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A KHL Group publication

Volume 29 | Number 4 | May 2018

Bauma CTT preview

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Roadbuilding

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With things looking up for Russian construction, Bauma CTT Russia 2018 looks likely to be a good show. *Thomas Allen* previews the Moscow exhibition



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The pressure to deliver ever smoother surfaces in ever shorter time spans is driving the adoption of new technologies. *Thomas Allen* looks at the sector



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Innovation in the tower crane market is thriving, as the latest machines demonstrate, says *Christian Shelton* from sister-publication *International Cranes & Specialized Transport*



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From trenchless to tunnelling, the many forms of drilling are making advances all the time, with new equipment and innovative techniques. *Sandy Guthrie* investigates

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Produced in co-operation with the European Construction Industry Federation

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rentalawards

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June 7-8, 2018
Helsinki,
Finland
www.euroconstruct.fi

Hillhead 2018

June 26-28, 2018
Buxton, UK
www.hillhead.com

Bauma CTT Russia

June 5-8, 2018
Moscow,
Russia
www.bauma-ctt.ru

Europlatform

Oct 11, 2018
Belfast,
Northern Ireland
www.europlatform.info

World Demolition Summit

Nov 7-8, 2018
Dublin,
Ireland
www.khl.com/wds

GIC (Italian Concrete Event)

Nov 8-10, 2018
Piacenza, Italy
www.gic-expo.it

Call for 'robust' legislation over market surveillance

CECE talks to MEP about concerns of construction machinery sector over EU Commission proposal

A robust legislative framework is needed for the new European Union market surveillance package, according to MEP Nicola Danti at a meeting with CECE (the Committee for European Construction Equipment).

CECE met Danti to discuss the new market surveillance package, which is known as the Goods Package. The discussion focused on the EU Commission proposal on compliance and enforcement of Union harmonised legislation on products, which is expected to apply from 1 January, 2020.

Danti highlighted the need for a robust legislative framework and, considering the ambitious timing for the negotiations, he said he expected a swift approval of the proposal in both the Parliament and Council.

CECE shared the main concerns of the construction machinery sector with Danti. This included the urgent need for more efficient market surveillance co-ordination among Member States, and the involvement of stakeholders.

CECE secretary general Riccardo Viaggi said, "Manufacturers know their products and are the ones most interested in having a level playing field in the EU internal market.

"The easy arrival of non-compliant products and the lack of reactivity from Member States is nowadays a serious problem that weakens competition."

It was felt that a harmonised risk assessment of products would save time and resources at national level, and should also be a priority for implementation.

The EU Internal Market Committee (IMCO) organised a public hearing on the Goods Package, including both initiatives on compliance and enforcement, and on mutual recognition of non-harmonised products.

The IMCO rapporteurs – Danti and fellow MEP Ivan Štefanec – participated at this meeting which covered major areas of the package.

Among the topics at the hearing, the speakers raised points such as the experiences of Member States with

the administration in the current goods framework, and the practical challenges of products entering the EU from third countries.

The business perspective was put through the views of lobbying group BusinessEurope, Orgalime (the European Engineering Industries Association) and Eurocommerce (which represents retailers and wholesalers). The impact on consumers was discussed, and there was a presentation on the SOLVIT system, which helps with citizens' EU rights.

CECE said it would continue to follow up developments of the Goods Package closely to ensure that construction equipment concerns were properly considered.

Sales of construction equipment in Europe grew by 15% in 2017, and in the first three months of this year, sales continued to grow, according to CECE (the Committee for European Construction Equipment).

Speaking at the Intermat show in Paris, France, CECE said it expected another 5% to 10% increase in Europe during 2018, with some markets experiencing historically high-levels of sales, and marking the fifth consecutive year of market expansion.

Enrico Prandini, CECE president, said, "This is a very good economic environment for Intermat to take place."

Prandini pointed out, though, that one of the inhibiting factors to the industry's success was the limited amount of market surveillance.

It was pointed out that construction machines were still coming to the EU and were in use in there without fully complying with the relevant legislative framework.

Once again, CECE and CISMA – the French construction equipment industry association – carried out their usual market surveillance tour in the halls of Intermat.

Experts checked over 45 different machines from 29 different brands, recording a 25% rate of non-compliance with EU-applicable regulation.

The lack of compliance occurred in the areas of accessibility, visibility and handling, and therefore mainly concerned the safety of operators. **ce**

Iberian Cat dealer change

South African-based Barloworld, Caterpillar's dealer in Spain and Portugal with BWIberia, is selling its business there to Cat's dealer in Italy and the Balkans – Tesa, which operates as CGT.

Quinton McGeer, CEO of BWIberia, said that despite the implementation of a business improvement plan, analysis of Iberia, the market potential and growth rates had led the company to conclude that

these conditions would not allow it "to achieve the Barloworld group's return expectations as a South African-headquartered company with emerging market capability".

In consultation with Caterpillar, he said, it had been decided that the business should be sold to a Caterpillar-approved dealer.

Now, Barloworld, acting through its wholly-owned

UK subsidiary, Barloworld UK, will sell 100% of the issued shares in Barloworld International, the holding company for the Iberian operations, to Tesa. The transaction is expected to close no later than 3 July, 2018.

The deal will end 26 years of Barloworld as a distributor in the Spanish and Portuguese service territories. It said CGT had 84 years' experience as a Caterpillar dealer. **ce**



NEWS IN BRIEF

French market figures show it likes mini crawler excavators

Mini crawler excavators now represent the largest segment of France's construction equipment industry, according to CISMA, the French association of manufacturers of construction equipment and material handling technology.

Last year, for the first time since the financial crisis a decade ago, the French market for mini crawler excavators reached the high levels seen back in 2008.

In 2017, the machines made up 58% of the market, compared to 55% in 2015, and over the past three years the average annual growth rate of the segment was 29.4%, according to CISMA.

Between 2015 and 2017, the market was said to have expanded significantly due to an increase in construction investment. Following the increase in building activity in 2016, civil engineering performed well in the second half of 2017. Purchases made by rental companies also contributed to the growth of the market, according to CISMA.

The market grew by 23.7% in 2017, with all market segments contributing to the rise. The one to three tonne segment, which represents 57% of the total mini crawler excavator market in France, rose by 22%. However, the most dynamic segments were the zero to one tonne, which grew by 48%, and the five to six tonne segment, which increased by 30%. These two segments represent 18% of the market.

Vinci starts Paris complex

Vinci Construction France has started work on the Origine complex, an 80,000m² mixed-use development near the new Nanterre-La Folie station, in the western suburbs of Paris, France.

The work is on behalf of its customer, property developer ICADE. The new project is located at the heart of the Quartier des Terrasses, opposite the future Quartier des Groues.

The works will be carried out by Vinci Construction France, with Vinci Energies in charge of the implementation of environmental certificates

and labels for the office component. It will be completed in the autumn of 2020.

The new contract calls for the construction of three buildings, designed as a window onto the city by Maud Caubet Architectes and Quadrifore Architecture.

Located near the U Arena and Nanterre-La Folie station on Line E of the RER regional express system and Line 15 of the Grand Paris Express system, the Origine complex is part of the development of Nanterre's Quartier des Terrasses and Quartier des Groues,

which are destined to become the links between the city and the La Défense business district.

The first two buildings, each with nine storeys and a total surface area of 70,000m² of office space, will be connected via three underground levels, including two parking levels.

Vinci Construction France and Vinci Energies teams will execute the entire Origine project in full BIM (Building Information Modelling), which gives the various participants access to all site information in real time.



NEW FIEC PRESIDENT

Kjetil Tønning of Norwegian contractor Veidekke has taken over as president of FIEC (the European Construction Industry Federation), having been formally elected at the federation's general assembly in Brussels. A civil and structural engineer, and business economist, Tønning became president elect in 2017, and now succeeds French contractor Jean-Louis Marchand, whose term of office has come to its statutory end. Tønning has more than 30 years of professional experience in leading positions in national and international construction companies, and consulting engineering firms, as well as in the Norwegian army. He is currently area manager, heavy construction, with Veidekke Entreprenør.

HUILLARD REAPPOINTED

Shareholders have approved Xavier Huillard's reappointment as Vinci Group's chairman and CEO, at the group's combined shareholders' meeting. Huillard has been CEO of the French-based construction and concessions group since 2006. The shareholders meeting also approved parent company and consolidated financial accounts for the fiscal year ended 31 December, 2017. Apart from approving the renewal of the terms of office for Huillard, Yves-Thibault de Silguy, Marie-Christine Lombard and Qatar Holding LLC were approved as directors, as well as the appointment of René Medori as director.

YOUNGER GENERATION

Professor Thomas Bauer is planning to leave the management board of German construction and engineering firm Bauer, after 24 years as chairman of the management board, and 32 years at the head of the Bauer Group. Bauer (62) has said he now wishes to pass on the management of the company to younger hands, and that he would like to implement the transition to the younger generation at an early stage. At an extraordinary meeting, the supervisory board of Bauer decided that the position of chairman of the management board would be filled by an externally appointed executive. The replacement has already been chosen, but the supervisory board said that the new person could not be named yet because of their current role. The chairman of the supervisory board, Dr Klaus Reinhardt, also announced that after a total of 17 years as a member of the board – 12 as chairman – he intended to leave the supervisory board in 2018.

TWO LEAVE LAFARGEHOLCIM

Two long-serving directors of LafargeHolcim, Thomas Schmidheiny and Bertrand Collomb, have decided not to stand for re-election at the group's upcoming Annual General Meeting on 8 May. Schmidheiny – a former CEO of Holcim – has been with the materials producing group for almost 50 years in different management functions, and later on the board of Holcim. Following the merger of Lafarge and Holcim, he became a board member of LafargeHolcim from 2015. He will be honorary chairman of the group. Collomb joined Lafarge in 1975. After serving in different management positions, including head of North American operations, he served as chairman and CEO of Lafarge from 1989 to 2003, as chairman until 2007, and then subsequently director until 2012.

OHL ŽS, the Czech affiliate of Spanish-based contractor OHL (Obrascón Huarte Lain), has been awarded a €172 million contract to modernise the railway line between Sudoměřice and Votice in the Czech Republic. Awarded by the Railway Infrastructure Administration, it was said to be the largest railway project in the region. Co-financed by the European Structural and Investment Funds and the Czech Republic State Transport Infrastructure Fund, the project is intended to shorten journey times between Prague and the south of the Bohemia region. Works will involve the construction of a second track between Sudoměřice u Tábora and Votice, two new tunnels – the 840m-long Mezno tunnel and the 660m-long Deboreč tunnel – and a new railway station. Trains travelling along the route will reach speeds of up to 160km/h.



Snow hits Irish growth

Construction activity is still growing, but not as quickly as the forecasts suggested

Continued growth in Irish construction activity was slower than originally forecast as a result of heavy snowfall at the start of March, but increases were seen nonetheless.

The Ulster Bank Construction Purchasing Managers' Index (PMI) – a seasonally adjusted index designed to track changes in total construction activity – dropped to 57.5 in March from 59.2 in February as the snow led to slower expansion in activity, new orders and purchasing activity.

The PMI found, however, that the rate of job creation picked up and business sentiment remained elevated.

Snow disruption also caused problems with supplier deliveries, with lead times lengthening to the greatest extent since December 2005. This signalled a weaker rise in construction activity during the month, Ulster Bank said, with output continuing to increase at a sharp pace amid reports of greater new projects.

Simon Barry, chief economist for the Republic of Ireland at Ulster Bank, said, "Despite having to contend with adverse weather during the early part of the month in particular, Irish construction activity continued to expand at a very brisk pace in March."

"A number of the survey's main metrics – including the headline activity and new orders indices – did register some slippage last month reflecting weather-related difficulties."

He said, however, that at 57.5 in March, the headline PMI continued to point to robust growth.

"In fact, we would not have been surprised to have seen a larger weather impact, particularly given the sizeable impact on factory output reported in the March Manufacturing PMI survey. So we take the March survey results as further evidence of a construction sector which continues to register very strong underlying growth performance."

He added that it was encouraging that the sector's growth had again been broad-based. **ce**

3D printing used at Volvo CE

Volvo CE has introduced 3D printing, which it said would help to deliver spare parts to customers more quickly and efficiently, while the company is also investing in 3D printing methods in the research and development of its prototype machinery.

Jasenko Lagumdžija, manager of business support, said, "We are supporting customers through the lifecycle of their equipment."

"It's especially good for older machines where

the parts that have worn out are no longer made efficiently in traditional production methods."

Lagumdžija added, "Producing new parts by 3D printing cuts down on time and costs, so it's an efficient way of helping customers."

Additive manufacturing – as 3D printing is also known – is the process of repeatedly layering a molten material or liquid in a specific pattern that is set by the printer's software, until it solidifies into the three-dimensional shape that is required.

For its aftermarket service, Volvo CE commissions the creation of spare parts made of thermoplastics to send to customers who require

"Producing new parts by 3D printing cuts down on time and costs"

the replacement of a part that has worn out through natural usage. Volvo said that parts could be made in any shape and size, and for any unit in the company's range of off-road machinery.

Typical parts made by 3D printing for Volvo machines so far include parts of a cabin, plastic coverings, and sections of air conditioning units.

Annika Fries, aftermarket branding manager, said, "The customer is getting exactly the same part in replacing plastic with plastic."

"We do a lot of quality assurance – the 3D parts have the same specifications and go through the same process as the original, and get the same warranty, so customers can be confident they are getting a genuine Volvo approved part." **ce**

US crane event

Tower Cranes North America is a one-day event organised by KHL and its magazines *American Cranes & Transport* and *International Cranes & Specialized Transport*, and the partner association for the event is the Specialized Carriers & Rigging Association (SC&RA).

The event will take place on 18 to 19 June at the Miami Marriott Biscayne Bay, Miami, US.

The conference is aimed at tower crane owners and buyers, rental companies, contractors, crane dealers/distributors, crane manufacturers and regulatory authorities, and will cover key tower crane topics including technology trends; regulations; rental management; safety; and new applications for tower cranes.

The keynote address will be by Christian Chalupny, president, Morrow Equipment Co, who will talk about the tower crane business: balancing risks and rewards.

Other speakers will include Michael Helvey, manager, Obstruction Evaluation Group, Federal Aviation Administration (FAA), who will be discussing aviation obstruction.

Michael Rubin, partner at Goldberg Segalla, and Billy Smith, executive vice president for claims and risk management at NBIS, will give an OSHA update and talk about minimising contractual risks.

The topic for Frank Bardono, chief operating officer of Maxim Crane, will be the Brickell City Centre project, Miami, and lessons from Hurricane Irma.

Then Peter Juhren, chairman of the SC&RA Tower Crane Committee and vice president of operations, Morrow Equipment Co, will present new recommendations on preparing tower cranes for inclement weather.

This will be followed by a question and answer session with Bardono and Juhren on the wind preparedness of tower cranes.

Marco Gentilini, vice president and general manager, Terex Tower Cranes, will discuss the increasing importance of application engineering in the North American tower crane industry.

More information about the event, as well as registration details can be found at www.khl-tcna.com, or by clicking the QR code on the right.



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Fuels of the future

Powering the machines of the future provided differing viewpoints at a UK conference. Sandy Guthrie was there

Differing views on the fuels of the future were displayed at a recent conference in London, UK, as a representative of Perkins told delegates that off-highway construction machines would continue to be diesel powered “for some time”, while Volvo Construction Equipment (CE) backed electrification, saying that diesel was “the main problem”.

The UK’s CEA (Construction Equipment Association) Annual Conference ran under the title Innovation is Here, and was attended by more than 190 delegates from the construction equipment sector.

It explored digitalisation, future fuels, the importance of Big Data, robotics and augmented reality training.

The CEA’s first Honorary President, JCB’s David Bell, opened the conference, saying, “Everything is changing, and everything is up for grabs. We need to be effective and efficient in all we do.”

Duncan Riding, senior technical steward, Perkins Engines, spoke about fuels of the future, saying, “Our entire society is based on energy. By 2100 there will be 11 billion people worldwide – all consumers of energy.”

Riding said that diesel was not the demon fuel it was made out to be. He pointed out that the advances in filtration efficiency

in engine systems, such as SCR (selective catalytic reduction) technology, which included the addition of DPF (diesel particulate filters) and AdBlue, meant that emissions from these technologically advanced engines were at an all-time low.

Riding also said that battery engine technology needed to catch up, adding that off-highway construction machines were very different to cars. He said battery-powered scissor lifts and forklifts had been around for some years, and more recently fully-electric excavators, but he said a zero-emission machine still needed a high flow of energy.

A 22kW charger was equivalent to using 40 x 13amp plugs, he said, suggesting that clean diesel was the answer for larger machines, and not electricity.

