

Technologies team up to deliver big fuel cost savings

ith fuel costs down one day and up the next, equipment manufacturers are doing everything they can to improve the efficiency of their machines. They're putting everything on the table—from improved components to remote monitoring technologies—to try to squeeze more work from each litre of fuel.

The updated line of XE machines from Caterpillar is a prime example of this all-of-the-above approach. With two wheel loaders and a hybrid excavator in the lineup, Cat GCI Customer Solutions Manager Herwig Peschl says, "Every system is built to work as efficiently as possible. Plus, they take full

Built for maximum efficiency:

XE MODEL LINEUP

A wide range of system enhancements, combined with advanced technologies, help Cat XE machines deliver up to 25 percent better fuel efficiency than standard models.

966M XE Wheel Loader



972M XE Wheel Loader



336F L XE Excavator



MORE EFFICIENCY. MORE COMFORT.

"This machine (972M XE) is extraordinary for its low fuel consumption, its smoothness, its speed in the ramps and the driver comfort. Our driver loves everything about this machine."



Fabrice Faivre-Rampant Managing Director, Faivre-Rampant SA

advantage of the technologies available from Cat® **EM**Solutions that help you manage your equipment more effectively."

XE technologies include a unique ACS valve on the 336F L XE Excavator, which electronically controls the main valve to reduce back pressure and optimize regeneration. The 966M XE and 972M XE wheel loaders offer a continuously variable transmission that allows the engine to run in an efficient RPM range regardless of machine ground speed.

"We enhanced these machines from the bucket tips to the brakes," Peschl says. "With everything working together, we were able to improve fuel economy by up to 25 percent over standard models."

Peschl adds, "Combine these high-efficiency machine systems with remote monitoring technologies from **EM**Solutions—Cat Product Link™ and VisionLink®—and you can literally watch those fuel savings add up across your job sites. You can also see how operating technique and other factors affect your total fleet fuel efficiency." (See sidebar.)

The new XE line is paying dividends beyond added fuel efficiency as well. "Operators just love the power, comfort and ease of operation of the XE wheel loaders," Peschl notes. "That's good for everyone because a happy operator is also a more productive operator all shift long."

Learn more about Cat XE machines at www.cat.com/en_GB/xe-series.

EMSOLUTIONS TECHNOLOGIES HELP REDUCE FUEL USAGE

- Track Fuel Burn

 Accurate fuel usage data
 from Product Link helps you
 better manage fuel usage
 and estimate job costs.
- The VisionLink dashboard shows where you can reduce excess idle time, saving fuel that can be used to do actual work.

Spot Unnecessary

- Monitor Operating
 Techniques

 Alerts on VisionLink help you spot training opportunities and promote smooth operation that saves on fuel.
- Provide Early Alerts to
 Service Issues
 Condition Monitoring from
 EMSolutions helps you catch
 performance problems early
 to maintain peak efficiency.
- Monitor Payload Totals
 The Cat Production
 Measurement System
 provides operator
 payload feedback to
 ensure optimum loads
 that maximize truck fuel
 efficiency and durability.



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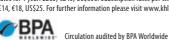
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ISSN 0964-0665 © Copyright KHL Group 2015

Official publication date is the 15th of each issue month. Subscription rates for 1 year: £205, €245, US\$330. Subscription rates per single copy: £14, €18, US\$25. For further information please visit www.khl.com





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The latest telescopic handlers on the European market have seen some key enhancements. Neill Barston looks at the sector's trends and new machine releases



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Designing a new machine is not a quick process, and haulers are getting more sophisticated all the time. Sandy Guthrie investigates, and also talks to the group chief executive of Bell in South Africa, Gary Bell



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Improving machine efficiency has required major advances in component quality. Neill Barston reports on some of the industry's main developments recently



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Construction manufacturers from around the world will gather for Intermat in Paris this month. Here is a final chance to look at some of the equipment which will be shown the event

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Produced in co-operation with the Committee for European Construction Fauinment

FIEC REPORT

Produced in co-operation with the European Construction Industry

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EVENTS DIARY

2015

Intermat 2015 April 20-25, 2015 Paris, France www.intermat construction.com

Komatek 2015

May 6-10, 2015 Ankara, Turkey www.sada.com

International Tower Cranes Conference

May 27-28, 2015 London, UK www.khl.com/itc

Plantworx

June 2-4, 2015 Bruntingthorpe, UK www.plantworx.co.uk

CTT 2015

June 2-6, 2015 Moscow, Russia www.ctt-moscow.com

Bauma ConExpo Africa

September 15-18, 2015 Johannesburg, South Africa www.bcafrica.com

2016

World of Concrete

February 2-5, 2016 Las Vegas, US www.worldofconcrete.com

Bauma (Munich)

