide range of crane-related roles.

The Marketplace provides a valuable link to the platform’s crane rental tool. In just a few clicks, crane rental providers can post any of their existing registered cranes for sale in the Marketplace, without needing to re-enter the crane data.

Once a customer has purchased a crane via the Marketplace, MyCrane can offer crane transportation for the buyer, insurance and leasing (finance) to fund the purchase. ■

Website: www.market.my-crane.com

Enerpac raises the bar with 400-t cube jack lift

Enerpac has successfully completed side-load stability testing of the SCJ-100 (self-locking cube jack) by performing a four-point lift with a 400-t load up to 3 m at its factory in Hengelo, the Netherlands. The SCJ-100 raises the bar for cube jack lifting from 2 to 3 m and doubles the lifting capacity compared to the smaller SCJ-50.

The SCJ-100 Cube Jack is a compact and portable hydraulic solution for synchronised incremental lifting and lowering of heavy loads. It uses a base lifting frame and self-aligning, lightweight steel cribbing blocks to provide high-capacity and stable lifting.

Steel cribbing blocks have several benefits over wood cribbing, said Enerpac. These include fewer cribbing components to handle and align, lifting up to eight times faster, and lifting higher than using traditional cribbing methods.

During side-load testing, four units of the SCJ-100 were used to lift a 400-t test load. At 2 m high, the load was subjected to a side load of 10 t (2.5%) by attaching a cylinder to the load and pushing the load to the full stroke of the cylinder. At 3 m, the maximum lift height for the SCJ-100, the load was subjected to a side load of 6 t (1.5 %).

“Even during the toughest side-load test, the performance of the SCJ-100 was impressive and enhances safety,” said Pete Crisci, product line director at Enerpac Heavy Lifting Technology. “By raising the lifting capacity and maximum lift height, we now offer users a way of tackling heavy lifts that would have been impossible before without excessive, and time consuming, use of climbing jacks with wooden cribbing.”

Up to eighteen 24.5-kg steel cribbing blocks can be safely and easily stacked onto the SCJ-100 base frame yielding a maximum height of 3,006 mm. The base frame footprint measures just 655 mm x 636 mm, making it ideal for restricted operating space. A low 558-mm minimum initial jacking height increases flexibility and reduces operational start-up time. The SCJ-100 also comes with a storage frame to make tool maintenance and inventory management easier.

Cube jacks operate with up to 700 bar hydraulic pressure and are compatible with standard pumps, such as the Enerpac split-flow pump that offers the ability to evenly operate multiple cube jacks. ■

Website: www.enerpac.com



LEFT AND BOTTOM LEFT: Four Enerpac SCJ-100 Cube Jacks lift a 400-t load during testing.



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Linnhoff asphalt plants impress at Yogyakarta International Airport construction

Yogyakarta International Airport (YIA) on the island of Java, Indonesia, was launched to handle all commercial flights into the city and to replace Adisutjipto International Airport (JOG) as the main airport serving the Special Region of Yogyakarta and its surrounding regions.

YIA opened for its first day of full operation on 29 March 2020, just as Covid-19 restrictions were beginning, but still managed to welcome 115 flights to its new runway on its opening day. In fact, the airport had been running limited operations since May 2019 – all thanks to the high output and reliable performance of the collection of Linnhoff TSD1500 MobileMix and Linnhoff CMX1500 CompactMix asphalt plants that contributed to airside infrastructure (apron, runway and taxiway) over the tight eight-month construction plan.

“Given the tight schedule, the contractors had no room for errors or issues with the supply of hot mix asphalt,” said Lee Yen Meng, CEO at Lintec & Linnhoff Asphalt Pte Ltd. “The production capacity, precision and reliability of our TSD1500 and CMX1500 were key factors in the contractors’ selection, ensuring they wouldn’t face penalties by failing to bring this vital project in on time. In the end, our clients were satisfied with the productivity of Linnhoff asphalt plants for this project as they were able to complete the runway within six months after the planning stage.”

In particular, the TSD1500 is a perfect choice for time-sensitive projects like this, because of its full mobility feature that allows for rapid relocation. Each of its four main mobile modules – cold feeder module, screen drum module, weighing and mixing module, and baghouse and control cabin module – incorporates a built-in chassis, so that only a prime mover is required for fast mobilisation.

Once it arrives on-site, no heavy-concrete foundations are required and its hydraulic powerpack with self-jacking support simplifies setup by eliminating the need for heavy cranes. Pre-installed cables for quick-coupling the modules maximise the plant’s plug-and-play convenience.

“Another advantage of the MobileMix series in active airports is their compact dimensions,” added Mr Lee. “With a low profile, they conveniently conform to any height restrictions, allowing them to be installed within the airport vicinity for greater production reliability and more economical operation.”