Later on in the conference, Jenny Elfsberg, director of emerging technologies at Volvo CE, spoke about how energy efficiency in the construction sector can potentially be improved by a factor of ten, and how this cannot be solely achieved at machine level.

She said, “We have to zoom out our approach and look at intelligent machines, electrification and site solutions where connectivity is included.”

As part of this programme, Volvo CE has been working with contractor Skanska and

the Swedish Energy Agency on the electrification of a working quarry site. Volvo looked at a complete site with a customer and discovered it was not a case of replacing one machine with another – one process had to be replaced with another process.

Elfsberg talked about technologies that would disrupt the world and included automation, electromobility and connectivity. Also, globally, labour-productivity lagged behind manufacturing and the total economy, she said, adding that this was why she believed that electrification mattered for site efficiency and productivity – as well as building a sustainable future.

BENEFITS FOR SOCIETY

Elfsberg discussed how the automation of machines would create real-life benefits for society in terms of productivity, safety, energy and fuel efficiency.

“We are working on making machines more reliable,” she said. “Fully-electric brings fewer break downs and quicker repairs.”

“Machines will never be as complex as they are now. We’re not making them more complicated,” she said, adding, “Diesel engines are the main problem – get rid of them.”

Professor Rab Scott, head of digital at AMRC (the Advanced Manufacturing Research Centre) with aircraft manufacturer Boeing talked about the factory of the future, and the challenges and opportunities for the construction sector.

He highlighted the five key technologies which were drivers behind the 4th Industrial Revolution – additive manufacturing (3D printing); virtual and augmented reality; robotics and automation; machine learning and artificial intelligence; data, connectivity and the industrial Internet of Things.

Scott explained that 3D printing, and training people to use this technology, was the



Elfsberg, “Electrification matters for site efficiency and productivity”

future of construction. He said robots would be an integral part of the factory of the future, with collaborative robots alongside workers.

While he said that robots could perform repetitive or dextrous tasks in hazardous environments, there was a misconception that robots were taking people’s jobs. He said 800,000 jobs had been lost to automation, but 3.5 million jobs had been created.

With the Internet of Things – the interconnected manufacturing environment – he said that data analysis played a crucial role. He said analysing data from now and the past provided the tools to predict the future.

Scott went on to describe how Virtual Reality training was playing a key role in the future of the industry. The gamification of training was enticing new blood into the world of engineering, he said.

UK Plant Operators’ Mark Kennedy and Dale Hawkins spoke about augmented reality training, talking to the audience from an operators’ perspective and explaining how machines used on modern construction sites needed skilled operators.

They said they believed that using machine simulators was the way forward – not only to train and upskill existing workers in new machine technology, but also to attract the interest of new young plant operators. **CE**



Riding, “Diesel is not the demon fuel it is made out to be”

WORLD IN BRIEF

INDIA

The Indian economy grew at an annual rate of 7.2% in the final quarter of 2017, a growth helped by the construction sector. India's growth means that it is once again the world's fastest growing major economy, as China grew by 6.8% over the same period. The last quarter of 2017 saw the construction sector expand by 6.8%. The sector had experienced a slowdown recently, partly due to the country's demonetisation policy of 2016, but experienced strong growth in the last quarter of the year. The International Monetary Fund predicts India will grow by 7.4% in 2018 and by 7.8% in 2019.

CHINA

Concerns have been raised that part of what was said to be the world's longest sea bridge is being eroded. The 55km sea bridge to connect Hong Kong, Macau and the city of Zhuhai in mainland China involves the construction of artificial islands, roads and an undersea tunnel. It appears that recent photos of the man-made island where the tunnel begins show parts of the wave-absorbing concrete blocks – known as dolosse – breaking away from the protective barrier around the island. However, officials at the Hong Kong-Zhuhai-Macau Bridge Authority in Zhuhai responded by saying that the placement of the blocks was by design.

HONG KONG

Balfour Beatty has announced that a subsidiary of its 50:50 Far East joint venture, Gammon Construction, has been awarded a HK\$4bn (€428.8 million) construction contract for a large scale residential development, Lohas Park Package 9, by Wheelock & Company. The development, located at Tseung Kwan O bay in the Sai Kung District, New Territories, Hong Kong, will include the construction of three 54 to 56 storey high residential towers on a five-level podium.

PAKISTAN

Several construction projects are expected to take place this year in Karachi, Pakistan, at an estimated cost of Rs25 billion (€313.7 million). In a recent budget speech, finance minister Dr Miftah Ismail announced the different projects for Karachi. They include the water supply project K-IV, a desalination plant, procurement of buses for the Green Line Bus Rapid Transit (BRT) project, among other projects. The desalination plant is being built with an aim of providing 50 million gallons of water a day. It has been approved as the K-IV project has experienced major difficulties.

US

Acciona Energy, a subsidiary of Spanish-based contractor Acciona, has been awarded a US\$200 million (€168.3 million) contract to build a wind farm in Texas, US. Palmas Altas will be the ninth wind farm that Acciona has built in the US, and once completed it will bring the total wind power capacity of Acciona US to 866MW. Located in Cameron County, near the San Roman wind farm that Acciona completed in December 2016, the Palmas Altas wind farm will be equipped with 46 of Nordex's AW3160 wind turbines with a rotor diameter of 125m and hub height of 87.5m.

MEXICO

Desalination plant breaks ground

Mexican governor lays first stone for largest desalination plant in Latin America

Construction work has officially started on the Rosarito Beach desalination plant in Mexico, which stands to be the largest in Latin America.

At a recent groundbreaking ceremony, the first stone of the desalination plant was laid by Francisco Vega, Governor of the state of Baja California.

Vega said, "The quality of the water supplied by this plant will comply with the maximum standards of potability required by our law."

The facility is intended to provide enough water to ensure economic growth, urban development and improved living standards for communities in the Baja California coastal zone.

The project will take three years to complete and, funded by private capital, it will cost an estimated US\$550 million (€462 million).

Vega said, "Baja California is one of the most dynamic regions in the country. In seven years, its population density went from 44 to 50 inhabitants per square kilometre and will continue to increase, so it is necessary to guarantee the efficient and timely supply of potable water for human consumption."

ce

CHINA

Record-breaking bridge nears completion

In China's Jiangsu Province, north of Shanghai, work is in progress on what will be the world's biggest cable-stayed bridge – the Shanghai-Nantong Yangtze River Bridge.

As well as the world's longest span, at 1,092m, it will also have the tallest pylons, at 325m.

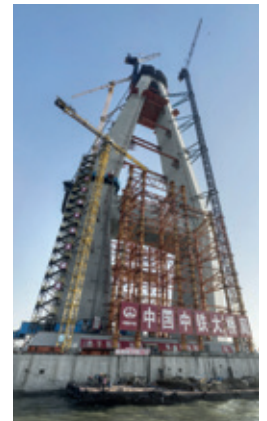
Doka automatic climbing formwork SKE100 plus is being used, in combination with large-area formwork Top 50, to construct the

pylons, and the bridge is due for completion in 2019.

It will have a total length of 11,072m and two levels, with a six-lane highway on the upper level and a four-line railway on the lower.

The new traffic link is part of efforts to create a new economic zone around Shanghai.

When completed, the bridge will cut journey time between Shanghai and Nantong from two hours to one.



Doka's formwork being used on the Shanghai-Nantong Yangtze River Bridge

ce

INDIA

Metso expands in India

Finnish equipment manufacturer Metso plans to grow its capacity in India by 35% by the end of 2018.

This is in response to increased demand for aggregates equipment on the subcontinent, it said.

Kamal Pahuja, vice president of Metso India, said, "There is large-scale investment in road and commercial aggregate in India. During the

next couple of years, for example, the road sector aims to increase road building to more than 40km a day. In addition, the demand for ballast required for railway projects is increasing, as well as the need for manufactured sand and classification of sand."

Markku Simula, president of the aggregates equipment business area at Metso,

added, "Demand for aggregates crushing and screening equipment has been very strong, and India, with its rapidly developing infrastructure, is one of the fastest growing markets in aggregates."

The Metso Park factory in Alwar, India, began operations in 2012 and is now one of the company's largest production sites.

ce

THAILAND

New high-speed rail

Thailand's government has committed to a €5.9 billion Bangkok project

Thailand's government has given the green light to a high-speed railway project that is expected to cost approximately THB225 billion (€5.94 billion).

The rail link will connect the two airports in the Bangkok area – Don Mueang International and Suvarnabhumi International – with U-Tapao in the eastern province of Rayong. The project will also involve the construction of nine new stations.

Thailand's infrastructure – especially transport – has been put under strain by the sheer number of tourists visiting the country, with over 37 million expected to visit in 2018.

The government said it expected to select winners for the public-private partnership (PPP) project in October this year, and the railway line is scheduled to be in service by 2023.

The high-speed railway is part of the government's larger transport infrastructure investment action plan worth THB2 trillion (€52.76 billion), covering railways, roads, airports and seaports. **ce**

US

Chicago airport in revamp

An US\$8.5 billion (€7.16 billion) terminal expansion plan for Chicago O'Hare International Airport in Illinois, US, has been launched.

Enabled by a new use and lease agreement made between the city and the United, American, Delta and Spirit airlines, the scheme – known as O'Hare 21 – will modernise the airport's terminals.

It represents the first major terminal improvement project to be carried out at the airport in more than 25 years, and it was said to be the largest capital

project ever undertaken at Chicago O'Hare.

In an effort to keep pace with the airport's increasing passenger numbers, the four existing terminals will be overhauled, including the demolition of Terminal 2 and the construction of a new O'Hare Global Terminal in its place.

The O'Hare Global Terminal will feature an enlarged station that will connect to the airport's expanded airport transit system.

It was said that the upgrades would increase overall terminal floor space by more than 60%, from 511,000m² to 827,000m². **ce**



An illustration of Chicago O'Hare's upgraded terminals

CANADA

Ontario seeks rail bidders

Authorities in Ontario, Canada, have issued a Request for Qualifications (RFQ), searching for companies to design, build, finance, operate and maintain the GO Rail expansion project.

The RFQ includes the operation of the train services, and timetable planning across the entire GO-owned network.

It will also include the design, build, finance, integration and

maintenance of the railway corridor.

The province is investing CAD\$21.3 billion (€13.8 billion) to transform the GO rail network from a commuter transit system to a regional rapid transit system.

The project is being delivered as a Design Build Finance Operate Maintain (DBFOM) contract using Infrastructure Ontario's

Alternative Financing & Procurement (AFP) model, which transfers risks associated with the design, construction, maintenance, operations and financing of the project to the private sector.

Ontario's minister of infrastructure, Bob Chiarelli, said, "Ontario continues to place a priority on creating better travel choices for commuters." **ce**

WORLD IN BRIEF

US

The Texas bullet train project has moved a step closer with the news that Bechtel has been enlisted to support Texas Central as the project moves from development to implementation. The project is estimated to cost US\$15 billion (12.67 billion) and the top speed of the train will be 320km per hour. Once complete, the railway will connect North Texas, the Brazos Valley, and Houston in approximately 90 minutes.

CHINA

China-based company XCMG has launched a 700-tonne hydraulic excavator. Said by the company to be China's largest excavator, the machine has an overall length of 23.5m. With a bucket width of 5m and bucket capacity of 34m³, it can dig more than 50 tonnes of coal with each lift. The leveraging maximum thrust pressure is 243 tonnes and stick digging force is 230 tonnes.

PUERTO RICO

Thompson Pump and its workers have been on the island of Puerto Rico following the destruction caused by Hurricane Maria. The company is helping citizens recover from the aftermath of the worst storm in the country's history. Thompson Pump's efforts helped save an entire community from a potentially catastrophic flood and provided safe drinking water to more than 200,000 people. In the aftermath of the storm, Thompson Pump was among the companies contacted to place bids on a relief contract from the US Army Corps of Engineers. Thompson was subsequently given the go-ahead by the government agency to formulate a strategy to help save a community of residents living downstream from the Guajataca Dam, whose spillway failed.

INDIA

Construction firm Astaldi has been selected for three lots of the Mumbai metro rail project, worth €168 million, marking the Italy-based company's entry into the Indian market. Astaldi's share of the contract is worth €84 million. It was said that the Indian market offered major development opportunities for Astaldi's infrastructure sector and helped the company to strengthen its de-risking policy. In line with this policy, Astaldi is entering the market in partnership with one of India's leading contractors, Reliance Infrastructure Limited, with which Astaldi is also assessing additional opportunities at the local level in the transport infrastructure sector.

US

A plan to add a US\$390 million (€328.1 million) extension to the Clovis Community medical centre in California, US, has been approved by the Community Medical Centres' board of trustees. The four-year project will be funded by Clovis Community's operations and by donations. The 17,650m² expansion will feature a five-storey tower with 144 private beds. It will add 1,390m² to the hospital's emergency room, create six additional operating rooms, 24 additional ICU beds, and expand the hospital's radiology, pharmacy and laboratory services.



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BUSINESS IN BRIEF

BAUER GROWS

German-based Bauer has reported a significant increase in operating profitability in its full-year 2017 financial results. The group's EBIT (earnings before interest and taxes) increased by 27.5%, from €70.3 million in 2016 to €89.6 million in 2017. Earnings after taxes came to a total of €3.7 million, compared to €14.4 million in the previous year. They were said to have been negatively impacted by two non-operating effects – significant foreign currency losses and the necessary reassessment of receivables in the balance sheet as a result of a Hong Kong arbitration case. Total group revenues grew by 14% to €1.77 billion, and sales revenues increased by 19.4% to €1.67 billion.

METSO ACQUISITION

Finnish aggregates equipment manufacturer Metso has agreed to acquire Swedish aggregate machinery provider PJ Jonsson och Söner, which specialises in mobile crushing and screening equipment. The value of the transaction has not been disclosed, but PJ Jonsson och Söner's sales in 2017 reached SEK342 million (€33 million). With this acquisition, Metso said it aimed to strengthen the breadth and availability of its product and service offering for the aggregates industry in the Nordic region. The acquisition is expected to close in the third quarter of 2018, but it is subject to customary closing conditions, including clearance from the Swedish Competition Authority

NCC DISAPPOINTMENT

Swedish-based construction company NCC is looking to focus on profitability-enhancing measures after its two largest business areas – building and infrastructure – weighed heavily on the company's 2017 full-year results. In response to this, NCC has downgraded its growth ambitions, which were stated in the company's strategy launched at the end of 2015. Total operating profit came to SEK1.242 billion (€120.61 million), down on the SEK1.453 billion (€141.1 million) recorded in 2016. While the operating profit for NCC Building increased from SEK489 million (€47.49 million) in 2016 to SEK515 million (€50.01 million) in 2017, that of NCC Infrastructure took a hit. The business segment made a loss of SEK137 million (€13.3 million), compared to a profit of SEK162 million (€15.73 million) in 2016. In the third quarter of 2017, an impairment loss of SEK150 million (€14.57 million) was recognised for the Björnegård Tunnel project in Norway.

HEALTHY START FOR XYLEM

Water technology company Xylem has reported a year-on-year, first-quarter 2018 revenues increase of 14%, to US\$1.2 billion (€998 million). On a like-for-like basis, excluding acquisitions, the company's revenues grew 7% year-on-year for the quarter, said to be driven by a strong performance in the utilities and industrial end markets for nearly every region in which it operates. Commercial and residential end markets were also said to be key. In the company's water infrastructure division, Xylem recorded revenues of US\$480 million (€350 million), which represents a 9% organic increase year-on-year.

Volvo CE reports strong first quarter increase

Company says that rise in orders came from all of its markets



Jernberg,
"We can continue to improve"

Strong demand increases in all major markets – especially in Asia – for Volvo Construction Equipment (Volvo CE) has led to growth in sales, profitability and order intake.

New president Melker Jernberg said the company had enjoyed a confident first financial quarter of 2018. He took over the role at the start of this year.

"It was a good quarter, but we can continue to improve," he said.

During the first three months of 2018, Volvo CE saw net sales jump by 30% to SEK20.91 billion (€2.01 billion) compared to SEK16.10 billion (€1.54 billion) in the first quarter of 2017.

It said that adjusted for currency movements, the results were even better, up 33%. Operating income was also positively affected, it said, rising to SEK2.88 billion (€277.11 million), up 79% compared to SEK1.62 billion (€154.96 million) 12 months ago.

In the first quarter of 2018, Volvo CE also enjoyed an increase in order intake, which rose by 37% to 23,938 machines. It said the increases in orders came from all markets, but particularly North America and Asia. Deliveries were also up 35% during the period, to 22,102 machines. It said the construction equipment market was continuing to improve during the quarter, with all regions showing growth.