April 11-17, 2016 Munich, Germany www.bauma.de

FIEC airs worries about EU investment plan

Federation welcomes proposals, but says it is also harbouring concerns and has some requests

he European Commission's EU Investment Plan and its proposal for a European Fund for Strategic Investments (EFSI), announced in November, are being welcomed by FIEC (the European Construction Industry Federation), but the industry body is also expressing some concerns.

It said EFSI would be an investment-friendly framework, and that the creation of this leverage instrument was "very good news and a very good signal for the EU and international private investors".

It said that FIEC welcomed, in particular, the fact that Commission President Jean-Claude Juncker's investment plan targeted what it considered the right priorities for the EU's renewed growth - on the one hand, key infrastructure for competitiveness and, on the other hand, investment in SMEs to boost jobs.

One concern, though, is the link between the Connecting Europe Facility (CEF) - or other existing European financial instruments such as the European Structural & Investment Funds – and the forthcoming EFSI, which it said raised a number of concerns.

FIEC said the EU guarantee to the EIB in the EFSI would strongly limit the CEF envelope for grants. It said money transferred from the CEF was not specifically dedicated to transport, energy and broadband infrastructure.

"Out of the €8 billion allocated from the EU budget for the new guarantee fund," said FIEC, "€2.7 billion is to come from the transport envelope of the CEF, €500 million from the energy envelope and €100 million from the ICT (information and communications technology) envelope. Altogether, this represents a cut of almost 10% in the CEF budget."

It said the TENs (Trans-European Networks) guidelines defined clear methodologies to identify priority projects of European interest with a clear grant-oriented profile. Under the EFSI, the selection process channelled investment towards completely different types of projects, said FIEC, so that the EFSI introduced a shift in the prioritisation of the types of projects - and modes of transport - supported by EU funding.

FIEC said this meant that there would be fewer funding opportunities for more traditional infrastructure which required public grants, in favour of those projects which could be easily developed with financial instruments.

"Moreover," it said, "as projects need to compete for financing under the EFSI, it may well be that more mature projects from other sectors finally get the lion's share, so that money transferred from the CEF is ultimately lost for infrastructure projects and, in particular, for transport infrastructure"

Therefore, FIEC said it was calling on EU decision makers to take these elements carefully into account to make a balanced decision on the development of EU infrastructure networks during the on-going Multi-Annual Financial Framework, in respect of the infrastructure policy defined in the TENs guidelines.

FIEC felt that neither national public funds mobilised via the EFSI, nor national public co-funding invested via national and regional investment platforms or invested directly into projects identified in the framework of the plan, should be included in the public deficit calculation.

To this end, FIEC considered that the Commission's communication on Making the Best Use of the Flexibility Within the Existing Rules of the Stability & Growth Pact was "a tentative political step in the right direction".

"However, the addition of two new general clauses on cyclical conditions and structural reforms is not the right solution to promote investment," it said. "In general, the communication should have been focused on investment and should have been more ambitious - for example, by allowing Member States in the corrective arm of the Pact to benefit from an investment clause in order really to tackle the drop in investment resulting from the Stability & Growth Pact during recent years.

FIEC called for flexible governance of sectoral or national and regional investment platforms saying it was crucial to avoid an over-centralised approach from the investment plan.

Russian railway tendering

Russian Railways has confirmed a tendering process for a RUB20.79 billion (€323 million) scheme for the Moscow-Kazan section of the Moscow-Kazan-Yekaterinburg high-speed rail route.

The 770km public-private partnership (PPP) project will follow a route including Moscow, Vladimir, Nizhny Novgorod and Kazan. It is claimed to be the largest infrastructure scheme in Russia. Tendering will include overall planning, development and engineering surveys for the line, which is forecast to carry around 10.5 million passengers a year. The route will pass through seven areas of the country with a total population of 25 million people.

Vladimir Yakunin, president of Russian Railways, said, "The development of high-speed rail is a fundamentally new step in the modernisation of the Russian transport system, one which countries such as Japan, France, Spain, Germany, Italy, China and many others have already taken.

"I am convinced that advanced technologies in the field of railway transport will have a positive impact on the development of the entire economy of the Russian Federation."