Being the mid-sized offering in the three-model MobileMix range, the TSD1500 produces homogeneous asphalt in high-quality batches at a productive rate of 90-100 t/hr. The CMX1500 delivers the same high productivity performance as the TSD1500.

Although generally intended for longer-term projects, the CMX series also offers a prefabricated, modularised structure for quick and easy setup, with each module specially designed to enable economical transport in shipping containers.

The CMX series uses the same double screen drum technology as the TSD series to eliminate the need for hot elevator and vibrating screens. These screen drum asphalt plants reduce overall operating costs significantly in terms of both maintenance and fuel consumption. This environment-friendly approach is complemented by a pollution control unit that uses an ambient-air cleaning system to filter dust and clean exhaust gas before it is released into the atmosphere.



The Linnhoff TSD1500 installed close to the airport produces high-quality asphalt at 90-100 t/hr.



The Linnhoff CMX1500 was selected due to its high output performance and reliability.

The Yogyakarta airport’s runway was completed within six months and the whole airport was completed in just 20 months after land clearance began in July 2018, earning the development three awards from the Indonesian World Records Museum. The awards were for: Airport with the Most Concrete Usage, Airport with the Fastest Airside Zone Completion, and Fastest International Airport Construction Development.

Featuring an early detection system for earthquakes, tsunamis and extreme weather events, the airport’s structure can withstand an earthquake with a magnitude of up to 8.8 on the Richter scale and 12 m-high tsunami waves. With an apron covering 371,205 sq m, it is equipped with five fixed bridges, while its 12,000 sq m cargo terminal has a capacity of 40,300 t/yr. A three-storey, 137,280 sq m parking garage can accommodate thousands of vehicles.

At 3,250 m long (just over 1 km longer than JOG’s runway), and 45 m wide with 15 m shoulders, YIA’s runway is now able to accommodate larger, heavier aircraft such as the Airbus A380. With 22 parking stands and a capacity for 28 aircraft movements per hour, the new airport fully expects to meet its target of 20 million passengers annually. ■

Website: www.lintec-linnhoff.com

Global companies entrust MyCrane with lifting projects

Beijing, China-based Haihua Industry Group, involved in the production and trade of chemical industry products and equipment for the oil and energy sectors, recently made use of MyCrane's online crane rental platform to get better access to equipment, leading to substantial savings.

With the free MyCrane service, Haihua was able to source a 400 t crawler crane for use on three column installations at a refinery. Critical lift was required at 28 m radius and 77 m height for the 22.8 t column sections.

After receiving a range of easily comparable commercial offers, Haihua awarded the lifting contract to Sinopec Heavy Lifting and Transportation Co Ltd, which then proposed a Sany crane, SCC4000A, in LJ configuration (super lift).

Assistance with the contract for lifting services, preparation of engineered drawings, and client support up until safe execution were all provided by MyCrane.

Via MyCrane, the client was able to select a crane already located in the same region as the job site, generating savings of 30% compared to other quotes – a clear demonstration of the value offered by the MyCrane platform.

Founder and CEO of MyCrane Andrei Geikalo said, "In our initial discussions, it became apparent that most contractors known to the client were unable to meet its requirements, particularly in relation to site space and budget constraints.

"Fortunately, the client was able to use the MyCrane rental platform to quickly access a range of additional suppliers who were able to propose different options, and then award the project to their preferred contractor based on technical and commercial criteria."

"Haihua thanked MyCrane for facilitating the successful execution of this installation, all within the deadlines required," continued Mr Geikalo. "This project highlights how MyCrane provides access for customers to the whole of the market of crane rental companies, resulting in time and cost savings; and new customers and opportunities for suppliers."

Xu Xinghuai, manager at Sinopec Heavy Lifting and Transportation Co Ltd, which supplied the crane, added, "We registered at MyCrane just a month ago and have already been awarded this very nice job for our 400 t crawler crane, and it was all done online! It's great to make use of a tool that exposes your company to additional customers and orders, without meetings, call or emails."

In another project, MyCrane was tasked with advising a global energy customer that needed to install nine pieces of equipment. The client turned to MyCrane after it was discovered a miscalculation meant the project could run in to considerable delays and added cost.

The package comprised four condensers weighing 26.8 t (lifting height over 45 m), four crystallisers weighing 48 t (lifting height over 45 m), and one wet dust collector weighing 20 t.

The technical team of the customer initially identified a mobile crane with a lifting capacity of 500 t, the Liebherr LTM-1500. MyCrane engineers were subsequently called upon to find a solution that included sourcing a smaller crane, in order to lower costs for the customer.