The European market was up 10%, driven by increased demand in Germany, Italy and parts of Eastern Europe. North America was up 21%, driven mainly by demand for excavators.

ce

Record figures for Strabag

Austrian-based contracting group Strabag has reported the highest level of output volume, order backlog, EBIT (earnings before interest and taxes), dividend and balance sheet total in the company's history.

CEO Thomas Birtel said that 2017 had been "another very successful year for us".

He said, "The EBIT margin is our most important financial indicator.

"And with 3.3%, we solidly achieved our self-

imposed target of at least 3.0%.

"The EBIT grew by 6% versus the previous year, despite the fact that a non-operational one-off effect in 2016, which also had been disclosed, had resulted in an upwards distortion of the earnings figures."

He added, "At the same time, earnings reached an all-time high."

The Strabag Group generated a record output volume of €14.6 billion in the 2017 financial year – an increase of 8% over the

previous year.

The consolidated group revenue amounted to €13.5 billion, a rise of 9%.

Strabag said it had reported numerous large orders acquired in the fourth quarter in transportation infrastructure in Hungary and Poland, together with building construction and civil engineering projects in Germany and in Asia.

It said these helped push the order backlog to a record high of €16.6 billion, an increase of 12% over the record value of the year before.

ce

Liebherr's best ever sales

Total sales at the Liebherr Group in 2017 were €9.85 billion, up 9.3% on the previous year – the highest figure ever recorded by the global construction equipment manufacturer.

Western Europe, especially Germany and France, saw a significant increase, the company

said. Performance in Eastern Europe, particularly in Russia, was described as encouraging.

Rises were also seen in the US, the Far East and Australia. Falls were recorded in the Near East, the Middle East and Africa.

Construction machinery and mining equipment

sales were up 14.5% to €6,182 million. Sales in the earthmoving division were up €411 million, or 19.8%, to €2,485 million.

Liebherr expects a further increase in turnover for 2018. It forecast growth in the construction machinery and mining segments, as well other areas.

ce

Climbing its way back

After a difficult start to the year, the overall CE Index figure is starting to recover. Thomas Allen reports on the construction market segments

The total CE Index figure for the period between weeks 12 and 18 dropped marginally by 0.29%, which is an improvement on the large drop that was seen in the previous period.

Although it was not enough to bring the total CE index figure into the positive, contractors enjoyed a significant overall increase of 6.79% over the six-week period. Materials producers, on the other hand, saw their total index figure drop by 4.4%, and that of equipment manufacturers fell by 1.14%.

Bauer's share price hit something of a low at the start of April, but it has since rebounded, rising by 38.36% between weeks 12 and 18.

The German-based firm reported a significant increase in operating profitability in its full-year 2017 financial results, which were released early in April. The group's EBIT (earnings before interest and taxes) increased by 27.5%, from €70.3 million in 2016 to €89.6 million in 2017.

Total group revenues grew by 14% to €1.77 billion, and sales revenues increased by 19.4% to €1.67 billion.

Looking specifically at Bauer's construction segment, it was said to be benefiting from global growth in construction markets.

Bauer said there was a great need for roads, bridges, dams and power supply infrastructure, and the trend towards urbanisation brought with it an increased need for specialist foundation engineering services.

For the year ahead, Bauer expects total group revenue to come in at around €1.8 billion in 2018.

Acciona was another contractor that experienced a healthy rise in its share price, increasing by 14.33% over the six weeks.

The company recently announced that its subsidiary Acciona Energy was awarded a US\$200 million (€166.87 million) contract to build a wind farm in Texas, US.

Palmas Altas will be the ninth wind farm that Acciona has built

in the US, and once completed it will bring the total wind power capacity of Acciona US to 866MW.

Finnish contractor YIT has seen a lot of volatility in its share price recently, and over the six-week period its share price fell by 22.05%.

This is likely to be due to the recent absorption of fellow contractor Lemminkäinen into YIT. As a result of the merger, the company now has a new segment structure and reporting practice.

YIT recently forecast that its adjusted operating profit would fluctuate significantly between the quarters, starting off low in the first quarter of 2018 due to the normal seasonal variation

of the combined company. However, the total synergies from the merger were estimated to come to about €40 million annually, and are expected to materialise fully by the end of 2020.

MATERIALS

Looking at the materials producers, the increases in Buzzi Unicem's share price by 9.67%, Wienerberger's by 7.16% and Schneider's by 7.07% between weeks 12 and 18 were all overshadowed by Kone's share price tumble of 39.89%.

The Finnish-based company's share price sank to its lowest level in about 12 months.

With the recent release of

EQUIPMENT MANUFACTURERS

Company	Currency	Price at start	Price at end	Change	Change (%)
CEE Index		351.56	347.56	-4.00	-1.14%
Astec Industries	US\$	56.25	53.59	-2.66	-4.73%
Atlas Copco (A)	SEK	310.90	312.70	1.80	-0.58%
Bell Equipment	ZAR	15.00	14.74	-0.26	-1.73%
Caterpillar	US\$	146.90	139.00	-7.90	-5.38%
CNH Industrial	€	10.06	10.25	0.19	1.89%
Deere	US\$	151.58	132.29	-19.29	-12.73%
Doosan Infracore	WON	9,160	10,000	840	9.17%
Haulotte Group	€	15.76	16.56	0.80	5.08%
Hitachi CM	YEN	3,980	4,000	20	0.50%
Hyundai CE	WON	172,500	181,000	8,500	4.93%
Kobe Steel	YEN	1,006	1,167	161	16.00%
Komatsu	YEN	3,472	3,633	161	4.64%
Kubota	YEN	1,724	1,826	102	5.92%
Manitou	€	32.05	36.90	4.85	15.13%
Manitowoc	US\$	28.19	24.12	-4.07	-14.44%
Metso	€	24.05	29.13	5.08	21.12%
Palfinger	€	32.90	32.35	-0.55	-1.67%
Sandvik	SEK	148.20	151.20	3.00	2.02%
Tadano	YEN	1,504	1,495	-9	-0.60%
Terex	US\$	36.83	37.49	0.66	1.79%
Volvo (B)	SEK	146.95	151.90	4.95	3.37%
Wacker Neuson	€	28.18	26.78	-1.40	-4.97%

Period: Week 12-18

CONTRACTORS

Company	Currency	Price at start	Price at end	Change	Change (%)
CEC Index		238.80	255.01	16.21	6.79%
Acciona	€	59.88	68.46	8.58	14.33%
ACS	€	31.61	35.57	3.96	12.53%
Astaldi	€	2.25	2.45	0.20	8.99%
Balfour Beatty	UK£	2.70	2.99	0.29	10.80%
Bam Group	€	3.73	4.16	0.43	11.39%
Bauer	€	18.98	26.26	7.28	38.36%
Bilfinger	€	36.66	39.78	3.12	8.51%
Bouygues	€	39.70	41.44	1.74	4.38%
Caiffion	UK£	0.14	0.14	0.00	0.00%
Eiffage	€	92.12	99.68	7.56	8.21%
FCC	€	9.73	10.64	0.91	9.35%
Ferrovial	€	16.28	17.75	1.47	9.03%
Hochtief	€	148.10	153.50	5.40	3.65%
Keller Group	UK£	8.56	10.52	1.96	22.85%
Kier	UK£	9.70	10.46	0.76	7.84%
Lemminkäinen	€	19.21	19.21	0.00	0.00%
Morgan Sindall	UK£	12.48	13.00	0.52	4.17%
Mota Engil	€	3.65	3.66	0.01	0.27%
NCC (B)	SEK	153.55	158.50	4.95	3.22%
OHL	€	3.57	3.91	0.33	9.29%
Peab (B)	SEK	69.70	76.20	6.50	9.33%
Porr	€	27.90	31.20	3.30	11.83%
Sacyr	€	2.12	2.37	0.25	11.89%
Salini Impregilo	€	2.39	2.38	-0.01	-0.25%
Skanska (B)	SEK	165.65	167.60	1.95	1.18%
Strabag SE	€	31.50	35.80	4.30	13.65%
Taylor Wimpey	UK£	1.83	1.93	0.10	5.39%
Tecnicas Reunidas	€	24.31	26.56	2.25	9.26%
Trevi Group	€	0.42	0.42	0.00	0.00%
Veidekke	NOK	84.80	91.00	6.20	7.31%
Vinci	€	78.68	84.14	5.46	6.94%
YIT	€	6.62	5.16	-1.46	-22.05%

Period: Week 12-18

MATERIALS PRODUCERS

Company	Currency	Price at start	Price at end	Change	Change (%)
CEM Index		182.76	174.71	-8.04	-4.40%
Buzzi Unicem (Ord)	€	19.54	21.43	1.89	9.67%
Cemex (CPO)	MXP	12.43	11.40	-1.03	-8.29%
CRH	€	28.32	26.21	-2.11	-7.45%
Heidelberg Cement	€	78.42	82.90	4.48	5.71%
Ferguson	UK£	5214.00	5570.00	356.00	6.83%
Kone (B)	€	39.98	24.03	-15.95	-39.89%
LafargeHolcim	€	45.46	40.23	-5.23	-11.50%
Saint-Gobain	€	46.35	43.62	-2.73	-5.89%
Schindler (BPC)	CHF	195.00	203.80	8.80	4.51%
Schneider Electric	€	68.98	73.86	4.88	7.07%
Titan Group (Common)	€	20.45	21.55	1.10	5.38%
Vicat Group (Common)	€	62.10	64.90	2.80	4.51%
Wienerberger	€	20.10	21.54	1.44	7.16%

Period: Week 12-18

Kone's financial results for the first quarter of 2017, the company's president and CEO, Henrik Ehrnrooth, said, "Profitability continued to be burdened by several headwinds."

Orders received declined by 0.2% to €1.909 billion, from €1.913 billion in the same period of 2017. The order book fell from €7.96 billion in first quarter of 2017 to €7.786 billion in first quarter of 2018.

Operating income came to €211.5 million, down from the €245.8 million recorded in the previous year, and cash flow from operations – before financial items and taxes – was down from €305.3 in the first quarter of 2017 to €179 million this year.

However, sales grew by 3.3%

“Demand for aggregates crushing and screening equipment has been very strong, and India, with its rapidly developing infrastructure, is one of the fastest growing markets in aggregates”

to €2.008 billion, compared to €1.943 billion in the previous year.

Looking ahead, Kone has estimated that sales will grow in 2018 by between 3 and 7% at comparable exchange rates as compared to the restated 2017 sales.

EQUIPMENT

Turning to the equipment manufacturers, Metso saw its share price grow by an encouraging 21.12% between weeks 12 and 18.

The firm recently announced that it had agreed to acquire Swedish-based aggregate machinery producer PJ Jonsson och Söner.

The value of the transaction has not been disclosed, but PJ Jonsson's sales in 2017 reached SEK342 million (€33 million).

With this acquisition, Metso said it aimed to strengthen the breadth and availability of its product and service offering for the aggregates industry in the Nordic region.

Markku Simula, president of Metso's aggregates equipment business area, said, "This

CE BAROMETER

Strong potential

Sentiment remained positive in the European construction industry in April, though there is some consensus that business is constrained by the availability of raw materials and limited manufacturing capacity.

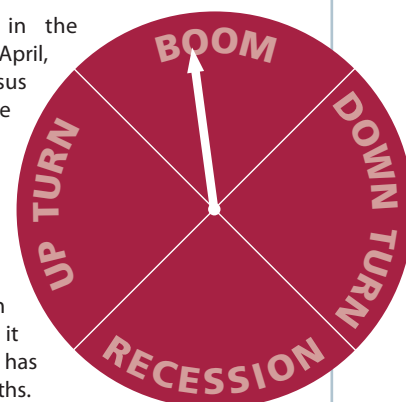
A balance figure of 33.9% of survey respondents said activity levels in April were higher than in the previous month. Although it was marginally lower than the figure recorded in March, it continues the positive trend that has been seen over the past few months.

The balance figure is the percentage of positive responses minus the percentage of negative responses.

Respondents' outlook on the future was positive, with a balance of 41.7% saying they expected activity to be higher in a year's time than now.

Meanwhile, a balance of 48% of survey respondents said activity levels in April were higher than a year previously. This represented a slight decrease on the 49.6% balance in the previous survey.

The CE Climate figure was slightly down on the month before. April's balance was 41.2%, compared with the 43.3% seen in March. It is clear from the results of April's CE Barometer that respondents are continuing to feel positive about the longer-term future.



TAKE PART

The survey, which takes just a minute to complete, is open to all construction professionals working in Europe. The CE Barometer survey is open from the 1st to the 15th of each month on our website.

■ Full information can be found at www.cebarometer.eu

acquisition is a good strategic fit for Metso, supporting our profitable growth strategy."

The acquisition is expected to close in the third quarter of 2018, but it is subject to customary closing conditions, including clearance from the Swedish Competition Authority.

At the same time, Metso has also revealed plans to grow its capacity in India by 35% by the end of 2018.

Simula said, "Demand for aggregates crushing and screening equipment has been very strong, and India, with its rapidly developing infrastructure, is one of the fastest growing markets in aggregates."

With this investment, Metso said it aimed to meet its customers' growing needs, not only in terms of capacity but also in terms of the range of available products, and it was looking to develop its export operations in Asia.

One of the other equipment manufacturers to see an encouraging rise in its share price over the six-week period was Kobe Steel.

The 16% increase in the Japanese company's share price between weeks 12 and 18 represents a continued, if shaky, recovery from the low point it hit back in October after it was revealed that the company had been falsifying inspection data on many of its products. **ce**

KEY INDEXES

Index	Beginning of period	End of period	Change	Change (%)
CEE (Equipment)	351.56	347.56	-4.00	-1.14%
CEM (Materials)	182.76	174.71	-8.04	-4.40%
CEC (Contractors)	238.80	255.01	16.21	6.79%
CET (Total)	248.30	247.59	-0.71	-0.29%
Dow	23,958	23,572	-386	-1.61%
FTSE 100	6,909	7,504	596	8.62%
Nikkei 225	20,618	22,473	1,855	9.00%
CAC 40	5,092	5,497	405	7.95%
DAX Xetra	11,914	12,696	46	6.56%

Period: Week 12-18



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Dispute Boards come to rescue in Paris projects?

Dispute Boards could be becoming more popular in France, according to Florian Quintard and Ryan Frye of international law firm Pinsent Masons

On 23 March, 2018, the Dispute Resolution Board Foundation (DRBF) hosted an all-day conference at the French Contractors Association (Fédération Nationale des Travaux Publics) in Paris, exploring how Dispute Boards (DBs) can keep works moving forward in the context of megaprojects such as the €30 billion Grand Paris project and Olympic projects.

DBs are often featured in multi-tiered dispute resolution clauses found in standard construction contracts, such as the FIDIC suite.

A DB serves as an independent expert panel and may issue non-binding recommendations or binding decisions.

DBs may be constituted at the outset of the project (standing DBs) or constituted ad hoc, after a dispute has arisen.

The fact, however, remains that DBs in the form we know in FIDIC and the ICC DB Rules are still rare in France. This is not an exception, though, as some neighbouring countries such as Germany also rarely encounter DBs.

This, however, has evolved in recent years and positive changes have occurred, as the Paris DRBF conference has revealed.

There are two main driving forces currently promoting the use of DBs in France and other French-speaking countries.

One is the increasing use of FIDIC worldwide, including in France in the renewable energy sector – particularly with the development of a number of offshore wind projects.

The second driving force is the increasing awareness of the public sector as to the benefits of DBs for large infrastructure projects. The Grand Paris project is an illustration of this and hopefully a turning point in the use of DBs in France in the public sector with the introduction last year of a standing dispute board making recommendations on some of the packages of this megaproject.

PROMISING

Beyond those major energy and infrastructure projects, there is also much promising scope for the use of DBs in other sectors, as was explained during the Paris DRBF Conference, in particular in the defence sector and for complex smart city projects.

Undoubtedly, more information is required as to the benefits of DBs, with reliable statistics drawn from projects that have used DBs, as well as transparent information on the costs of a DB. This is so that it is no longer a hurdle in the appointment of a DB, and so that the DB plainly plays its dispute avoidance role.

Parties can indeed be reluctant to appoint a DB during the honeymoon phase of the project. Contractors may worry that appointing a standing DB would be seen as combative, and that it might reduce co-operation between the parties.

Additionally, there is the matter of cost and why DB members should be paid in the absence of a dispute.

In spite of this, there has been

a shift in the industry away from ad hoc DBs towards standing DBs.

FIDIC's 2017 suite is a striking example, with a standing DB appointed from the outset of the project in all three released forms (Red, Yellow and Silver Books).

Standing DBs allow the DB members to become familiar with the project before the dispute arises through regular progress updates and site visits. Such familiarity with the project is likely to make DB decisions quicker, and parties are likely to give more deference to such decisions.