Skanska denies allegations

Skanksa has appointed consultancy firm Deloitte for an external audit of its contract for the R7 expressway in the Czech Republic, following corruption allegations relating to the scheme.

The company said it had a policy of zero tolerance on corruption and denied allegations that have emerged surrounding the project.

Skanska said there had been an internal review in 2011 of the R7 scheme, which it had been appointed in 2008 to deliver. The company's audit found there was no suspicion of impropriety.

However, the firm said the audit found there had been a change in the level of shares apportioned for the project. The company said this had not been approved by its management board and was found to have broken Skanska's internal rules.

The Swedish-based contractor had worked on the R7 scheme as a joint venture with Geosan and EDS.

Roman Wieczorek, president of Scanska's Czech operations, said the head of the internal audit on the project had not informed him of any impropriety surrounding the scheme. Wieczorek said that any accusations against the company were "totally false and baseless".

Skanska said, "We take any suspected violation of ethical rules very seriously and have zero corruption tolerance. Therefore, we have launched an independent external audit of the project R7."

Europe 'troubled but good'

The European construction equipment industry found 2014 to be a troubled, yet good, year, with sales on the European market growing by 9% compared to 2013, according to CECE (the Committee for European Construction Equipment).

It said that exports showed some growth momentum. Behind North America, the European construction equipment market was the second most dynamic region in 2014.

Sebastian Popp, economic expert at CECE, said, "This is a positive development, but we have to bear in mind that the good performance was just enough to recover what had been lost in 2013. The market is still more than 40% below the record levels seen in 2007."

Yet again, there were huge disparities, according to CECE. It said Southern Europe remained at very low absolute levels, whereas markets such as the UK and Germany were not that far away from precrisis levels.

CECE said that in Europe, the industry experienced an entire economic cycle within a single year. Starting strongly after a very mild winter, it saw an extended summer slump followed by another pickup in demand towards the end of the year.

There was a great deal of diversity between countries. The UK saw sales growth of a third compared to an already strong 2013, while Turkey and Russia suffered a devastating year with market declines of 25% and 37%, respectively.

On an aggregate level, the industry lost momentum over the year, and CECE said that the negative impact was particularly attributable to Russia.

Skanska has been confirmed for a £140 million (€196 million) contract to deliver the new Papworth Hospital in Cambridge, UK. The company had been named as preferred bidder last July for the design, build, finance, and maintenance responsibilities for the project. Covering 40,000m², and with 300-beds, it will have seven operating theatres and five catheterisation labs. The hospital will be built as a publicprivate partnership with Papworth **Hospital NHS Foundation Trust, using** sustainable energy principles. It will be developed using BIM (building information modelling) to deliver greater energy efficiency. Its flexible design will enable future alterations to its facilities.



■ STABLE PERFORMANCE

Bouygues' revenues for 2014 were €33.13 billion, almost unchanged from the 2013 figure of €33.12 billion. Its net construction profits for 2014 were €254 million, compared with €277 million the previous year. The company's road building subsidiary Colas saw profits increase from €301 million in 2013, to €583 million for 2014. Some €372 million of its improved performance last year was due to the sale of its stake in motorway infrastructure management company Cofiroute.

■ WRITF-DOWN

UK construction losses at infrastructure group **Balfour Beatty have** included a further £118 million (€160.28 million) write-down following an assessment of the existing risk provisions by the board. The UK-based company had already annnounced a cut in forecast profits after a review by accountants KPMG. The board decided not to recommend a final dividend this year. However, Balfour Beatty said its full-year results did show international construction revenues had risen 24% at constant exchange rates to £1.0 billion (€1.36 billion).

COMPANY GROWTH

An 11% growth in consolidated revenues for the full fiscal year of 2014 has been reported by Salini Impregilo, the Italian contractor formed following the merger of Salini and Impregilo. It said the EBITDA (earnings before interest, taxes, depreciation and amortization) for 2014 was in the region of

€437 million, some 21% up on the previous year.

■ REVENUE BOOST

German engine firm Deutz has confirmed a 5% annual revenue increase to €1.5 billion for 2014. Net income was €19.5 million, compared with €36 million in 2013. Figures for 2014 were affected by costs of €18.9 million, which included improvements made to its production sites in Germany. The order book for 2014 was €1.37 billion, down from €1.65 billion in 2013.