MyCrane's independent approach enabled a solution using a 400 t mobile crane. This already brought value for customer, who decided to place an online request for rental of this crane at the



Using MyCrane's online crane rental platform, Beijing-based Haihua sourced a 400 t crawler crane for use on three column installations at a refinery.



In another project, MyCrane has provided independent advice for a global energy customer that needed to install nine pieces of equipment.

MyCrane platform. From the multitude of quotes received, the best was chosen based on price, technical aspects and other criteria.

A surprise was waiting for all parties at the job site, however, when it was discovered that the heaviest piece of cargo was delivered with a weight 25% heavier than expected (because additional components were installed). This posed a major risk that the LTM-1400 crane already mobilised at the job site would not have sufficient capacity.

"Because MyCrane is impartial, we found a way to adjust the weight of the rigging and reposition the crane so it could be safely used whilst still within capacity," explained Mr Geikalo. "This eliminated the need to source a bigger and more expensive crane, and ensured the project remained on schedule.

"As MyCrane doesn't own and operate its own equipment, our priority is always finding the right solution for the client – just as we did in this case.

"These recent projects demonstrate the wide range of services available from MyCrane and are just a small sample of the many jobs we are currently engaged in, with all types of cranes ranging from 500 kg up to 1,600 t." ■

Website: www.my-crane.com



Comansa LCH300 hydraulic luffing jib crane

Comansa has expanded its range of luffing jib cranes with the launch of the LCH300. This is the first hydraulic model from the company, featuring a maximum load capacity of 16 t and reach of 60 m.

The LCH300/16 t is available in various versions: embedded, supported on bases of 6 or 8 m, or movable. The crane can be assembled with 2.5 x 2.5 m tower sections. Its modular jib has a reach of 25 to 60 m, with configurations every 5 m. It provides a minimum working radius of 4 m and a minimum radius of 9 m when out of service.

The crane has manual transmission combinations of 1T (direct pulling) and 2T. The maximum load capacity is 8 t with the 1T configuration and 16 t with the 2T configuration. The maximum load at the jib end is 3,400 kg and 3,150 kg, respectively.

The luffing moves the jib and counter jib jointly by a hydraulic cylinder at the cathead and jib hinge assembly. The hydraulic pump unit is located on a movable platform in one piece.

From the cabin, there is direct visibility of the lifting mechanism of between 50 kW (standard) and 65 kW (optional). Thanks to the Effi-Plus technology, it is possible to increase the speed of the lifting mechanism without affecting consumption, which allows loading cycles to be considerably reduced, thereby improving the productivity of the crane.

The design of the new rotating part – jib, cathead and counter jib – as well as the mechanism, cabin and hydraulic unit platforms, optimises the transport of this model, which can be supplied by eight trucks or containers.



ALL IMAGES: **The LCH300 is the first hydraulic model from Comansa, featuring a maximum load capacity of 16 t and reach of 60 m.**

In addition, the LCH300 is equipped with the Cube Cab (L or XL) with split-type air conditioning. The cabin platform, like the lifting and hydraulic unit platforms, can be transported in a single piece.

Comansa luffing jib tower cranes offer optimal performance where horizontal jib cranes cannot move loads freely due to space limitations. Now, with the incorporation of the LCH300 hydraulic model, the luffing mechanism is optimised to deliver even greater performance and an efficient assembly, as well as reduction of the radius when out of service. ■

Website: www.comansa.com

Hamm HC series soil compactors

Hamm has introduced its HC series – a new generation of earthwork rollers – for the global market. The machines achieve a high level of compaction power while simultaneously achieving a reduction in CO2 emissions. All models are also ‘digital-ready’ since they can be equipped with various interfaces for the digital construction site.

With the HC series, Hamm is bringing together two of its previous compactor series – the 3000 series (Tier 3) and the H series (EPA Tier 4/EU Stage V) – on one platform, including models with an operating weight of 11–25 t. The diesel engines comply with the regional requirements, and their power varies between 85 and 160 kW, depending on the weight.

The drum width for all models is 2,140 mm. Apart from the previously known sales variants, Hamm revealed that in future, there will be CR machines with reinforced components for applications on difficult terrain and special equipment for applications on rocky ground.

The HC series is characterised by its new, athletic design and the view channel in the engine hood. A new frame concept also guarantees increased tank volume; in future, the heavy compactors will be delivered to the construction site with a 336-l fuel tank, said Hamm.

Enhanced compaction parameters

In comparison to the predecessor models, Hamm has increased the compaction power for the HC series. The centrifugal force has been increased by up to 15%, while the static linear load is as high as 80.6 kg/cm.

There are new features when it comes to the steering. A new cast articulated joint with articulated joint lock allows for a better steering and swing angle with improved kinematics. Thanks to the optimised weight distribution in combination with the traction control, the gradeability has been further improved.