This increased trust in standing DBs is illustrated in the new FIDIC 2017 suite. As was the case in the 2008 Gold Book, the parties may now ask the DB to provide assistance and informally discuss with the parties how to resolve any issue or disagreement.

This role of the standing DB, which is very similar to that of a mediator – who would have an acute familiarity with the project – explains the change of designation of DBs in the FIDIC forms, from Dispute Adjudication Boards (DABs) to Dispute Avoidance/Adjudication Boards (DAABs).

INVESTMENT

Standing boards should, therefore, be seen as an investment. But the question is whether this works in practice.

Past experience shows that standing DBs have been used efficiently in major infrastructure projects which have not led to expensive and lengthy arbitration proceedings.

Such projects include the Channel Tunnel between the UK and France, the International Thermonuclear Experimental Reactor (ITER) in France, and the projects surrounding the London and Rio Olympics.

In ITER and the London Olympics, it has been reported that employers unilaterally

appointed standing DBs. While there was initial resistance, the contractors were ultimately won over by the independence and neutrality of the standing DBs. In the case of the Rio Olympics, several standing dispute boards were active, each handling a large number of disputes.

Traditionally, in a three-person DB panel, there is an industry preference for the panel to be composed of two engineers with a qualified lawyer sitting as president. This configuration is meant to strike a balance between legal and technical expertise.

Some large projects have used larger panels designed to match the relevant disciplines required to handle project-specific disputes. In the case of the London Olympics, the unilaterally appointed Independent Dispute Avoidance Panel (IDAP) was composed of a panel of 11 experts and issued binding decisions.

Because of the expertise and reputations of the IDAP's panel members, most contractors voluntarily accepted the decisions of the IDAP.

The pressure is on to apply to the upcoming projects in Paris – the 2024 Olympics and the Grand Paris project – the lessons learned from successful projects which have not led to costly arbitrations, arguably thanks to a standing DB.

The Paris projects must finish on time. Custom-tailored DBs may be part of the solution. **ce**

“ DBs may be constituted at the outset of the project or constituted ad hoc ”

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The European services e-card sent into limbo

The celebrated rejection of the legislative proposal came at the end of a long period of lobbying by FIEC and other interested parties

The European Commission's legislative proposal for introducing a European services e-card was rejected by the Committee for Internal Market & Consumers (IMCO) of the European Parliament on 21 March, 2018, with a comfortable majority.

This vote put an end to the suspense on this very controversial issue which was, first and foremost, targeting the construction industry, but never supported by the sector.

After a chaotic consultation process, it all really began in January 2017, when the European Commission presented a legislative package composed of legislative and non-legislative initiatives, all aimed at improving the functioning of the Internal Market for services. The European services e-card was part of this.

The initial reasons for the European Commission to introduce such an e-card were reasons that we also share, namely achieving a better functioning of the Internal Market; tackling remaining obstacles in order to facilitate cross-border activities; and reducing hurdles in order to make it easier for service providers to pursue new business opportunities.

The idea behind this initiative was to get rid of administrative barriers and make it easier for companies to work abroad.

Such an e-card would be applied for by a company in its home Member State, which would issue the card – following a joint assessment with the host Member State targeted. The card would contain a series of details about the company and it would be used by the company to go to provide construction services in the targeted host Member State.

All of this sounded very nice at first sight.

PROBLEMS

However, from the beginning, FIEC identified a number of problems with this proposed instrument, and felt that it was not the right instrument at the right moment for the right target.

The initial problem was that in trying to achieve these Internal Market objectives, the European Commission benchmarked our sector with others, without taking into account our specificities and our differences compared with other industries – that is that it is mostly local business, and vast majority are very small companies – and concluded that construction was one of the sectors with the most obstacles to mobility left.

On the content of the proposal itself, FIEC's main concerns were that, first of all, we saw that the proposal as such would bring very little added value to contractors in terms of administrative simplification, while it was supposed to be its main purpose.

The e-card was, in principle, voluntary for the company, but the receiving Member State was obliged to accept it, making it de facto non-voluntary, at least from the host country's perspective.

If the host Member State did not provide an answer to the e-card applicant within a certain time limit, which was quite short, then

the principle of tacit approval applied. But in case of doubts regarding the application, the host country had to rely on the answers or feedback from the home country.

The e-card had an indefinite period of validity, associated with an update mechanism which was deficient by design. There was no convincing guarantee that the data provided would be still correct and up to date at any moment.

This would have led to unfair competition on the Internal Market between e-card holders – who would have benefited from a presumption of legality – and the others.

It was supposed to be based on the IMI (Internal Market Information) system, which is a European system for exchanges of data between administrations of different Member States. But this system is criticised for inefficiency, such as long waiting periods before receiving an answer. Consequently, the administrative mechanism proposed was not adapted to the needs.

FRAUD

Moreover, the fact that fraud is unfortunately frequent in the construction industry was completely ignored – and even facilitated – by the Commission. It might have increased practices like bogus self-employment and letterbox companies.

Finally, the European Commission granted itself large legislative powers through the recourse of delegated and implementing acts.

All of these shortcomings led FIEC to ask the European Parliament and the Council to exclude construction from the scope of this proposal.

It followed a very active lobbying campaign from FIEC, with the strong involvement of its national Member Federations

towards their own national decision-makers.

In parallel, FIEC also joined forces with the construction trade unions (EFBWW – the European Federation of Building and Woodworkers), as well as with the social partners – both employers and employees – of other sectors negatively impacted by this legislative proposal, for example, the cleaning industry and the insurance business.

A series of meetings took place with all players involved, Members of the European Parliament, national representatives of EU countries in Brussels involved at Council level, and the services of the European Commission.

Public hearings were organised. FIEC and its partners made a lot of noise and it clearly had a strong impact on the discussions within the various EU institutions.

We can see that these continuous and co-ordinated lobbying actions, within FIEC and together with external partners, have been a success.

In the European Parliament, before the IMCO vote, four other Committees voted on this same legislative proposal and also rejected it. This unanimous rejection is rare enough to highlight.

In the Council, there has been a lot of criticisms of the proposal and the discussions are at standstill now – even more so since the IMCO Committee rejected the legislative proposal.

From a procedural point of view, the European services e-card is not yet dead and buried. In particular, this is because Commissioner Elżbieta Bieńkowska, in charge of Internal Market, declared that she would not withdraw it.

It is expected to stay in limbo until the end of the current mandates of the European Commission and of the European Parliament, which will both come to an end in 2019. **ce**



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Collaboration makes sense internationally

CECE is not an island. In a global interconnected marketplace, it is essential to have co-operation among relevant trade associations around the world

The European construction equipment industry is multinational, it is acting on a global scale, and what companies are expecting from CECE as their representative in Europe is that it also follows their paths internationally.

Being the construction industry's voice in Brussels is just one side of the coin.

Indeed, international collaboration among trade associations beyond Europe is vital to the industry so that it can learn at an early stage what is going on in terms of technical requirements or political decisions influencing the global construction equipment industry.

This co-operation is made possible thanks to three informal bodies that help with the fostering of discussion, and draw on synergies to the mutual benefit of the associations and industries involved.

On the economic/political side, the International Associations Committee (IAC) is the discussion body. It meets annually with the leaders of the global associations, and its organisation is hosted on a rotating basis.

The last meeting of IAC was held on 24 April during the Intermat show in Paris, France, and was hosted by CECE's partner organisation the CCMA

(Chinese Construction Machinery Association).

Close to 20 delegates from the IAC member organisations attended the meeting. With the current international political and economic tensions in the background, CECE secretary general Riccardo Viaggi was glad to welcome the meeting participants to Europe.

On this occasion, CECE shared with the IAC delegates an update about the current economic and political conditions in the EU, particularly referring to the European elections that will take place in May 2019.

Also, digitalisation was a relevant topic shared by all the major associations around the table.

Recently, the AEM (American Construction Machinery Association) has been a sought-after partner for CECE. Indeed, both organisations shared a

proposal with delegates to make the IAC more operational, by creating future occasions for high-level global discussions on infrastructure and construction.

TECHNICAL LIAISON

On the technical side, the Construction Equipment Joint Technical Liaison Meeting (JTLM), which is held annually and hosted by different associations, is the well tested platform for collaboration.

For the past 28 years, product safety and compliance specialists from around the globe, including CECE, have come together. The meeting has long served as a forum for technical liaison and co-operation between its participating organisations.

The JTLM meets to promote the reduction of technical barriers to trade, and to harmonise product-oriented regulation and standards in areas such as safety,

environment, health, and product quality, as well as the testing and certification of products.

This year's meeting at the end of March was hosted by the Korean Construction Equipment Manufacturers Association (KOCEMA) in Incheon, Korea.

Over three full days, 60 delegates discussed more than 80 technical files, covering the regulatory landscape and regional/national standards, including chemical and emissions regulations, for almost all geographic regions. CECE was represented by a 12-person delegation involving association and companies.

In addition to CECE and host KOCEMA, other associations attending this year's JTLM included AEM, CCMA, Japan's Construction Equipment Manufacturers Association (CEMA), the Construction & Mining Equipment Industry Group of Australia & New Zealand (EIG) and ICEMA, the Indian Construction Equipment Manufacturers.

A third fundamental leg of global collaboration is the International Statistics Committee (ISC), whose members are CECE, KOCEMA (Korea), CEMA (Japan) and AEM (US).

The main objective of the ISC is to co-ordinate the worldwide statistical programme jointly run by the four organisations covering 35 different products in the construction equipment sector.

The latest meeting of the ISC took place on 12 April, 2018, in Seoul, with a four-strong delegation from CECE. The main goal of the meeting was how to increase data quality of the international statistical programme further.

The next meeting will be hosted by CECE on 17 October, 2018, in the framework of the CECE Congress, which this year is being held in Rome, Italy. **ce**

Construction equipment associations around the world

 North America, AEM Association of equipment manufacturers	 China, CCMA China construction machinery association
 Japan, CEMA Japan construction equipment manufacturers association	 India, ICEMA Indian construction equipment manufacturers' association
 Korea, KOCEMA Korea construction equipment manufacturers association	 Brazil, SOBRATEMA Brazilian association for construction and mining technology



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On show in Moscow

With things looking up for Russian construction, Bauma CTT Russia 2018 stands to be a good show, says Thomas Allen

Event details

WHAT:

Bauma CTT Russia

WHERE:

Moscow, Russia

WHEN:

5 to 8 June, 2018

TIME:

1000 to 1800

DETAILS:

www.bauma-ctt.ru



The last show attracted 20,163 visitors

bauma CTT RUSSIA

Said to be Russia's most important trade fair for construction equipment and technology, this year's Bauma CTT Russia will be taking place in Moscow, Russia, between 5 and 8 June.

It will be held in the Crocus Expo International Exhibition Centre, which is one of the largest exhibition grounds in Russia. The three pavilions and 19 exhibition halls provide more than 700,000m² of indoor exhibition space, and the outdoor space covers an area of almost 220,000m².

Last year, 557 companies from more than 30 countries exhibited, and 20,163 visitors came from 56 countries.

FOCUS ON EASTERN EUROPE

As in the past, the event's focus will be on the markets in Eastern Europe and Russia, where there have been some positive signs of development for the construction industry.

The Association of European Businesses (AEB) reported that sales of roadbuilding and special equipment in Russia increase by 45% in the fourth quarter of 2017, compared to the same period the previous year.

While the German Engineering Federation (VDMA) suggested German manufacturers of construction equipment had not yet returned to the positions they occupied in the once rapidly growing Russian market, Franz-Josef Paus, chairman of the VDMA, said, "We are sure that the growth of the market will continue, and this specialised exhibition, which we have supported for many years, will give professional relations an additional positive impulse."

The exhibition is supported by the Russian Ministry of Construction, Housing & Communal Services, and the minister Mikhail Alexandrovich Men will be present at the exhibition's opening ceremony.

A number of large players in the construction equipment sector will be present, among them the Wirtgen Group, which will be showing its intelligent solutions for road construction and rehabilitation.

At stand C2 in the outdoor exhibition area, the group of companies will be displaying a range of machines for all things road-related, from earthworks through paving and compacting to the rehabilitation of roads using cold milling or cold recycling.

With roadbuilding booming in Russia, especially in the 11 cities that will be hosting the 2018 football World Cup, Wirtgen will be emphasising its capacity to provide machinery for the full roadbuilding process.

Maxim Umnov, general director of the Russian Wirtgen Group sales and service company Wirtgen International, said, "The machines and application technologies of Wirtgen, Vögele, Hamm, Kleemann and Benninghoven are optimally matched to one another. This enables our customers to complete their jobs quickly and with high quality."

MACHINES ON DISPLAY

At this year's exhibition, Hidromek will be displaying its HMK 102B Alpha A1 and HMK 102S Alpha A1 backhoe loaders, HMK 220 LC excavator and HMK MG 330 motor grader.

The two backhoe loaders are from Hidromek's Alpha Series and are powered by a turbocharged, 4,400cm³ engine that was said to provide high torque at low rpm.

They also have a six-forward and three-reverse fully-automatic transmission for smooth driving, and an optional torque converter lock that automatically engages in the fifth and sixth gears to improve fuel economy.

An optional Motion Stabiliser System (MSS)

can be included to work as a shock absorber on the loader lift cylinders. By dampening the shock that occurs when a full loader bucket is used on rough terrain, it is intended to make for a smooth and comfortable ride.

The ROPS (roll over protection system) and FOPS (falling object protection structure) certified cab is has ergonomic controllers and handbrake, a monolithic rear window, and can be fitted with an optional advanced heating and cooling system.

Engine manufacturer Briggs & Stratton will be introducing the first of a complete line of new Vanguard-branded single-cylinder horizontal shaft gasoline engines that were built from the ground up based on customer input.

The new line will span from 3.7 gross kilowatts to 9.7 gross kW, and the first available model will be the 4.8 gross kW Vanguard 203cc. **ce**

Sections of the show

Everything for construction –

earthmoving machinery, roadbuilding equipment, and formwork and falsework

Drilling and sorting equipment – with a focus on crushing and screening

Manufacturing of building materials – including equipment for the production of concrete and asphalt

Spare parts and components – including navigation and communication tools, testing technologies, and health and safety equipment

Demonstration zone – new this year, the 3,000m² area will allow manufacturers and dealers to show what their machines are capable of

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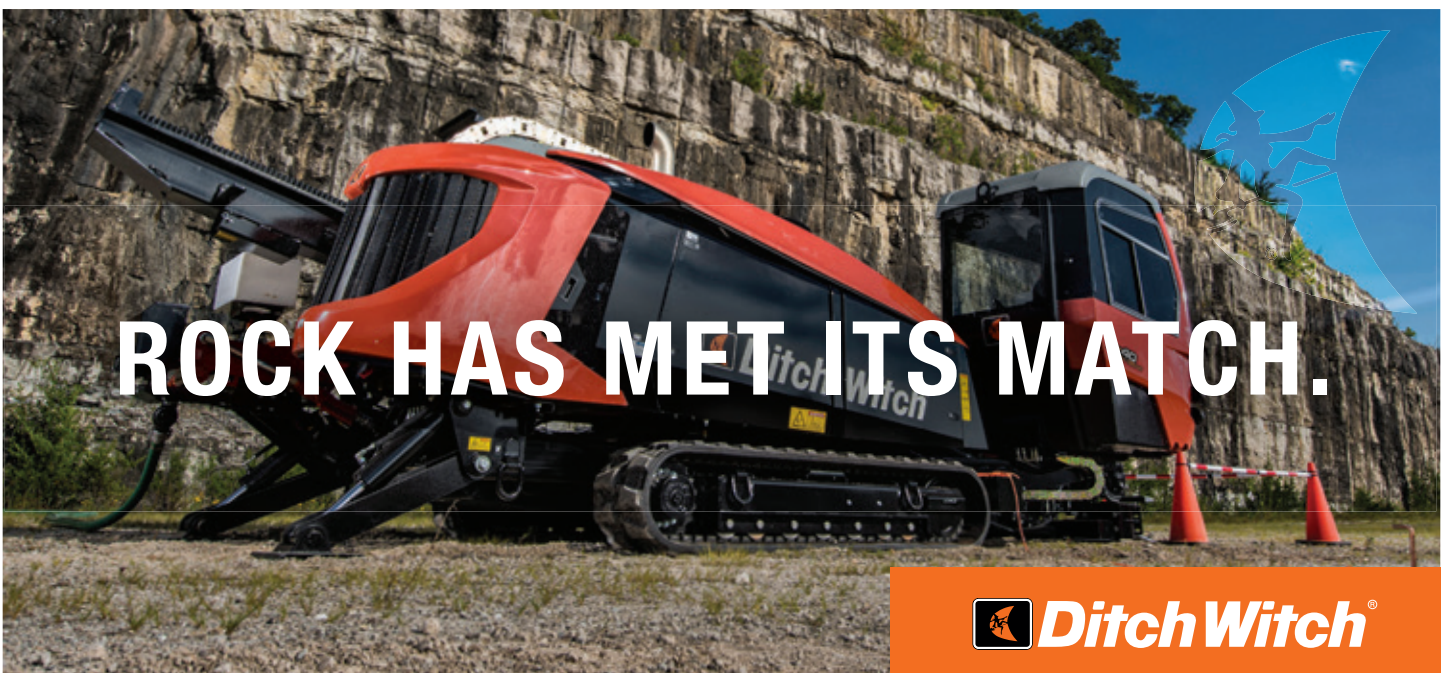
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Driving change

The pressure to deliver ever smoother surfaces in ever shorter time spans is driving the adoption of new technologies, writes Thomas Allen

Along with the usual challenges posed by weather, logistics and cost pressures, roadbuilding also faces a growing number of planning and documentation requirements introduced by lawmakers and clients.