■ IMPROVED PICTURE

Italian contractor Astaldi has confirmed its revenues have increased by 5.7% for 2014, to €2.65 billion. Net profit for the group jumped by 21% to €81.6 million, compared with €67.3 million recorded in 2013. It said 75.6% (€1.9 billion) of 2014 annual revenues came from international projects.

■ PROFITS INCREASE

Contractor Costain's revenues for 2014 were £1.1 billion (€1.5 billion), compared with £960 million (€1.3 billion) in 2013. The company's underlying operating profit was also up, at £28.7 million (€39.8 million) for 2014, compared to £27.4 million (€38 million) in 2013. It also reported a record order book - £3.5 billion (€4.9 billion) for 2014, compared with £3 billion (€4.2 billion) in 2013.

■ RECORD FIGURES

Dredging and marine engineering firm Van Oord increased annual revenues for 2014 by 28%, to a record level of €2.1 billion. Its net profit for 2014 was €119 million, compared with €130 million for 2013.



Holcim Lafarge deal seems back on track

Revised terms and changes to roles agreed by both sides after merger talks stall

erger plans for Holcim and Lafarge appear to be back on track having stalled, with revised terms agreed between the two companies, and a change to the planned appointment of a CEO for the merged companies.

The merger between Swiss-based cement group Holcim and French firm Lafarge would create what is believed to be the largest cement group in the world, with combined assets worth €40 billion.

The boards of the two firms have said that they have reached an agreement on revised terms for the merger, with both parties agreeing on a new exchange ratio of nine Holcim shares for ten Lafarge shares.

A new CEO for the combined group, to be proposed by the Lafarge board and accepted by the Holcim board, will be appointed from the closing of the transaction. The companies said the appointment was expected to be communicated in due course, at the latest on the filing of the public offer to the Lafarge shareholders.

Bruno Lafont, chairman and CEO of Lafarge, had been chosen as CEO designate for the new group, while Wolfgang Reitzle, chairman of Holcim, was to chair the new board. Now it is planned that Reitzle and Lafont will be non-executive co-chairmen of the board. Beat Hess, Holcim's deputy chairman, will be vice chairman of the board.

Lafarge and Holcim have agreed that, subject to shareholder approval, the new company will announce a post-closing scrip dividend of one new LafargeHolcim share for each 20 existing shares.

Holcim and Lafarge said certain key shareholders of both companies had confirmed their support for the revised merger terms. The companies expect the transaction to close in July 2015.

Scandinavian optimism

Norwegian contractor Veidekke has forecast increased growth in Scandinavian construction markets for 2015 and 2016.

The company said Sweden had the region's highest forecast growth levels at around 5% for 2015 and 4% for 2016.

This projected increase is a result of a strong Stockholm housing market and growth in

Gothenburg and Malmo, it added.

According to Veidekke, there had been "a high level of activity" in Norway's construction market, including investment in the transport sector. The company forecast annual construction growth of 2% for the country in 2015 and 2016.

However, the report warned there had been a negative impact from reduced activity in the oil industry, softened by low Norwegian interest rates and a positive labour market.

In Denmark, the company forecast 2% construction market growth for 2015, with a further 6% increase expected in 2016. It said there had been signs of growth in the Copenhagen region. Ce

Feyenoord football stadium in the Netherlands and a consortium led by Bam have ended negotiations on a project to increase its capacity. There were costs disagreements. **Bam said Feyenoord** had set a maximum budget of €206 million for the project, but Bam had budgeted for €215 million

KHL.COM

Caterpillar video

Among the videos which can be watched on the KHL Videozone is a new one featuring Caterpillar.

Neill Barston, deputy editor of Construction Europe, spoke to Paolo Fellin, Caterpillar's global vice president of sales and marketing, and Julien Balardelle, product specialist, about the company's major new series of low-emissions machine launches.

The Videozone includes a mix of videos – interviews product demonstrations and market reviews – from Construction Europe and its sister publications within the KHL Group.

More speakers

Several speakers have been added to International Cranes and Specialized Transport's crane conference programmes, almost completing the line up for two of the events being held later this year.

Frank Bardonaro, president at Maxim Crane in the US, one of the largest crane rental companies in the world, will talk about the role of private equity in the crane industry. He will present to the 2015 World Crane & Transport Summit (WCTS) being held in Amsterdam, the Netherlands, on 4 and 5 November.

Also recently signed up for the WCTS is Saket Agarwal, managing director at crane rental, manufacturing and shipping operations company ABG Infralogistics in India. Agarwal will take part in a round table discussion on emerging markets. Also on that panel are Carsten von der Geest, Terex Cranes EMEAR region director, and Fuad Mammadov, regional business development manager at ALE in the Caspian.