In addition, the front vehicle and the scraper have been



Large slope angles and powerful drives ensure that the new Hamm HC series rollers achieve excellent compaction on uneven and steep terrain – even on inclines over 60%.

redesigned. This has resulted in significantly increased clearance on the drum, meaning that no material can accumulate there, which eliminates cleaning work.

The integrated Eco mode supports the operator so that they can work in the economical partial-load range as often as possible, thus reducing the need for cooling. The speed is reduced for this, but without compromising the power, thanks to a large travel pump. This concept saves fuel and minimises the noise and exhaust gas emissions. Hamm added that with the optional engine stop system, the energy consumption can be reduced even further.

Comfortable workstation

For greater comfort, the cab offers the operator over 20% more tread, around 30% increased space, and numerous storage compartments. The vibrations and noise level in the cab have also been minimised, owing to the materials and design.

A comfortable heating and air-conditioning system, the Easy Drive operating concept, the innovative seat operating unit, the comfortable steering as well as modern ventilation round off the comfort offered by well-conceived construction machinery.

In the dark, the standard LED lights light up the environment in all working situations. At day and night, thanks to the view channel in the hood, the roller meets the requirements for the field of vision in accordance with DIN EN 474.

On the cab, a large additional mirror with proximity detection enhances the view of the immediate environment, and design tricks guarantee low-vibration mirrors. The mirrors can be easily adjusted from the cab.



Hamm further highlighted that the HC series is well prepared to meet the needs of future jobsites. The 'Smart Doc' app, which was developed by the manufacturer, graphically displays all of the key compaction parameters as well as the compaction progress, and logs the measured rigidity as well as the position data.

In the Smart Doc app, even inexperienced drivers can immediately see which areas have been sufficiently compacted and which areas still require compaction. What's more, the compactors can communicate, even with digital applications from third parties, via a standardised interface. ■

Website: www.wirtgen.com



TOP AND LEFT: With operating weights of 11-25 t and a wide range of equipment variants, the HC series rollers can comply with a variety of requirements.

Elematic shuttering robot for double wall production

The new shuttering robot from Elematic is designed to optimise the automated production of double wall elements. The company's technology can cater for all types of wall production, including solid wall, sandwich wall and filigran concrete elements.

And, like those reliable and efficient circulation lines for sandwich wall production, the new Edge Double Wall offers the same high-quality fundamental characteristics, said Toni Koitmaa, product director at Elematic. "The double wall plant includes much of the technology that is also found in our sandwich and solid wall circulation lines, based on years of experience."

With everything from design to assembly, including automation and software produced by the company, customers can now enjoy greater functionality and efficiency of their plants, especially when using Elematic Plant Control, a production operations management software suite that is specially designed for precast concrete factories.



ABOVE AND BELOW: Elematic's new shuttering robot is designed to optimise the automated production of double wall elements. This technology demonstrates the ease and accuracy with which shuttering can be placed on the table, whether it is taken from active or passive storage.



Shutter stay or shutter go

The new shuttering and deshuttering robot demonstrates the ease and accuracy with which shuttering can be placed on the table, whether it is taken from active or passive storage. Incorporating the latest movement control system for improved controllability and efficiency, the robot is able to rapidly move the shutters, before placing them with pinpoint accuracy, to ensure superbly straight-edged wall panels with sharp 90° corners.

When the time comes for deshuttering, the new robot can also perform that task when required, depending on phase time, or, alternatively, a separate deshuttering robot may be used.

“The new robot is very precise. Its robust structure and tracks manufactured to strict tolerances guarantee that vibration, swaying and movement deviations are kept to a minimum,” added Mr Koitmaa. “Not only is the robot accurate, it is also fast, durable and economic.

“The intelligent automation keeps the movement speeds optimised, saving energy while still placing the shutters as fast as possible. Our customers can be assured of producing a consistent quality of wall panels, along with safer working methods, lower production costs and satisfied customers who appreciate the straight edges.”

Improve quality and quantity

Elematic’s Plant Control technology highlights how digitalisation is able to streamline factory automation and work processes and deliver major improvements in production efficiency and profitability, resulting in a smooth workflow without unnecessary stops, human errors and material waste.

Easily integrated into the IT systems of existing precast factories, this software suite covers both floor and wall production, with Plant Control Wall Quality module being an ideal tool to decrease operational costs and improve quality, of sandwich wall production in particular.

Decreasing the time-consuming and manual quality-control tasks common at many factories, Plant Control Wall digitalises the process and recommends the panels for checking – a big time saving on the 100 products each day that may need manual checks at an average facility.