In response to this, companies are increasingly turning to information technology to help streamline the roadbuilding process.

For a road project on the K2081 in Germany, construction company Lukas Gläser decided to use business process outsourcing (BPO) software from Volz Consulting after conducting a successful pilot project with the technology.

The pilot project was carried out over several days with the aim of seeing how the site could be planned digitally and the job could be controlled by means of a real-time model in order to optimise the logistics.

The required quantity of asphalt was predetermined, then the logistics were planned and the fleet requirements calculated based on the time allotted for installation.

During the construction process, the job site, trucks and mixing plant were all



Lukas Gläser conducted a pilot project using BPO software

connected with each other digitally, with rented trucks also integrated into the model. This was to ensure the uniform loading of the trucks and delivery to the construction site so that the laying of the road was uninterrupted.

One of the greatest advantages of the digital solution was said to be the support provided by intelligent algorithms and the automated calculation of things such as material consumption and the forecasting of the construction process.

The system was put to the test when the

asphalt production was delayed at one point. Lukas Gläser used BPO Live System's algorithms to adjust the plan, and within a few seconds the loading, unloading and installation times were automatically adjusted.

At the same time, everyone involved in the project was updated via their smartphones.

In this way, digitalisation promises to make the planning process faster and the construction process more transparent.

SMOOTH LANDING

This was true at Frankfurt airport, where Topcon's SmoothRide 3D technology was used to resurface a 1.4km-long and 31m-wide strip of the west runway in just five days and six nights.

Strabag, the contractor responsible for the works, was faced with particularly tight time constraints since it is the busiest runway at the airport and high traffic during the day meant that milling could only be conducted at night. In addition, the tight security at the airport meant that every truck and all 100 workers had to go through security checks upon entering the construction site.

Also, the project was further complicated by the fact that a 31m-wide strip was being replaced on a runway that was 45m wide in total, so the new surface needed to connect

Milling machines working together using Topcon's 3D model



ROADBUILDING

to the old one without any irregularities across the surface.

The process began with a survey of the area, which was conducted using one of Topcon's RD-M1 scanners attached to the back of a vehicle. It took about three hours to scan the 45,000m² area in 2cm resolution, providing a concise and accurate model of the runway.

The point cloud generated by the scanner was transferred first to Topcon's Magnet Collage software for processing and then to the Magnet Office Resurfacing programme, which was used for the actual planning.

Although the data was transferred using USB sticks in this particular project, Topcon's SiteLink management system can potentially be used to transfer data online directly from the planning software to the milling machines.

By milling with variable depth, the milling machines could be guided by the 3D model to adjust the depth to which they were milling, taking out only as much material as was necessary. In this way, an even surface could be obtained in a single pass, meaning less time was taken and the machines sustained less wear. In total, 16,000 tonnes of asphalt were removed.

Project leader Karsten Dietrich said, "The machine control of the milling machines was to be done without using any optical instruments. That was the only way to ensure that six milling machines were able to work simultaneously and exactly."

SIMPLE TRANSFER

Elsewhere in Germany, new technology from Joseph Vögele has been used to simplify the transfer of mix between feed vehicles and pavers.

For the modification of an exit road on the B271 federal highway, PaveDock Assistant was installed on a Super 1800-3i paver to simplify communication between the paver operator and the drivers of the feed trucks.

Operated from the ErgoPlus3 console on the Super 1800-3i paver, it worked on the



Vögele's PaveDock Assist was used in a road project on the B271 in Germany

principle of two signal lights that were used to indicate whether the feed lorry needed to reverse, stop, dump or drive away. The signal lights were positioned high up on the hardtop of the machine so that they could be seen easily by the lorry drivers at all times.

A key advantage of the system was said to be the fact that it eliminated the need for operators to use their horns to communicate, which is a widespread practice that is not only unreliable – especially when working with

multiple pavers – but can also annoy local residents and confuse vehicle drivers.

It was reported that the feed lorries did not cause a single jolt on the B271 job site during docking, which could otherwise have affected the screed and left imprints on the freshly-paved asphalt course.

On the A36 near Dijon, France, a Wirtgen W 200i cold milling machine has recently been used to rehabilitate the road.

With the latest development that applies to this machine, as well as Wirtgen's other large milling machines, the W 200, W210, W 210i and W250i, the company has focused on maximising the productivity of the equipment by making sure the operator is comfortable and therefore working efficiently.



The new operator comfort system on Wirtgen's W 200i milling machine

OPERATOR COMFORT

The new operator comfort system (OCS) is available as an alternative to the standard operator's platform with a driver's seat. It features a hydraulically moving and swivelling cabin that can be adjusted to the optimum position for the machine operator to have full visibility of the work area at all times.

The entire cabin can be moved hydraulically to the left or right edge of the machine chassis, and it can be swivelled 110° in either direction. Furthermore, the cabin's foot-well area has a glazed floor that gives the operator a direct view of the milling edge.

In addition, six cameras are installed to monitor work progress and the images are displayed on two screens in the cockpit.

Also, the machine can be operated intuitively via two multifunctional joysticks that are installed at the end of each armrest on the driver's seat. All major machine functions, including the moving and swiveling of the cabin, can be performed using the joysticks.

Altogether, these innovations were said to make it possible for a single operator to carry out milling projects that would normally require an operating crew of two.

The cabin, with its comfort seat, is also sound-insulated and has an automatic climate control system that provides an agreeable working environment regardless of the external weather conditions.

Two multifunctional joysticks can be used to operate Wirtgen's large milling machines





The Power Paver SF-2700 with Topcon Millimeter GPS

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JCB's Hydradig fitted with a Steelwrist tiltrotator on the Peppermint Junction project

meant that the excavator was a good match for this particular construction site.

Chris Forrest, Eurovia Contracting's divisional fleet and plant manager, said, "The Hydradig gives us true versatility with the breaker and the ditching buckets. Functionality is increased even further with the Steelwrist – you've got the option to break out one day, ditch the next, and it's fantastic for fork operation too."

Ian Walker, Eurovia Contracting's Hydradig operator at the Holbeach site, said, "Visibility is a lot better than with other machines – and that's all-round visibility. You can see everywhere, whereas you tend to find on other excavators you get blind spots. You can also see the footprint of the machine better, so obviously you have more chance of seeing if somebody's working next to you."

TURKISH PROJECT

An Ammann asphalt-mixing plant is playing a key role in the construction of the Northern Marmara highway, which bypasses the city of Istanbul in Turkey.

A large portion of the work has been completed, but the company Nalbantoğlu İnşaat is responsible for a 36km stretch of the remaining fourth section of the highway, which will connect to the Osmangazi Bridge.

The company initially used a single Ammann ABA UniBatch plant on the project. It was said to have been chosen primarily because of its low operational costs and high capacity, though the optional additive system that enables the use of FiberTEK was also an important benefit.

Nalbantoğlu İnşaat has since purchased a second ABA UniBatch plant for the project, as well as an Ammann MechTEK Mechanical Stabilisation Plant to produce cold mix for the job.

Ali Nalbantoğlu, chairman of the board of the asphalt company, said, "We will provide 2.5 million tonnes of cold mix. The cold mix plant has many benefits – high capacity, precise dosing, an ability to handle a wide range of additives, and operator-friendly software that enables recipe storing, statistical reporting and customisation."

Nalbantoğlu also said that the plant could produce a large output in a short time and its wearing parts have a long life, thereby reducing maintenance costs. Also, the company's managers are able to connect



Ammann's new ART 280 hydrostatic tyred roller

A major road project in the UK was recently completed three months early by civil engineering firm Eurovia Contracting, with the help of a new JCB Hydradig excavator.

The £5.4 million (€6.13 million) Peppermint Junction project in Holbeach, Lincolnshire, included the creation of a new three-arm roundabout to make access to the A17 safer, and another roundabout to give access to housing and commercial development land.

The 11.5-tonne JCB 110 Hydradig was

fitted with a Steelwrist tiltrotator and was used to carry out a series of tasks across the large-scale site. These included materials handling, concrete breaking, curb placing and excavation tasks.

Powered by a JCB EcoMax 444 diesel engine, it could travel at speeds of up to 40km/h. Also, its small turning radius of less than 4m – made possible by the all-wheel steer chassis – and the ability of its upper structure to rotate while remaining within a single highway lane

Power Curbers & Power Pavers aims to meet the demands of the market

Stephen Bullock, vice president of sales and marketing at US-based Power Curbers & Power Pavers, said that Europe represented a key market for the company, making up a significant proportion of its international business.

"European contractors performing curb, barrier, and ditch work have used our machines since the 1960s," he said.

The financial crisis in 2008 had a significant impact on demand and it has been a slow recovery for roadbuilders, but the market is believed to be picking up pace now.

Bullock said, "We have been pleased with the recent improvements in the amount of work there and in the demand for our machinery. Power Curbers & Power Pavers is optimistic about the return of the European market."

"Our new four-track pavers, the Power Curber 7700 and the Power Paver 2404, are well positioned to meet customer demand as the market gets back into full swing."

When asked about the key factors that drive demand for the company's machines, Bullock said demand was three-fold.

"Technological advancements in our machinery, including stringless control – GPS and 3D – have created a buzz among contractors.

"Increases in the amount of highways and in rehabilitation of existing roads have given contractors the confidence to invest in new machinery.

"And many machines were left in operation longer than usual during the difficult times as owners stretched the buying cycle. Those contractors are replacing ageing fleets and are taking advantage of machine enhancements at the same time."



The Power Curber 7700 is one of two new four-track pavers from Power Curbers & Power Pavers

The ABA UniBatch asphalt plant from Ammann



to the machine remotely to monitor daily operations.

Ammann has recently launched the new ART 280 hydrostatic tyred roller, which features a modular, easy-load ballasting system that was said to be unique to the market.

A range of ballasting materials – including water, steel, concrete and sand – can be used to adjust the machine's weight from 9 to 28 tonnes in an hour with the help of just a forklift truck. This translates to a load-per-tyre adjustment from 1.125 to 3.5kg.

The machine's air-on-the-tyre system allows easy control of tyre pressure from the cab, and the front isostatic axles with oscillation were said to offer good stability and surface coverage. The front tyres are connected with an isostatic system that allows movement of plus or minus 50mm, and the front axle configuration combines with plus or minus 3° of oscillation for optimal tyre contact in difficult terrain.

Caterpillar has also introduced new tandem vibratory rollers to its paving machine family – the 11.8-tonne CB13, 13.6-tonne CB15 and 14.5-tonne CB16.

A number of technological enhancements are provided through the Cat Compaction

Control option. For instance, the pass-count and temperature mapping systems combine infrared temperature sensors with GPS mapping to keep the operator informed about the temperature of the surface, the machine's position, the pass count and the pass coverage.

It was said to enhance night-time rolling pattern performance, as well as recording information that can be used for future process analysis and quality control documentation.

MACHINE COMMUNICATION

Machine-to-machine communication also helps to improve job site efficiency by keeping the rolling patterns synchronised through the sharing of mapping data.

The rollers' vibratory system offers a variety of vibratory options including oscillatory vibration, dual amplitude, dual frequency, Versa Vibe, and five amplitude systems. The Versa Vibe system, for instance, provides four amplitudes and two frequencies. It has two settings for lighter-hitting, higher working speeds on thin lifts, and two settings for heavier-hitting, slower speeds on thick lifts or challenging mixes.

These vibratory systems are complemented by the combination of vertical vibration in the front drum and oscillatory vibration in the rear drum.

The oscillatory vibration design combines Caterpillar's vertical vibration on the front drum with oscillation technology on the rear drum. The front drum with vertical vibration is available in two amplitude, five amplitude, or Versa-Vibe systems that provide initial compaction, while the rear drum with oscillation helps to ensure optimal smoothness and density of the road surface. It uses pod-style eccentric weight technology developed by Caterpillar and

was said to have a 2,000-hour service interval.

In addition, the operating station has been designed to include a 360° seat positioning option that enables the operator to constantly face the direction of travel for better visibility and comfort.

Visibility and operator comfort were also at the heart of the design of GOMACO's new two-track GP3 paver.

The vibrator modules have been positioned across the front of the operator's platform for improved visibility, as well as ease of access. Also, the paver can easily be operated with the company's G+ control system, which allows for quiet running technology and load-sensing hydraulics to be used.

The paver has an isolated operator's platform to enhance operator comfort during a long day of slipform paving. Access to the platform has been made easy with multi-positioning, pivoting ladders that can be angled at variable degrees. The ladders can also be positioned tight against the paver for minimum-clearance paving conditions.

The new two-track GP3 has the same Smart Frame Widening feature as the four-track GP3, allowing it to accommodate multiple width changes.

The roller frame has dual telescoping capabilities of up to 2.13m on each side of the paver, for a total of 4.26m of automatic frame widening. Also, smart cylinders in the roller frame allow Smart Telescoping with accurate frame widening and automatic width reference for steering setup. The T-beam mounting rail is incorporated into the telescoping frame.

New equipment has also been introduced by Bobcat. The company has extended its range of self-levelling planer attachments with the addition of two new models designed for use with Bobcat's high-flow compact loaders.

The 50cm-wide PSL50 model offers the same features as the existing 60cm-wide PSL60 model with self-levelling, side-shift and tilting, but the size of the PSL50 planer was said to be particularly well suited to the requirements of fibre optic projects.

The 120cm-wide PSL120 model has the same features as the 100cm-wide PSL100 model and was said to be ideal for road maintenance, where it was claimed the increased width provides 20% more productivity. **ce**



The CB15 is one of three new tandem vibratory rollers from Cat



Bobcat has introduced two new self-levelling planer attachment models


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The Raimondi LR330 luffing jib crane

Innovation in the tower crane market is thriving, as the latest machines demonstrate, says Christian Shelton from sister-publication *International Cranes & Specialized Transport*



Tower power

The tower crane industry continues to grow, fuelled by a heady mix of prestige projects, industry and demand for high-rise housing – and this is evident from the plethora of new models and updates currently on the market.

Among luffing jib cranes, Spanish tower crane manufacturer Jaso is preparing to launch a new luffing jib tower crane series.

Jaso's area manager, Theodor Huitema, said, "We decided to launch the new series in response to market demand, as our customers were requesting higher capacity luffers with fast line pull speeds."

Jaso's first version of the new tower crane – the J780PA.64 – has a capacity of 64 tonnes, which is doubling the capacity over the company's previous highest capacity tower crane.

It has a 132kW hoisting winch and a line pull capacity of 16 tonnes.

Huitema also revealed that there was an even bigger, 75 tonne capacity version in development, which will use a 220kW hoisting winch with speeds of up to 310m/min.

The Spanish company has said that it also plans to release a third, lower-capacity version.

An 18 tonne luffing jib tower crane has been launched by Italian manufacturer Raimondi. The LR330 has a maximum jib of 60m and, at maximum radius, the capacity is 3.3 tonnes.

Configurations are possible with two or four falls of rope, and there is an Ultra-lift mode to maximise capability. Six jib lengths can be set between 30 and 60m.

There is a choice of three hoisting winches – a standard one at 80kW; the two falls of rope configuration with a 110kW unit; and for four falls of rope there is an 80kW version. Rope capacities are, respectively, 650m, 1,000m, and 980m.

Maximum hoisting speed with the 110kW

model RHW110-T2 winch on a single fall of rope is 250m/min.

There is also a new safety control system that monitors all of the crane's movements and the load.

Raimondi Cranes began shipping the LR330 in March 2018. The first two units are for UK Raimondi agent and rental company Bennetts Cranes.

German tower crane manufacturer Jost Cranes has launched a new luffing jib tower crane – the JTL 68.4s. It has an out of service radius of 4m.

The crane will be the smallest hydraulic luffer Jost Cranes offers.