At the International Tower Cranes Conference in May, a speaker from Wolffkran will discuss fleet management: Challenges and best practice regarding product mix, crane deployment, maintenance and assessment of crane lifetime costs.

Also at the ITC, Matthias Uhl, GEDA-Dechentreiter product specialist, will take part in a panel discussion on operator access for tower cranes. He will be joined by Leif Loftmyr, Procrania Elevation CEO, and

Thomas Herse, head of international product management at Liebherr-Werk Biberach in Germany.

For full details of both events are at www.khl.com, or scan the QR code.





SANDY GUTHRIE This month's podcast for Construction Europe will be available online within a few days of the magazine's publication. To listen, go to: www.khl.com/audio-podcasts





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WORLD IN BRIEF

PANAMA

Boskalis Westminster has been awarded a €55 million deal to construct an artificial residential island off the coast of Punta Pacifica, Panama City, Panama. The project, which is owned by Compañía Insular Americana, follows an initial island scheme developed by the Dutch-based dredging and maritime infrastructure firm in 2013. For its latest contract, the company will create a 9ha area of land with 600,000m³ of rock to form a perimeter. Barges and tugboats will be used to transport the rock, with excavators used to install its perimeter.

CHINA

Lafarge has signed an agreement to acquire the 45% stake held by Shui On Construction & Materials (SOCAM Development) in Lafarge Shui On Cement. The deal is worth €300 million and is subject to the completion of Lafarge's merger with Holcim. Lafarge Shui On Cement has a total cement production capacity of 32 million tonnes. Its facilities are in South West China, in the provinces of Yunnan, Sichuan, Guizhou and the city of Chongqing, which is in Sichuan Province, but which is under autonomous municipal control.

SOUTH KOREA

Terex Cranes has issued a new warning about counterfeit versions of Terex crawler crane models, this time originating from South Korea. The manufacturer said that the Terex CC 2500-1 lattice boom crawler crane was the model of choice for counterfeiters to copy. Counterfeit products have been branded, offered for sale and sold as used Terex cranes for prices well under market value. They are either painted white using the Terex brand or red using the Demag brand, the company said. The manufacturer added that units were often made up with technology and components that were not designed to work together and frequently exhibited poor weld quality, low grade steel structures.

DUBAI

Doosan Construction Equipment has opened a new parts distribution centre (PDC) for Bobcat and Doosan Portable Power products – compressors and generators - in Dubai, UAE. The facility is a collaboration with Agility, a logistics provider, which is managing the new facility at the Jebel Ali Free Zone in Dubai. The centre will provide parts support for dealers and customers of Bobcat and Doosan Portable Power products in the Middle East and Africa region, and will work with an existing centre at Puurs, Belgium. It said it would be able to deliver parts to over 90% of the region within 24 hours.

NEW ZEALAND

Navman Wireless New Zealand has launched Otanium Connect, a consolidated telematics portal designed to manage mixed equipment fleets in the construction industry. Complying with the AEMP Telematics Data Standard, the company said it provided one-stop fleetwide visibility without adding third-party hardware to machines with Original Equipment Manufacturer (OEM) telematics. It also supports the integration of data into the enterprise office system for broader business use.

Bank ups pre-project corruption screening

Requests for due diligence reviews said to have soared in 2014 over previous year

The Asian Development Bank (ADB) said it increased the number of pre-project due diligence reviews it carried out last year - that is the work by its Office of Anticorruption & Integrity (OAI) designed as a preventive and proactive approach to corruption.

The OAI said requests for due diligence reviews were up 73% in 2014, compared to 2013, adding that last year was the third year it had offered this service. It said the increase was due to a rise in the ADB's equity investments, lending and development initiatives involving the private sector, and reflected an increased need for the bank to evaluate and minimise reputational risks in dealings with other entities.

OAI head Clare Wee said, "Detecting and preventing corruption beforehand is preferable to dealing with it after the fact. However, investigations and related remedial actions, debarments and cross debarments will remain a mainstay and continue to be an essential feature of ADB's holistic approach for fighting corruption."

The ADB added that it had seen a slight dip in the number of new complaints for integrity violations in 2014. It received 241 complaints, compared to the record 250 in 2013. The bank added that total complaints converted into investigations dropped to 84 in 2014, compared to 92 in 2013.