Using the automatically stored production history data, the work processes where issues occurred can easily be identified and reviewed, allowing quality improvement actions to be easily taken. Instead of merely collecting data to satisfy legislators and customers, it can now be used to improve the production process too.

“You can easily find the five main issues that required correction work one month, improve your process the next and then compare how many similar faults you’ve had before determining the next month’s top five issues,” said Jarkko Salmensivu, director, software business unit at Elematic.

“You’re now focusing on reducing quality errors to minimise fixing time. Once you know what the key problems are, it might only take a short time to fix the process – fixing the finished panels will take much longer!”

Working alongside other Elematic wall production solutions,



TOP AND ABOVE: Incorporating the latest movement control system for improved controllability and efficiency, the robot is able to rapidly move the shutters, before placing them with pinpoint accuracy, to ensure superbly straight-edged wall panels with sharp 90° corners.



LEFT: Elematic’s Plant Control technology highlights how digitalisation is able to streamline factory automation and work processes and deliver major improvements in production efficiency and profitability.

the FaME magnet shuttering solution provides yet another example of the company’s emphasis on resource efficiency, with the use of recyclable aluminium side profiles providing a sustainable alternative to the commonly used wood side forms that are thrown away after usage, or heavier steel solutions.

Easy to attach and to remove from table surfaces, with no need for welding, bolting or grinding, FaMe magnet shuttering reduces the cost of production, while handling most wall thicknesses, from 70 – 500 mm, with accessories even up to 800 mm. ■

Website: www.elematic.com

First 3D printed house in Borneo



Concrete precasting company Sarawak Consolidated Industries Berhad (SCIB) has revealed its first 3D printed demo house in Sarawak, located on the Malaysian part of Borneo island.

The house incorporates a built area of approximately 90 sq m, with a total printing time of 46 hours. It was 3D printed using the BOD2 3D construction printer from Danish company COBOD International.

The total length of the print was over 9 km, extruded layer by layer on top of each other, for a total of 145 layers each of 2 cm height. The SCIB team chose to plaster the outside walls of the house, which is a normal practice in the region due to high-humidity weather conditions. Also, plastering makes it easy to wash and clean when green algae grow on the walls, which occurs due to the climate conditions.

COBOD 3D construction printers have been used around the world – from India, over the Middle East, Africa and Europe, to North America where the printers recently worked on two-storey buildings in Texas and Ontario.

The new 3D printed house in Borneo is located on the premises of the Malaysian Construction Industry Development Board (CIDB), which is the permitting body in Malaysia, at its training arm

premises Malaysian Construction Academy (ABM) in Kuching, the capital of Sarawak, and was built in collaboration with the agency.

“The use of technology such as 3D printing comes at a time when businesses are being scrutinised for the impact of their operations on the environment and society,” explained Rosland Othman, group managing director and chief executive officer of SCIB.

“Businesses have an important role in society and an important part is to operate responsibly. We believe 3D construction printing can be part of this, and therefore we are also involved in a programme with our university partner to develop and improve the skills and knowledge of the construction industry.”

Simon Klint Bergh, head of Asia Pacific at COBOD, who is based at the company’s regional office in Kuala Lumpur, Malaysia, said, “At COBOD International, we are proud to have SCIB as our customer and to see them execute a first building.

“SCIB is a very innovative company and with our technology, we are excited to see SCIB enable faster execution of construction projects, as well as more efficient construction at a lower cost.”

Mr Bergh added that the project “will be the first of many 3D printed houses to come in Asia Pacific.” ■

Website: www.cobod.com



TOP: Due to high-humidity weather conditions in the region, the SCIB team chose to plaster the outside walls of the house.
OPPOSITE AND ABOVE: The total printing time for the house was 46 hours, using a BOD2 3D construction printer from COBOD.

All images © COBOD

'Climbing' Songdo Central Park III

The new Songdo Central Park III in Incheon, South Korea, consists of two 143-m-high luxury residential towers, which each offer space for a total of 351 residential units on 40 storeys. The development is being built under strict safety requirements and within a tight construction schedule. It is estimated for completion in early 2023. The contractor on the project is Posco E&C Co Ltd.

Innovative formwork solution

The RCS Max rail climbing system from Peri was deployed on site – the first time it was used in the country – to meet the demand for efficient construction and low personnel costs.

A total of 84 consoles as well as hydraulic units were supplied during the construction of the residential towers. The RCS Max scored with an innovative climbing process,

smart safety features and easy assembly of the climbing consoles, among others.

Due to the strict guidelines by the South Korean government, safety was the top priority for all participants and processes. According to Peri, the RCS Max system was convincing the customer with decentralised hydraulic units that enabled all platforms to climb upwards synchronously. Thus potential sources of danger, like falling edges or falling parts, could be avoided.