The company said it would have a boom length of up to 35m and a maximum freestanding height of 30m on Jost's standard TH 12.2 tower.

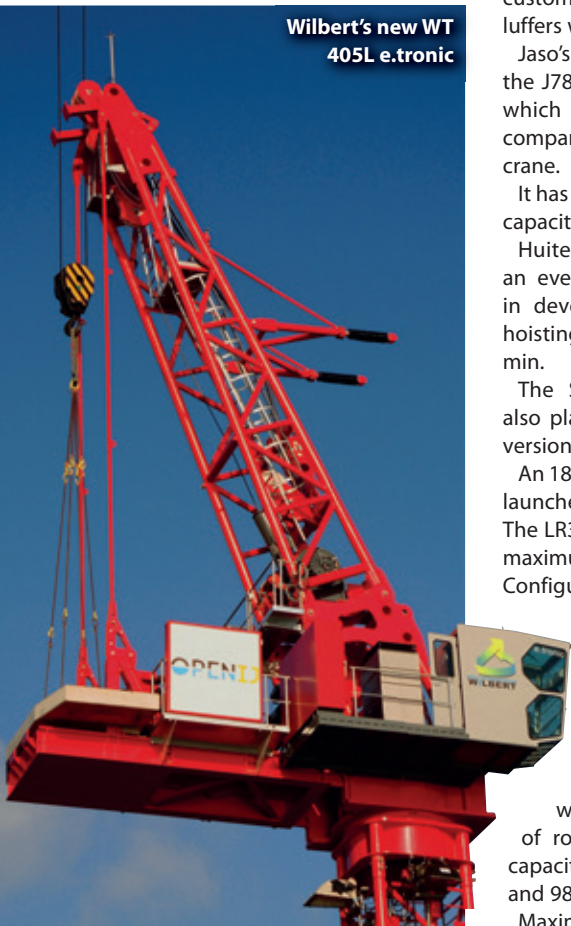
Jost said the crane was particularly suitable for small job sites with very limited slewing space, where weather-vaning and the over-sailing limitations made it difficult for other cranes to operate, while still lifting a four-tonne load.

Thibaut Le Besnerais, global product director of tower cranes at Manitowoc, said, "The Potain MCH 125 is well-suited to congested job sites. Its hydraulic luffing motion enables easy erection by eliminating the need to erect and dismantle a strut, which results in savings of time and manpower."

RETURNING TO SECTOR

German tower crane manufacturer Wilbert TowerCranes is making its return to the sector with a new range of products after what the company has described as "some stormy years in a rather depressed tower crane market".

Wilbert's new WT 405L e.tronic





Dutch double

In the Houthaven dockland area of Amsterdam, the Netherlands, two construction companies – Dura Vermeer and MJ De Nijs & Zn – are using four Liebherr tower cranes to help build what will be one of the tallest residential buildings in the Dutch capital.

The cranes comprise two 280 EC-H 12 Litronic models – with hook heights of 52 and 60.3m – and two 550 EC-H 20 Litronics. These are anchored onto the building and can attain hook heights of 104.1 and 114.2m.

Liebherr provided support by helping calculate the number of required tie-ins to the building which, when complete, will include flats for rent and sale, and 1,500m² of shopping space.



Four Liebherr cranes in Amsterdam

Wilbert has also said the additional luffing jib crane models were currently on its drawing board.

SADDLE JIB RANGE

Wilbert also has two new additions to its saddle jib range. The WT260 e.tronic offers 2.7 tonnes of capacity at a 70m maximum outreach with a counter jib length of 14.7m.

This short counter jib stays the same for all jib lengths, from the 25m basic version in 2.5m increments to 70m. A short counter jib allows multiple cranes to work together more easily on congested construction sites.

At the top end of its saddle jib range, Wilbert TowerCranes has developed a modular WT3000 e.tronic concept. Customers can choose an ultra-long 104.4m jib with a tip capacity of 16.4 tonnes, or a shorter heavy-duty jib with a 200-tonne capacity.

This crane is focusing on the international heavy lift market for infrastructure and power station projects.

Liebherr said it had increased the range of its 150 EC-B 8 Litronic PT and 172 EC-B 8

Litronic flat-top models by 2.5m, taking the total radius of both cranes up to 62.5m. The company said that the jib on both cranes could also now be adjusted in 2.5m steps for fine-tuning.

Both cranes can now be supplied with Liebherr's 16 EC, 16 HC and 21 HC tower systems.

The compact 16 EC tower system is the most recent and there are two models in the range – the 16 EC 160 and the 16 EC 240.

The first figure indicates the external dimensions of the tower – 1.6 x 1.6m – while the second figure specifies its metre-tonne rating, said Liebherr.

This means the updated 150 EC-B 8 Litronic PT can now hoist 1.4 tonnes at the jib head with a radius of 62.5m, while the maximum free-standing hook height of the flat-top is 72.4m.

The updated 172 EC-B 8 Litronic can now hoist 1.8 tonnes at the jib head with a radius of 62.5m. The maximum load capacity of both cranes remains 8 tonnes.

The 172 EC-B 8 Litronic is supported on >

The new line has been produced following backing from a Chinese investor which resulted in Wilbert developing what it describes as “state-of-the-art crane technology using the benefits of automation technics in the production of our cranes and their components”.

The WT 405L e.tronic is the first of Wilbert's new luffing jib models.

It is a medium-sized luffer that lifts 32 tonnes in two-fall operation up to an 18m working radius.

Maximum radius is 61.5m where capacity is 4.7 tonnes. The 140kW hoist gives a 200m/min hoisting speed on one fall of rope and is suitable for 16 tonnes.



Liebherr's updated 150 EC-B 8 Litronic PT has been licensed for passenger transport



City Lifting erected a special version of the Linden Comansa 21LC750 flat top tower crane for work at London's Heathrow Airport

Landing at Heathrow Airport

Supplying a crane to build a hotel next to Heathrow Airport in London, UK, one of the world's busiest airports, was a challenge met by City Lifting – using the largest flat top tower crane in the UK.

Operating tower cranes close to airports requires careful planning because of height restrictions, among other things. City Lifting in the UK supplied a 50 tonne capacity Linden Comansa flat top crane for the project at Heathrow Airport – the 21LC750.

Around 80 million passengers pass through Heathrow each year and there is growing demand to have hotels as part of the airport. At present Heathrow has two, at Terminals 4 and 5, close to runways and away from the central area. In May 2017, the Arora Group started building a new 14-storey hotel next to Terminal 2.

Trevor Jepson, City Lifting's owner, said, "The 21LC750 at Heathrow Airport is the largest flat-top crane in the UK.

"We are convinced that when the crane finishes its job in this jobsite we will receive plenty of rental enquiries because the trend is to use heavier prefabricated units in construction, and machines like the 21LC750 will be more necessary for construction companies to work in a quick and efficient way."

He added this model was "the perfect addition to our tower crane fleet", which includes 43 units from Linden Comansa.

Some of the precast concrete modules weigh 13.2 tonnes, so a big crane was needed. City Lifting, which is also the UK Linden Comansa distributor, provided a special version of the tower crane, with a 50 tonne capacity rating instead of the standard crane's 48 tonnes.

To get the extra capacity, the design of the trolley and hook set was optimised. Using compact wire rope for the hoist cable allowed the design engineers to use smaller pulleys, especially in the trolley. Weight was saved and the trolley was made much stronger, Comansa said, helping to increase the jib end load by 200kg.

These improvements will also feature on a new model of large tower crane due for imminent launch.

With crane height at an airport a vital consideration for safe working, the Heathrow crane was erected freestanding to a height of 51.3m.

Bob Jones, City Lifting director, said, "We had to use a flat top tower crane as the ceiling height of the airport radar interference is only 2m above the crane. If an A-frame type crane was used it would have penetrated the radar."

In this configuration with a 55m jib, lifting capacity at the end of the jib was 16.2 tonnes. This can be increased – up to 17.28 tonnes – by using the PowerLift system which is standard on all flat top models from the Spanish manufacturer.



Loads up to 13.2 tonnes will be handled by the 50 tonne capacity crane



An idea of just how close the crane is to the busy airport



a new 20 EC cruciform base and the crane has an internal LiUP crane driver elevator integrated in the tower.

The updated 150 EC-B 8 Litronic PT has been licensed for passenger transport. The total lifting capacity is reduced to two tonnes in passenger transport mode, allowing personnel to be hoisted with their tools and materials.

Safety has been further enhanced with the inclusion of a secondary brake. The use of the crane for passenger transport has been EC type tested.



Terex's CTT 472-20

Raimondi's MRT234 flat-top



The crane can have a standard 45kW hoisting winch, or there is a 55kW model available.

Raimondi said that the speed of the slewing and trolley movements had been improved by around 30%, while the crane's smoothness of motion had also been enhanced.

Manitowoc's latest top-slewing tower crane is the Potain MDT 349 – which is available in 12-tonne and 16-tonne versions.

The 12-tonne version has a maximum jib length of 75m and a maximum tip load of 3.2 tonnes.

The 16-tonne capacity Potain 349 L16 also has a maximum jib length of 75m, but a slightly lower maximum tip load of 3 tonnes.

Both cranes have Manitowoc's Crane Control System (CCS) and new 75 High Performance

Lifting (HPL) winch technology, which it said provided higher line speeds than the 75 LVF winch previously found on many Potain top slewing tower cranes.

INCREASED LOAD CHARTS

The latest tower crane model from Terex is the CTT 472-20 flat top, which was released in September 2017. Terex Cranes said this 20-tonne class crane expanded the maximum jib length to 80m and increased load charts over previous models. The capacity at the end of the longest jib is four tonnes.

Terex said it delivered high lift capacities throughout its load chart, had 11 different jib configurations from 30 to 80m, and its hoist, slewing and trolley speeds allowed operators to position heavy loads quickly and precisely. >

The company also said that it was working on a new series of flat-tops, but further information will not be released until the end of 2018.

Spanish manufacturer Linden Comansa will launch a new large flat top tower crane model.

The company said the 21LC1050 would have an 80m maximum radius and would be available in three versions, with load capacities of 25, 37.5 and 50 tonnes.

The new crane doesn't have a cat-head – which the company said made it easy, safe and fast to erect.

The 21LC1050 will be the largest of Linden Comansa's LC2100 Series and shares many elements with other cranes in the series.

The counter jib is modular, making it particularly suitable for prefabricated prefinished volumetric construction, said Linden Comansa.

This is because it means there are a number of ways to achieve a shorter counterjib radius when the crane is assembled with a short jib, it said.

POWERLIFT SYSTEM

The new model will come as standard with Linden Comansa's PowerLift system for up to 10% load chart improvement, the XL size of its new Cube cab, and Effi-Plus system for high-speed hoisting of light loads.

In October 2017, Raimondi launched the MRT234 flat-top. It has a maximum jib length of 70m and a capacity of 12 tonnes on four falls of rope.

In Ultralift mode, the MRT234 can lift 2.25 tonnes at the maximum radius. The company said that eight jib lengths, from 70 to 28m, were available.



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CRANES

The CTT 472-20 is the first tower crane model to include Terex's new cabin that will be installed in all future flat top, hammerhead and luffing jib models.

It also has Terex's new control system and Terex Power Plus (TPP), which can increase the load chart by 10%. A Power Match function is designed to balance performance and power consumption while hoisting.

Terex said it had plans to launch another flat top in 2018 and that it was also investing in its self-erecting tower product line – to which, the company hinted, it might also add another new crane.

The latest flat top tower crane model from Wolffkran, available since September 2017, is the Wolff 6020 Clear. It is in the 140 tonne-metre class and replaces the 6015 Clear.

It has a bigger tip load and incorporates design detail improvements from other recent new models, according to Wolffkran.

Two versions are available – the six-tonne capacity 6020.6 Clear, and the 8-tonne 6020.8 Clear. Each has three tower crane connection options.

Gerd Tiedtke, Wolffkran product manager, said, "Compared to its predecessor the six-tonne version can lift two tonnes instead of 1.5 tonnes at the tip at a 60m jib radius, while the tip load capacity of the eight-tonne version was increased from 1.5 tonnes to 1.8 tonnes."

Both models are designed for two-fall rope operation. On the six tonner, a new 28kW



Special anchoring technique used

Power plant project in Poland

Polish crane rental company Corleonis was commissioned by infrastructure contractor Budimex to erect a 150m-tall cooling tower at Bogatynia power plant, Poland.

For the job, Corleonis used a Terex CTT 332-16 flat top tower crane, which was set up inside the cooling tower. As the construction of the tower progressed, Terex and Corleonis developed a special anchoring technique that enabled the crane's hook height also to be maintained as the height of the cooling tower grew.

hoist winch, type Hw 628.1 FU, shortens cycle times with its 108m/min hoisting speed under partial load.

A 45kW Hw 845 FU hoisting winch is fitted on the eight-tonne version.

Changing some elements of the design has allowed smaller bolts to be used, which means faster and easier assembly.

Counterweight slabs are no longer being supplied with the basic crane, and the company said that this meant that any suitable existing ones could be used.

To help protect the crane better against corrosion, there are more galvanised parts than on the preceding model, including railings, platforms and covers. **ce**

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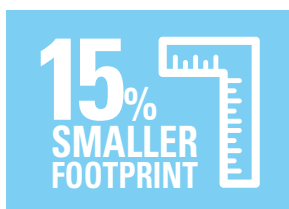
Air compressors



The connected compressor: XAS 88G

The XAS 88G combines a reliable source of compressed air with a 9 kVA built-in generator. The pioneering concept of the latest model, and all machines in the 8-series compressor/generator combination range, are designed to optimise fuel consumption in-line with load demand.

Easy start-up, safety and security are defining features of the 8-series, which are designed for use on construction and work-sites around the world. With three air connections and three power sockets, plus FleetLink remote monitoring functionality – it's our most connected compressor ever!

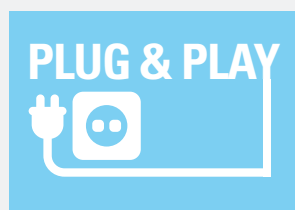


Performance beyond imagination: E-Air 250

The new E-Air 250 is a plug-and-play portable, electric-powered compressor with Variable Speed Drive (VSD). Focussed on efficiency, the electric technology of the E-Air compressor offers up to 40% greater flow for the same power consumption compared to conventional compressors.

Control of pressure and flow is handled by the unit's integrated PACE system, which enables multiple pressure and flow settings to precisely suit the application.

The E-Air's Smart Socket System provides users with the flexibility to use the same machine with multiple outlet sockets.



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You get the versatility of three compressors in one! PACE offers you the widest choice when it comes to pressure and flow settings within a single compressor.

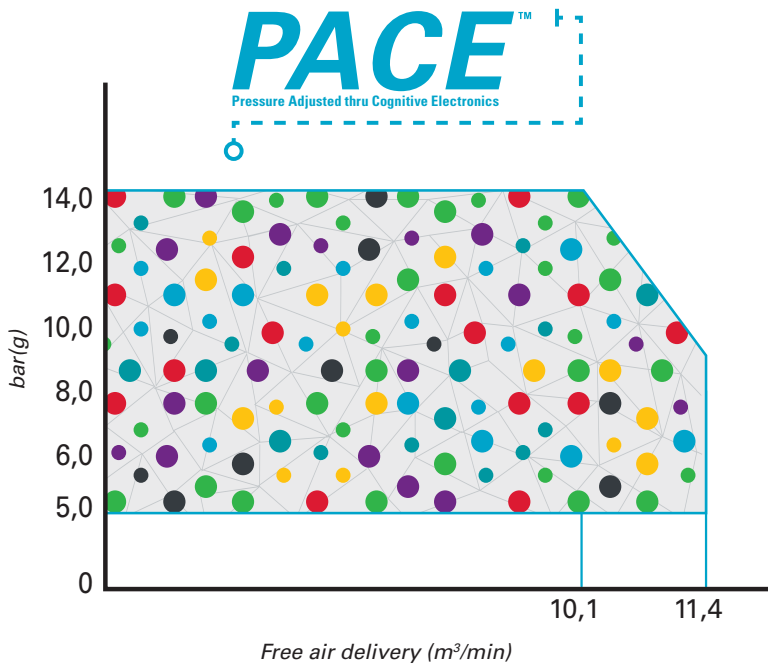
Sustainable Productivity

Atlas Copco



PACE technology explained

PACE technology redefines the relationship between pressure and flow. A compressor with PACE technology can cover the application needs of, on average, three fixed pressure compressors.



Applications include:



◀ 7 bar: Handheld tools



◀ 8.6 to 10 bar: Abrasive blasting



◀ 7 to 12 bar: Shotcrete applications



◀ 12 to 14 bar: Cable blowing and drilling

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- ✓ A system that gives you the versatility of three machines in one package.

What PACE is NOT:

- ✗ A linear system where adjusting the pressure dictates the flow.
- ✗ A regulation valve where you use guess work to manually adjust the settings.

PACE technology gives you higher utilisation, more versatility, improved efficiency savings and a higher return on investment!

Graph shown is for the XAVS 186. Available operating range will change between models. Please check data sheets for exact specifications.

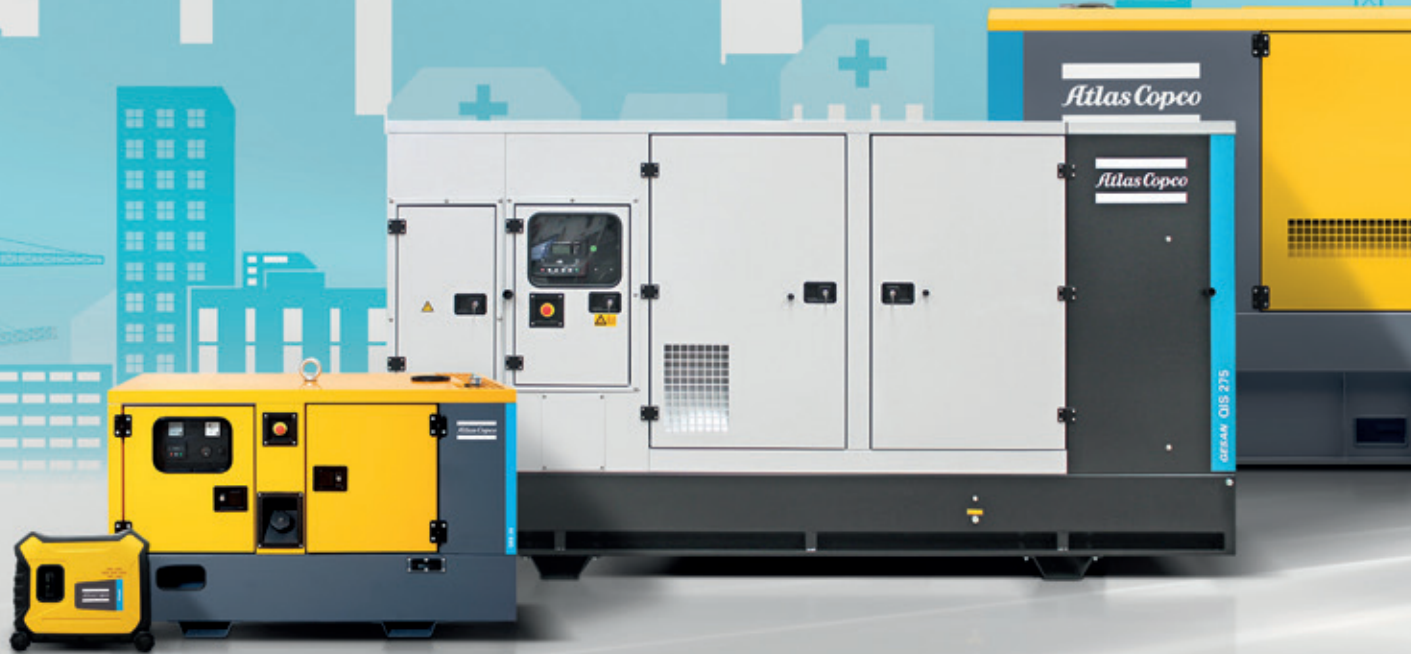
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HiLight B5+ with SmartMast™



SmartMast™ technology features intelligent built-in mast sensors that detect adverse environmental conditions, such as high winds, and automatically lower the vertical mast when safety or stability is compromised. It's also programmed to alert users to potential obstacles and impacts, such as low ceilings or beams.

SmartMast also provides stability assistance when installing the light tower. Users are automatically alerted about the danger of uneven surfaces to ensure safe positioning.



HiLight Z3+ battery



The new HiLight Z3+ is a fully battery powered light tower. With just 8 hours charging time, you can use multiple electrical charging sources, including small generators or directly to the grid. With the Z3+ you receive all the autonomy you need – running up to four nights without any recharging. The Z3+ boasts zero emissions and zero noise – making it the perfect choice for events and outdoor activities in urban environments.



3+ ZERO NOISE EMISSIONS FUEL CONSUMPTION

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HiLight H5+
HiLight B5+
HiLight V5+



Battery LED

HiLight Z3+



Electric LED

HiLight E3+
HiLight V3+
HiLight P2+

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The dewatering range was developed as a result of over 140 years' experience working with construction customers across the world. Our strategy fits perfectly with pumps. The first focus, of course, is providing efficient products. We strive to develop products that are better for you and better for the environment.

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- 7-20 bar



PRODUCTIVITY PARTNER

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*Multiple configurations available to produce power for any size application

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CENTRIFUGAL

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SMALL PORTABLE

- 210-2500 l/min



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LED



METAL HALIDE



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The Sandvik DR412i is described as automation-ready

From trenchless to tunnelling, drilling is making advances with new equipment and innovative techniques. Sandy Guthrie looks at the sector

Holes of all sizes

Talking about drilling on a construction project could mean a number of different things, from small hand-drilled holes to massive piling work, or even tunnels, and all sizes of hole in between.

Frank Haehnig, managing director of German-based Bauer Spezialtiefbau, set the scene for drilling in Europe.

He said, "The driving economies are France and Germany, whereas France is concentrating on the sector of infrastructure and Germany has a high demand for housing projects. In Germany infrastructure projects are stuck in the administration and bureaucracy of the newly-installed government.

"The UK has slowed down in the piling sector compared to 2016 due to the completion of Crossrail and Thames Tideway. The uncertainty about the consequences of Brexit are not fuelling the UK piling industry."

He added that the backlog demand for infrastructure and housing in South East Europe was creating a higher increase in GNP (gross national product) than the European average. While he pointed out that this came from a low level, it created good opportunities in countries such as Hungary and the Czech Republic.

"To put it in a nutshell," he said, "the major economies are still in good shape, stabilising the markets and triggering investments especially in South East Europe. The general outlook is slightly positive, if the planned infrastructure projects are kept within their time schedules."

At Sandvik Mining & Rock Technology, the company said it was looking to continue its tradition of developing

innovative technology to help customers improve productivity, reduce cost and enhance safety, and was growing the Sandvik i-Series line of intelligent drills.

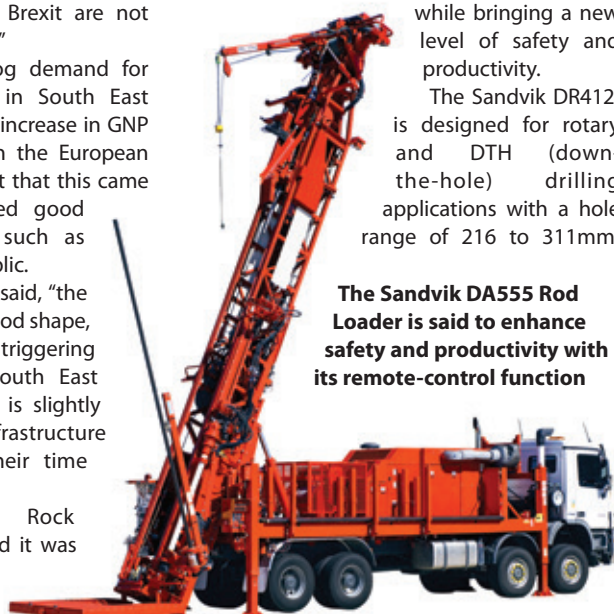
There are three new platforms nearing release. The i-Series line of intelligent drills is designed to offer customers a broader range of hole diameters with single-pass, multi-pass, high- and low-pressure options.

It said all i-Series drills were built around an advanced CAN BUS design with enhanced control systems to help reduce troubleshooting time and increasing availability.

The Sandvik DR412i blasthole drill was designed to improve conservation and deliver dependable penetration in the harshest conditions. The DR412i was said to be automation-ready and to guarantee reliability, while bringing a new level of safety and productivity.

The Sandvik DR412i is designed for rotary and DTH (down-the-hole) drilling applications with a hole range of 216 to 311mm.

The Sandvik DA555 Rod Loader is said to enhance safety and productivity with its remote-control function



Haehnig, "Major economies are still in good shape"



High- and low-pressure versions are available with a single-pass maximum hole depth of 31m and multi-pass maximum hole depth of 75m.

The Sandvik DR416i rotary blasthole drill – to be released in the first half of 2018 – is the largest surface drill in the portfolio, capable of drilling up to 406mm holes while claiming to offer high rotational torques and pulldown forces at the lowest possible operating cost.

The DR410i, slated for release in 2019, will be the next in the i-Series line. It is designed for rotary drilling applications with a hole range of 200 to 225mm, and DTH applications with a hole range of 152 to 225mm.

The Leopard DI650i is scheduled to be released in the autumn, and is said to complete the Sandvik surface DTH drill offering for the mining and construction markets.

ROD LOADER

The Sandvik DA555 Rod Loader for both core drilling and reverse circulation is said to enhance safety and productivity with its remote-control function. Based on the Sandvik DA554 rod loader, the DA555 reduces manual lifting of drill rods.

Meanwhile, Sandvik said the new Ranger DXi series pushed boundaries with several new high-performing features for improving the drilling process. It claimed improved drilling coverage equipped with a new powerful rockdrill, Sandvik-style intelligence and high

fuel efficiency made it the most powerful and efficient top hammer drill rig in its class.

Joanne Cooke, president, surface drilling and exploration, at Sandvik Mining & Rock Technology, said, "We continue to evolve our product offering to meet the ever-changing technology landscape, but more importantly to make sure we are delivering exceptional value to our customers."

"The products we have released to the market, along with the soon-to-be-released products, reinforce our culture of aggressive innovation and our never-ending focus on our customers whose feedback we have used in the development of these new products."

Vermeer said the horizontal directional drill (HDD) industry had come a long way since it introduced its first rig in 1991. It said the equipment, technology and drill crews had all become more sophisticated, and this had helped expand the range of jobs drills could be used for.

However, it added that there was still a significant and growing market for open-cut methods, like trenching and ploughing.

Tod Michael, product manager for trenchless



Vermeer's D10x15 S3 is for utility contractors

core products, said most underground construction projects had several factors that needed to be considered when choosing between trenchless and open-cut methods.

"There are the basic economics involved in the decision, like equipment, labour and



The Sandvik Ranger DX900i, part of the new DXi range, claims improved drilling coverage

restoration costs," he said, "but there are often more that contractors need to consider that impact the decision, such as ground conditions, the diameter of the product, grade requirements, underground and above-ground obstacles, as well as location."

In countries with more developed infrastructure, HDD is usually the preferred installation method for small-diameter utilities in urban and suburban locations.

"Most of the time, boring a utility line is more cost-effective and takes less time because you go under roads and sidewalks, not through. Also, you do not have to contend with above-ground obstacles, like fences, roadways, sidewalks and driveways."

Trenchless technique developments

Tracto-Technik's trenchless techniques were recently demonstrated at its Hands on Days, which were held at the company's test site in Lennestadt-Gleierbrück, Germany.

The company claims a product range that it said covered various applications for supply and disposal such as water, fibre glass (FTTX), natural gas, E-mobility, wind farms, remote heating and sewage.

At its Hands on Days, it said that new installation and rehabilitation of mains and distribution pipes using trenchless technology had been accepted for a long time, but that it was now possible to install property service connections underground up into an existing basement or service room.

By using its Grundomat mole soil displacement hammer, Tracto-Technik said the complete range of sectors from sewage to FTTX connections could be installed and renewed without trenches.

The company said that the fast-pace of development of steerable drilling techniques had led to trenchless installation projects that would have been unthinkable a few years ago.

The Tracto-Technik product line ranges from the compact and mobile Grundodrill 4X bore rig to the powerful Grundodrill 28Nplus HDD system. The Grundodrill 18ACS is said to work highly efficiently in alternating soils as well as in the hardest rock.

The Grundodrill 11XP was designed with the challenge of developing the urban underground network. Its slim construction makes it suitable for applications in inner-city areas, and parallel installations up to 500m long are possible, with crossings beneath rivers and water bodies being completed frequently.



Keyhole technology starts with a cylindrical core bore

Tracto-Technik said the steering technology even enabled bores underneath industrial complexes.

Keyhole technology which enables installation, repair and renewal of service connections from a stress-free circular construction pit, is also offered by Tracto-Technik.

A cylindrical core bore is worked into the surface to cut open the excavation pit, then the soil is sucked out of the hole up to the installation depth using a suction excavator. After completion of the works, the previously drilled out circular core bore is inserted back into place without any subsequent stress cracks or damage to the road surface. The company said the technique was a minimally-invasive technology that was eco-friendly and cost-effective.

UNMARKED UTILITIES

There are regions of the world that still prefer to use open-cut methods in urban and suburban environments, though. Björn Van de Weghe, applications specialist for EMEA (Europe, Middle East and Africa), said unmarked underground utilities were a major concern in some cities.

He said, "Trenchless methods are still used for crossing under roads and bridges, as well as over longer distances where no connections have to be made or crossed."

In rural areas, often with less restoration and obstacles to contend with, trenching and/or ploughing is typically faster and more cost-effective for smaller diameter products.

According to Jeff Utter, product manager, contractors still need to consider which method makes the most economic sense in more wide-open areas.

"Accounting for existing utilities, type of soil, the size of the product being installed and the required depth still need to be considered before choosing," he said. "It may be less expensive to use an open-cut method for shallow installations."

"However, for deeper installations or in rocky soil conditions, HDD may still be the best choice because less material has to be removed during the installation process."

Vermeer has introduced the compact D10x15 S3 Navigator HDD for utility installation. The D10x15 S3 is designed to provide more power and carriage speed, and lower sound levels than its D9x13 S3 Navigator HDD predecessor.

Michael said, "Market feedback indicated that

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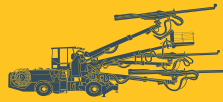
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The Minnich A-4SCW is an on-slab self-propelled wireless unit

utility contractors who are operating compact-size drills are demanding more performance.

"We listened and responded by optimising the horsepower, thrust, rotation and carriage speed of the new D10x15 S3 to help utility contractors install more feet per day."

At Minnich Manufacturing, which deals in concrete dowel pin drills, concrete vibrators and vibrator monitoring solutions, vice president of marketing Rob Minnich, said, "Self-propelled wireless dowel pin drills continue to be popular on large European infrastructure projects because they increase drilling efficiency, accuracy and safety."

Minnich wireless remote control technology enables operators to drill up to five holes at once, and drive down the slab to drill the next set of holes, while standing away from the drill.

"From this clear vantage point, operators can drill faster and more accurately on airport and highway jobs," he said, "while reducing exposure to dust, debris, noise and obstacles. Power crab steering further boosts efficiency by letting operators drive down the slab without raising and lowering the drill bed."

He said the concrete barrier wall drill was one example of a drilling solution Minnich had developed for European contractors.

"This drill helps maximise the efficiency and safety of drilling vertical holes for the pins used to secure temporary concrete traffic barriers."

The Minnich concrete barrier wall drill is air-driven and self-propelled, and straddles and rides along the top of the temporary wall. A tethered controller was said to enable the operator to drill multiple accurate, consistent pin holes simultaneously – through pre-moulded holes in the wall, through the road, into the sub-base – while positioned on the non-traffic side of the barrier.

German-based Herrenknecht claimed that over the past few years, it had established several innovations in pipeline technologies.

It said that to reduce the footprint of pipeline installation, the compact Herrenknecht rig HK80CK – 800kN of push/pull force – with a crawler was an interesting option.

It said the compact design meant low transportation requirements. It uses a 20ft drill pipe compared to the standard 32ft, and

The Liebherr LRB 18 has a longer leader

Herrenknecht's Direct Pipe excavates the borehole and installs the pipeline in one single step



the fluid pump is small enough to be fitted on board. The company said that it also provided noise and emissions protection, which made the tool suitable for projects in urban areas.

DIRECT PIPE

In another example, Herrenknecht said that the Direct Pipe method opened up new application options by combining the benefits of the well-established microtunnelling technology and HDD.

It said the key innovation was the Pipe Thruster, which grips the pipeline and pushes it into the ground. This means that the pre-fabricated pipeline can be installed in the ground at the same time as the excavation process, permanently supporting the borehole.

With E-Power Pipe, Herrenknecht has developed a new method to install small-diameter cable protection pipes underground with drive lengths of over 1km, quickly and securely. The trenchless technology can be precisely controlled and used with only small overburdens, it claimed.

It said it had contributed and encouraged advances in the HDD process with the introduction of several new downhole tools.

New company – new products

Epiroc was set up last year by Atlas Copco to take on parts of its business, including drilling, and is now a standalone company.