Other functions such as an automatic stop in case of overload or collision, a dead man's control with several remote controls, and an emergency stop switch on each platform, rounded off the multi-layered safety concept of the rail-guided climbing system.

Another highlight was the system's efficient climbing process. The load

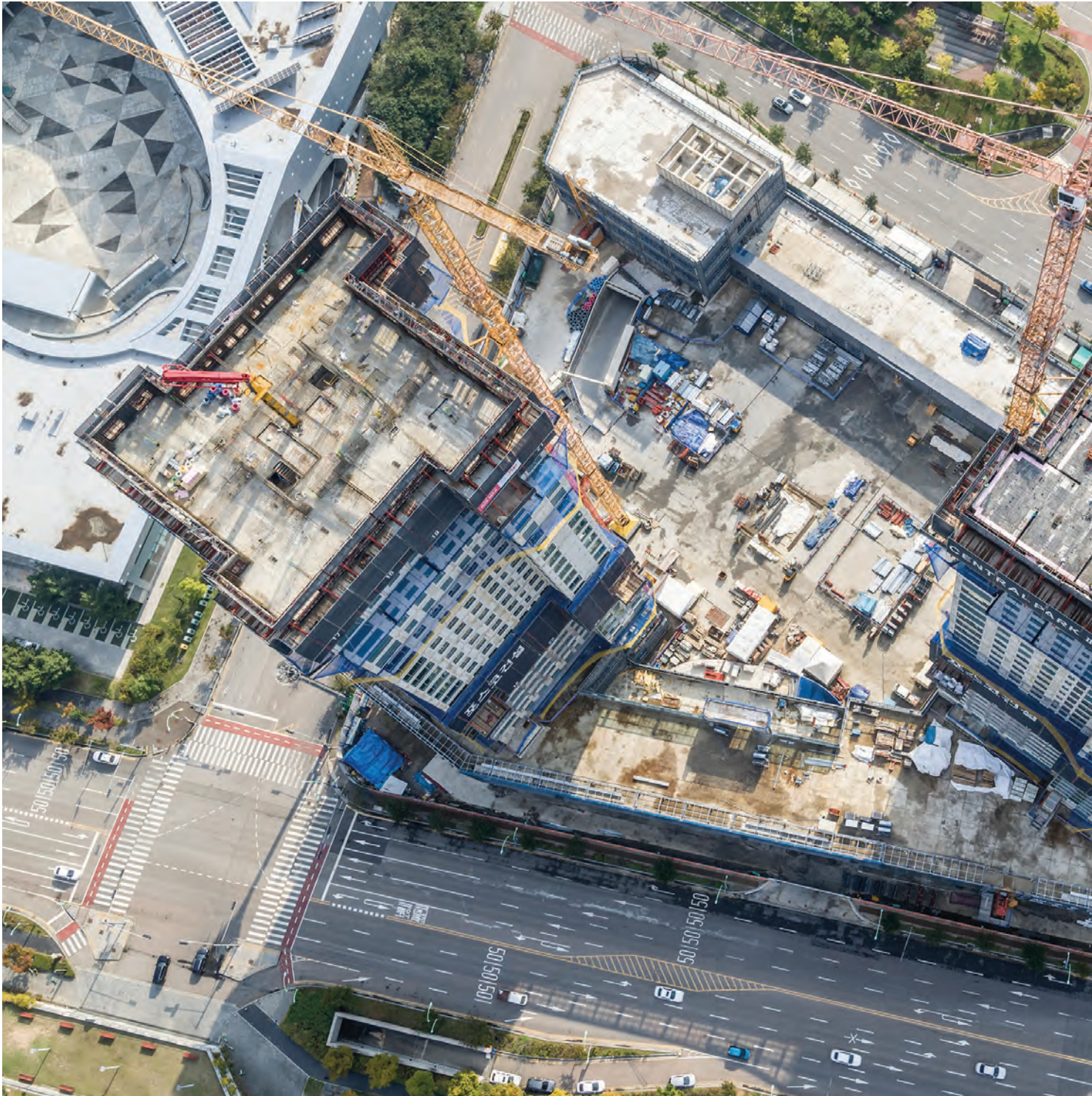




ABOVE: The two 143-m-high residential towers each comprise 40 stories, providing space for a total of 351 residential units.

LEFT: The development is being built under strict safety requirements and within a tight construction schedule.

OPPOSITE: The RCS Max rail climbing system from Peri was used on the project to meet the demand for efficient construction and low personnel costs.



transfer via the lower climbing section meant that the platforms were ready to be used again more quickly for the next section, which shortened the climbing cycle and ultimately the construction time of the project.