It said it developed and produced innovative drill rigs and drill strings, rock excavation products and construction equipment, adding, "After a long history as part of the Atlas Copco Group, we are now ready for the future with a passion for making what's good even better."

Among its surface and exploration drilling equipment, it has the SmartROC C50, which claims precision to give optimal blasting results, and low fuel consumption. The FlexiROC T20R is said to have large boom coverage, making it suitable for a variety of construction applications.

Its rock drilling tools include the Secoroc COP W4, which claims an increase in productivity of 10% against other hammers on the market.

Powerbit is a new range of tophammer drill bits for surface drilling from Secoroc. Epiroc said that new, patented trapezoid shaped buttons – Trubbnos – and the Eduro Extra surface treatment provided strength to deal with all types of rock, from hard to soft, and from abrasive to non-abrasive.

The Down Hole Jet Pump cleans the borehole and removes cuttings directly inside the drill string, which Herrenknecht said was a completely new method of soil conveyance in HDD – the borehole is not a discharge line and the surface pump is not used as a discharge pump, except during the pilot bore.

To combat the risk of frac-outs, it absorbs cuttings from the bottom of the borehole and pumps them via the drill string to the surface. Because of the higher velocity of the discharge fluid, the system can handle a maximum cutting size of up to 38mm, allowing for larger cuttings than conventional HDD, it said.

Liebherr has a new piling and drilling rig, LRB 16, which it said was suitable for the diverse requirements of deep foundation work.

It claims a compact design – barely 48 tonnes, resulting in low ground pressure, according to Liebherr – as well as a range of assistance



systems. With a longer leader, the piling and drilling rig is also now available as an LRB 18.

The LRB 16 gets its name from the sledge's travel distance – approximately 16m. A robust undercarriage is said to offer stability, which can be increased with optional rear supports.

Liebherr claimed that innovative hydraulic concepts played a role in fuel efficiency and, despite reduced engine power, the machines were said to achieve high performance while keeping fuel consumption low.

The new piling and drilling rig is fitted with sophisticated control and assistance systems as standard. Attachment recognition offers time recording for the respective attachment, and the performance figures are also transmitted with the aid of LiDAT, Liebherr's data transmission system.

The obstacle recognition is described as an improvement for slurry wall application, as it enables the timely recognition of obstacles in the soil.

Hylkema was able to reach pile lengths up to 40m with a Kelly extension



Junttan's largest

Dutch firm Hylkema Funderingstechniek has extended its fleet with a new Junttan multipurpose piling rig MPx90 – the largest Junttan machine at the moment – which is expected to increase Hylkema's capabilities with heavier piling.

With the MPx90, equipped both for full displacement piling as well as CFA, Hylkema is able to reach pile lengths up to 40m with a Kelly extension. The MPx90 uses a JD45 rotary head which enables large pile diameters, and together with 60 tonne pull-down force and 100 tonne extraction force, good penetration even in hard soil conditions.

The first project for the new MPx was a relatively small residence project of 34 apartments in Groningen, in the Netherlands. In this project, Hylkema used the CFA piling method with a diameter of 600mm, and pile lengths of 20m. A total of 70 piles were installed.

The new Soilmec SR-65 EVO drill rig claims compact geometries, a simplified structure and various technical solutions for cased bored piles and CFA (Continuous Flight Auger) piling.

The new rig has been designed for ease of installation and rapid start-up on site. In fact, Soilmec said it could be transported with the Kelly bar still mounted on the mast.

Particular attention was given to the design of the rotary and the crowd system, available both in the cylinder and the winch versions. The company said the rotary head was flat, compact and lightweight, with a maximum torque of 258.5kNm, allowing high performances even in the presence of rocks and compact soils.

For the discharge of waste, the customer can choose either the spin-off Soilmec system – using the kinematic energy generated by the high rotation speed, up to 135rpm, which is described as unparalleled when using the auger – or the new click-click system, that is said to be efficient using the bucket, especially in very cohesive soils.

The cylinder crowd system, with an extraction power of 280kN, is equipped with a double positioner on the drilling mast. This is said to allow it to use all the available tools – working under the lower part of the mast – and long casings.

PRAGUE PROJECT

The first SR-65 EVO was put through its paces in Prague, Czech Republic, through a collaboration with Intermarket, Soilmec's partner in the country.

Located in Prague's eighth quarter, a booming area of the capital, the project called for foundation piles for the construction of a commercial ten-storey building.

The piles, with a diameter of 900mm, were cased bored piles up to a depth of 13m, using a Kelly bar with a diameter of 406mm and double-walled casings.

The rig got to the jobsite complete with Kelly bar, and Soilmec claimed it just needed 30 minutes from arrival to the excavation of the first pile. It achieved two piles per day, in compact clay layers and gravel.

The Ditch Witch organisation has added the new AT40 All Terrain directional drill to its fleet.

Powered by a Tier 4 Cummins diesel engine with a gross power rating of 119kW, the AT40 was said to have more power in a smaller

The Soilmec SR-65 EVO at work in Prague



American Augers' DD-240T is said to be "wholly new"

footprint than competitor models in its class. The unit is also said to minimise pipe-entry distance, providing operators increased drill pipe support as it enters the ground.

It holds up to 183m of drill pipe onboard, allowing for longer bores. Ditch Witch said the drill could install pipe in challenging conditions thanks to a patented two-pipe All Terrain drilling system that delivered more power to the bit than others in its class.

Numa has released two new videos showing the company's capabilities and its Super Jaws Overburden Bits – available on its YouTube site.

The company said its new corporate video highlighted the benefits Numa had provided to the DTH drilling industry, with over 30 years of designing products.

The company's product video shows its Numa Super Jaws Overburden Bits for simultaneously drilling and casing 139 to 1,067mm holes in unconsolidated ground conditions of overburden, boulders, or bedrock.

Vice president Dave Gorman said, "The videos demonstrate a few of our key differentiators in

The new AT40 All Terrain directional drill from Ditch Witch





Lissmac's CDM 20 P is "compact and lightweight"

rotation of the core bit into a backward-and-forward motion to deliver 8,700RPM with its 1,450W motor.

Hilti has also launched its next generation TE 50-AVR and TE 60-ATC/AVR Combihammers, which claim to reduce vibration.

Hilti is renewing its entire core bit portfolio. The company said it was making its SP and SPX core bit ranges even better performing and easy-to-use with the use of Hilti Equidist (EQD) technology.

Among the products from German company Lissmac are compact diamond core drilling machines for wet and dry drilling, including the CDM 20 P.

Described as compact, lightweight and with an ergonomic design, there are three gear levels which the company said permitted optimum speed selection adapted to the specific core drill diameter. **ce**

themselves. We interviewed contractors across the industry, from all applications and every make of rig. We learned what they wanted from a machine in this size class."

He described the DD-240T as a totally configurable, wholly self-contained and easily mobilised rig that got drillers from job to job faster.

Looking at smaller drills, Hilti has launched the powerful DD 30-W diamond coring tool, claiming a faster, quieter and virtually vibration-free alternative to hammer drilling.

It said the DD 30-W was up to five times faster than conventional hammer drilling and, because it was impact free, it created less vibration. It said it was suitable for drilling in brittle materials like marble, tile and natural stone.

Weighing 7.6kg, the DD 30-W features Hilti TopSpin technology which creates an eccentric

the market including our deep experience as drilling experts, our dedication to customer service, and our technological innovation."

American Augers said its DD-240T introduced a whole new design concept in HDD. Many of the features that make the 240,000lb (109 tonne) class HDD rig fully configurable are industry firsts in response to HDD contractor input gathered by American Augers in a survey.

Product development manager Richard Levings said, "The DD-240T is not an upgrade to an existing rig design. It's a wholly new, ground-up design driven by the users



The Hilti DD 30-W is said to be quieter

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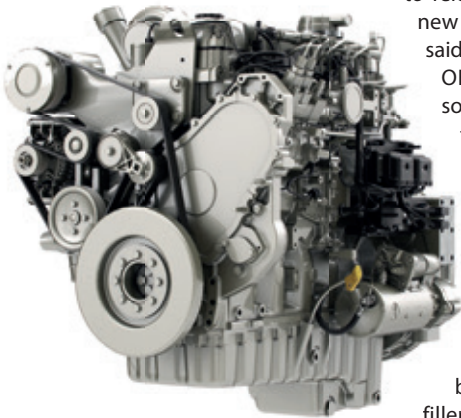
Perkins at Stage V

The engine manufacturer's latest 9.3 litre engine is in production, while SmartCap wins award in US

Perkins Engines' preparation for EU Stage V emissions regulations includes the new Perkins 1706J-E93TA engine, which is now in production.

It said that for three years, the 9.3 litre offering had completed a rigorous pilot and validation programme, accumulating more than 100,000 hours in laboratory

The 1706J-E93TA has more than 100,000 hours in laboratory environments and in dozens of customer machines in the field



environments and in dozens of customer machines in the field.

Oliver Lythgoe, Perkins product concept marketing manager, said, "The Perkins EU Stage V range has more models from one manufacturer than any other, so the 9.3 litre is just the beginning."

Perkins will have 14 different engine sizes from 0.5 to 18 litres, and provides tailored solutions to customers to deliver 6 to 470kW of power.

"Even after the emissions introduction, we will continue to release new models and add new features to our range," said Lythgoe. "This gives our OEM customers power solutions that are adapted to their machines and their business models."

Meanwhile, Perkins' SmartCap feature and mobile App won an Edison gold award in New York City, US, recently.

SmartCap is installed by replacing an existing oil filler cap, which allows end



The SmartCap and app were launched last year

users to connect their mobile device to their engine via the Perkins My Engine App on their smartphone.

The cap monitors the Perkins engine and sends data direct to the app. It was launched last year, and Perkins said it was already proving popular with end customers. It is available in English, German, French, Spanish and Portuguese with more languages scheduled to be released this year.

At the recent Intermat show in Paris, France, Perkins celebrated 40 years of partnership with Secodi, its dealer in France.

In 1978 Jacques Fetis, his wife Marie-Paule, and two employees set up shop in 600m² of rented space to serve a regional French market with Perkins industrial and marine diesel engines and generator sets.

Today, Secodi has grown into a multi-national enterprise providing a broad range of marine and industrial products including Perkins engines, parts,



service and technical support to all of France, plus customers in Spain, Finland, Turkey and Estonia. **ce**

Ausa prototype

An electric prototype dumper from AUSA has been unveiled, based on the D100AHA articulated one-tonne dumper, which is AUSA's smallest model.

The company said it had been showing it at the Intermat show in Paris, France, to get customer feedback. Among the considerations will be whether customers would prefer a lighter model with an external transformer, or a more convenient integral transformer, which would make the machine heavier.

The batteries run for six hours at full capacity, AUSA said, and can be recharged in eight hours from a normal domestic socket.

The electric machine is said to be smoother than the original dumper, with no emissions and much quieter, making working at night a more feasible proposition.

AUSA said it believed the machine to be the first electric-powered dumper with a driving position. **ce**

The prototype at Intermat, looking for feedback



Liebherr completes its Stereoloaders range

Two new models claim reduced turning circle thanks to additional rear axle

The new Liebherr L 507 and L 509 stereoloaders have been launched, completing the company's latest stereoloader range, which has a

total of four models and features operating weights of 5.5 to 9.2 tonnes.

The company said the stereo steering was at the heart of

the Liebherr stereoloaders, and Martin Gschwend, managing director sales at Liebherr-Werk Bischofshofen, its wheeled loader factory in Austria, claimed that the additional rear axle steering system offered a significantly smaller turning circle than other articulated wheeled loaders.

The reduced turning circle, even with the bucket down, meant that it was particularly suited to working in cities where space was limited, he said.

The steered rear axle allows Liebherr engineers to reduce the articulation angle of the stereoloaders to 30°. As a result, the centre of gravity remains in the middle of the machine even when transporting heavy loads, increasing overall stability, the company said.

Gschwend added that the L 507 and L 509 models also featured a spacious operator's cab and intuitive operation of the machines.

He said The L 507 and L 509 stereoloaders featured one of the most spacious operator's cabs in this machine class. Liebherr has installed the cab from the larger L 514 and L 518 stereoloaders in both the L 507 and L 509.

The cockpit claims a clear layout, with improved visibility on

all sides. All controls, such as the Liebherr control lever integrated into the driver's seat as standard, are convenient to use. The side window can be opened by 180°.

A number of practical innovations, such as the optimised Z-bar linkage, are said to help the new models work efficiently on site.

Both models are available in a Speeder version on request. This version of the wheel loaders can achieve a top speed of 38km/h, helping operators to save time in moving their stereoloader from one job to the next quickly.

The Liebherr stereoloaders were first introduced in 1994.

The company said it had now improved the parallel guide system for operation with a loading fork. It said that machine operators could, therefore, work efficiently and economically with the widest range of attachments. The newly-designed, slim hydraulic quick hitch, which enables a clear view of the equipment, provides assistance when the attachments are being replaced.

The Liebherr High Lift arm is available for the L 509 on request. This longer version of the lift arm provides increased reach and increases the dump-over height by approximately 500mm. **ce**



The L 509 stereoloader claims one of the most spacious operator's cabs in its class

Allu App links to closest dealer

Finnish attachments firm Allu has launched a new IT development, the Allu App, which is described as a first-time solution aimed at maximising customers' investment.

The Allu App connects the serial number to the relevant data, and provides a description of the product – frame and drums – while it matches base machine, whether wheeled loader or excavator, to the attachment being used.

It also notes specific applications to the model, and provides access to relevant pictures and videos, as well as a safety guide. The app can also give links to the closest Allu dealer, as well as Allu Finland contact information, and it links to social media. In addition, it enables access to operational and installation guides.

Allu App matches base machine to the attachment being used



New buckets for Rototilt

Company launches new tiltrotator, as well as series of trenching, excavation and grading buckets

A new series of buckets has been released by Rototilt, which it said provided an optimal combination of weight, design and durability.

The series includes trenching buckets, excavation buckets and grading buckets. The three bucket families are designed for all excavators between 1.5 and 32 tonnes, said Rototilt.

The company added that it was important to use the right bucket with its tiltrotator, and the new range is now available.

The buckets are made of high-quality structural steel. Areas that are prone to wear are reinforced with HB 500 wear-resistant steel, with floor and side plates in HB 450. The buckets have

curved floor plates, smooth and progressive digging movement, and optimal box construction, the company said, adding that the buckets performed best with Rototilt tiltrotators and quick couplers.

The new Rototilt R1 tiltrotator has been launched, and is said to be designed for compact machines between 1.5 and 3.5 tonnes. It is based on the same concept as the larger models of the Rototilt R platform, with integrated swivel and greater flexibility with different control systems.

Sven-Roger Ekström, product line manager, said, "With the R1 and R2 tiltrotators, the product line is now complete, with the

Mecalac says electric excavator on the way

Mecalac has produced a prototype electric version of its 12MTX excavator – the e12 model – which the French manufacturer said would be in production by mid-2019.

A pack of LiFePO4 batteries will provide up to 146kWh power and eight hours operation, and will take six to seven hours to recharge.

The batteries make the e12 around one tonne heavier than the diesel version.

Mecalac said that the e12 was the first of a series of electrification projects underway. It said such models were important for the company given its focus on compact machines used in urban settings.

Trials are still underway for the e12, but indications are that maximum travel speed will reduce from 32km/h to 22km/h, while duty cycles will be the same as the diesel model. It will also have the same digging and lifting capacities.

The Mecalac e12 is a battery-powered version of the 12MTX



Rototilt says it is important to use the right bucket with its tiltrotator

ICS (Innovative Control System) smart control system.

"Customers now have a wider range to choose from, regardless of machine size."

Rototilt said that ICS provided a wide range of smart functions.

The in-cab display allows operators to adjust settings and gives a complete overview of the tiltrotator system.

The R1 replaces the RT10, and will be ready for delivery in May.

CE



Compact excavators added by Wacker

Wacker Neuson has launched two new compact excavators, claiming to be "the most innovative trendsetters in the industry".

The company has introduced the ET35 and EZ36, which are available to the global market now, while it plans to add the EZ17e model next year.

Wacker's ET35 and EZ36 models are zero tail swing excavators with no rear overhang and are said to be suitable for work in confined spaces.

The two models each weigh 3.5 tonnes.

Gert Reichetseder, spokesman

for management at Wacker Neuson Linz, said, "We recognised the needs of the market, and are offering even more flexibility and comfort with the new 3.5 tonne models from Wacker Neuson."

"The new generation impresses with a new interior, a new design and additional outfitting options, which allow for productive and fatigue-free work," added Reichetseder.

Martin Lehner, Wacker's CEO, said that the models would be popular in the rental market and added he expected to see increased rental demand in the coming years.

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