Peri pointed out that the climbing process incorporated only a few steps, allowing site personnel to learn with minimal training effort. The intuitive plug-and-play configuration made the system very easy to set up and did not require any specialised personnel, keeping labour costs low right from the start.

The integrated hydraulics of the RCS Max system also reduced crane use to a minimum. Via the RCS C Max climbing rails, which were particularly flexible in their inclination, the consoles were

connected to the building at all times via climbing shoes. These, in turn, could be easily installed at chest height of the operator and without any ladder at all, leading to higher safety for the site personnel.

Furthermore, the new RCS Max components are fully compatible with the RCS rail climbing system. This allowed the RCS Max to be combined with the RCS P climbing protection panel in South Korea. As the cylinder was firmly connected to the system at all times and climbed upwards with it, no awkward conversions were necessary. As a result, synchronous climbing of all platforms was possible, even with the enclosure solution. The work could be carried out safely even at great heights and with high wind loads.



The new RCS Max hydraulic unit came up with new features as well. Any malfunctions were immediately indicated by a light signal on the power unit, so they could be quickly recognised and directly remedied. A display attached to the unit by cable also enabled the construction site team to fully monitor the entire climbing process. This reduced any downtimes and increased productivity on the construction site.

Throughout the entire project, Peri provided support and advice to the site team. Intensive advance planning and on-site supervision of the climbing process ensured that the construction work progressed rapidly. In this way, the project requirements were met and the tight construction schedule adhered to. ■

Website: www.peri.com

BELOW: The lightweight system components required far less space at the construction site, thanks to their compact dimensions.



ABOVE: The RCS Max scored with high safety and productivity. The load transfer to the lower climbing section shortened climbing cycles and reduced downtime.

RIGHT: Using the RCS Max hydraulic unit, any malfunctions could be quickly and easily detected.

Heavy-lift mission

Indian company Steel Carriers Infrastructure recently carried out a heavy lift operation with the help of Tadano all-terrain cranes. “This was a complex and time-critical job, and the only cranes that could take care of it properly were our powerful Tadano all-terrain cranes, of which we have a large number in our fleet and which we were able to coordinate perfectly for the multi-part lift operation,” said Sunil Makad, managing director of Steel Carriers.

The job was to lift a 250-t dome with a diameter of 126 m evenly to a height of 16 m in order to set it down on steel supports and cover a coke storage facility. Eight Tadano cranes with various lifting capacities were deployed on this project.

The eight cranes comprised the AC 1000-9, AC 700-9, AC 500-1, AC 500-2, AC 350-6, AC 350-1, AC 250-1 and AC 200-1. They are highly manoeuvrable and thus could be brought to the work site in Rajasthan quickly and cost-effectively.

Such manoeuvrability was particularly important, as Steel Carriers summoned its cranes from all over India. According to Mr Makad, the cranes came from Assam, Meghalaya, Gujarat, Maharashtra and Goa.

He pointed out that despite these large distances, Steel Carriers managed to get “all the cranes, as well as the 22 trailers for crane accessories and two utility vehicles, to the site within just six days thanks to a meticulous project plan.”

The cranes also feature ease of assembly, resulting in fast setup times, which is an advantage in this time-critical project. In fact, the Steel Carriers team was able to put together all the cranes and have them ready to start lifting in a mere two days.

“We set up all the cranes with a standard configuration without extensions, and only the AC 350-1 and AC 350-6 with the Superlift option,” shared Mr Makad.



Two years of preparation

The 250-t steel dome with a diameter of 126 m was found within a 15-m-tall circular concrete wall and had to be lifted inside it. “The biggest challenge was coordinating the lift with absolute precision,” revealed Mr Makad.

“That’s why we came up with a sophisticated communication strategy with the help of walkie-talkies between the crane operators, spotters and our lifting specialist in charge.”

Perfecting the lift plan took the Steel Carriers team around two years – a length of time that illustrates the magnitude of the challenges involved in the job. After all, the tandem lift with eight cranes with different lifting capacities was required for the working weight of the cranes to be distributed optimally in line with their respective capacities and positions.

To carry out the tandem lift, the team first had to determine the exact centre of gravity of the load with complex calculations.



OPPOSITE, ABOVE AND BELOW: Steel Carriers used eight Tadano all-terrain cranes to lift a 250-t dome with a diameter of 126 m evenly to a height of 16 m.







OPPOSITE, ABOVE AND ABOVE RIGHT: Perfecting the lift plan took around two years for Steel Carriers – a length of time that illustrates the magnitude of the challenges involved in the job. With meticulous planning, the company was able to carry out the heavy lift operation successfully.

As if that weren't enough, the boom lengths were not the same among all the cranes, making it quite difficult to keep the dome in a perfectly horizontal position during all the stages of the lift.

"However, our meticulous planning for the lift meant that we had everything under perfect control at all times," said Mr Makad, who had the immediate assistance as and when required by the on-site support provided by the manufacturer through Tadano engineer Mr Manikandan.

The lift operation itself consisted of several stages. First, the eight Tadano cranes lifted the dome a bit so that assembly technicians on aerial work platforms could install supports at the edge of the dome.

After that, the dome was lifted a bit more so that the workers would be able to extend the installed supports with additional support elements. Following each partial lift, a supervision team used wall markings to ensure that the dome was perfectly even. This sequence was then repeated until the dome reached a height of 16 m.

The Steel Carriers team worked around the clock for seven days, with the night shifts having at least one soothing advantage – given the job at the work site took place during a season in which daytime temperatures in Rajasthan go up to 45°C.

A strong team

Eight cranes with two operators and two assistants each, together with the site managers, technicians, mechanics, foreman and lifting specialist, meant that Steel Carriers had a team of about 80 employees on site.

"Our team of experts runs like clockwork, and every single one of us knows exactly what they need to do," explained Mr Makad. "This project was no exception, which is why we were able to complete all the lifting and assembly work despite the tight schedule.

"Needless to say, our Tadano cranes definitely played a part in that as well, as they all worked perfectly and proved to be the ideal choice, just like we'd expected."

Mumbai-based Steel Carriers is now in its fourth generation and is one of the most renowned crane service providers in India. Its fleet includes telescopic and crawler cranes with lifting capacities ranging from 50 to 1,200 t.

Steel Carriers was the first Indian company to put a new Demag crane into operation with the AC 200-1 about 15 years ago. Apart from crane rentals, the company also offers transport services and storage services for industrial goods and steel products. ■

Website: www.tadano.com



Multiple bridges are being constructed for a new, sustainable recreation area by the Red Sea. In addition to three test piles, Bauer constructed a total of 124 piles for this project.

Piling at the Red Sea

Approximately 500 km north of the city of Jeddah in Saudi Arabia, a new recreation area is currently being established by The Red Sea Development Company (TRSDC). Located at the Red Sea, it is part of the Red Sea Islands Project that will combine nature, culture and adventure.

For this purpose, an archipelago off the coast of Saudi Arabia is being developed for sustainable tourism in this region. By 2030, a total of 28,000 sq m of beach, desert, mountains and volcanic areas on 22 islands will be transformed into an environment-friendly tourism centre in Saudi Arabia.

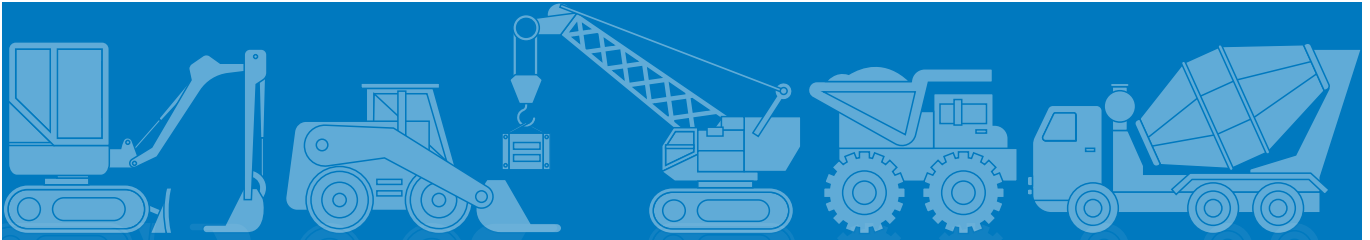
TRSDC appointed marine contracting specialist Archirodon to design and build an iconic bridge to the Shurayrah island, as well as two smaller bridges. Archirodon then tasked Saudi Bauer Foundation Contractors Ltd, a subsidiary of Bauer Spezialtiefbau GmbH, with the construction of piles for several bridge structures.

In the first phase of the project, Bauer constructed three test piles for a load test, and in the second phase a total of 37 onshore piles with a diameter of 1,300 mm for two new bridges. For the central bridge, which connects the main island of Shurayrah with the mainland, 60 piles with a diameter of 1,500 mm and 27 piles with a diameter of 1,300 mm were installed in the third project phase off the coast.

Archirodon's purpose-made floating crane barge and its crew were deployed to assist Bauer piling team to construct 87 offshore piles. "This is not a typical working location even for us. What's important here above all are precision and good logistics by Archirodon," said project manager Mudasser Iqbal. "Fortunately, the timing for material deliveries by barge was optimal, so we were able to keep to the schedule."

A Bauer BG 28 drilling rig was placed and safely secured on the barge to carry out the drilling work. The work began in September 2021 and was successfully completed in February 2022. ■

Website: www.bauer.de



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