Google's plans for new HQ

Internet giant Google has submitted plans for the redevelopment of its headquarters in Mountain View, California, US.

The company said it wanted to redevelop four existing office sites with premises it would design and build from scratch. It has developed plans with architects Bjarke Ingels of BIG and Thomas Heatherwick of Heatherwick Studio.

The company said it would build lightweight, moveable buildings which would be more flexible. Google said, "We'll create lightweight block-like structures which can be moved

around easily as we invest in new product areas. Our self-driving car team, for example, has very different needs when it comes to office space from our search engineers." The architectural design will feature large translucent canopies over each site.



AUSTRALIA

Leighton is looking to shake off its past

ACS-owned contractor hopes to change name after string of corruption allegations

ustralian infrastructure company Leighton Holdings is to seek approval from shareholders to change its name to CIMIC Group (Construction, Infrastructure, Mining & Concessions).

The move to rename the business, which is ultimately owned by Spanish contractor ACS, follows a turbulent period for the company. It has faced several corruption allegation cases linked to former employees.

In 2013, the company launched legal proceedings that aimed to recover AU\$5.6 million (€3.96 million) in damages from an unnamed employee in a case of alleged misconduct.

Leighton was also subjected to a confidential investigation by the Australian Federal Police (AFP) in 2013, over an alleged case of bribery in Iraq.

Last year, the company made a AU\$65.6 million (€46.40 million) settlement for a class action lawsuit in relation to a profit downgrade which it issued in 2011. This had affected shareholders who had bought shares during 2010 and 2011.

The company held a strategic review of its operations in June 2014, which concluded that the business would focus on four key areas. This included construction, mining, engineering and public-private partnership projects.

Leighton's board recommended the name change for approval, with the issue being put to a shareholder vote next month.

The company said, "The board considers that the change of name is appropriate to support the transformation to the new operating model. The new name intends to provide a better representation of what we are and do, and this will closely reflect our core activities."

TURKMENISTAN

Massive Olympic complex is underway in capital city

The Olympic Complex in Ashgabat, Turkmenistan, is considered among the largest building construction projects underway in the world today.

Developed over three phases, the 1.57km² site in the southern part of the capital city, and comprises seven major indoor sporting

venues with capacities from 5,000 to 45,000 spectators.

Also included in the project are outdoor facilities, hotels, restaurants, car parks, an Olympic Village with capacity for 12,000 competitors and a 5km monorail to connect them all together. In all there are 52 major

construction schemes within the overall project. With a contract value of more than US\$5 billion (€4.56 billion), work started in 2010. All three

phases of the project are being undertaken by Turkish contractor Polimeks on a turnkey basis, with Arup also contributing design ce services.



WORLD IN BRIEF

CHINA

Chinese construction equipment manufacturer XCMG has moved into a new product area when it announced the launch of a new mobile screening unit. It has been developed between the parent company, its German subsidiary Schwing and the Beijing University of Technology, and the MSP1561 was claimed to have a 600 tonnes per hour capacity. The crawler-mounted unit has a ground clearance of 343mm, and was said to be able to climb 9° inclines. There is a hydraulic system to fold the conveyor belts in and out, cutting down on setup time.

CANADA

Aecon's revenues for 2014 are reported to have fallen 15% to CA\$2.61 billion (€1.90 billion). The Canadian infrastructure group's net profit more than halved from CA\$47.8 million (€34.86 million) last year to CA\$21.8 million (€15.90 million) in 2014. However, the company has won what it said was an unprecedented CA\$3.5 billion (€2.55 billion) of new contracts last year. It reported that its backlog stood at CA\$2.65 billion (€1.93 billion) at the end of the 2014. This was said to be almost 50% higher than 12 months previously. According to Aecon's president and CEO, Teri McKibbon, "While 2014 was a transition year with the ramp-up of a significant number of new projects, which impacted revenue timing and muted progress on margins, Aecon's near record backlog of CA\$2.7 billion (€1.97 billion) will see us in good stead as we move through 2015 and

US

Dr J Don Brock, chairman and former CEO of equipment manufacturer Astec Industries, has died following a battle with cancer. He was 76. In 1972, he founded Astec in Chattanooga, Tennessee, with four colleagues. Today the company has annual revenues of nearly US\$1 billion (€910 million), with 18 subsidiaries in the US and other global markets. In addition to the Astec range of batching plants, the company manufactures equipment under the Roadtec, Breaker Technology, Telsmith and Kolberg-Pioneer brands, among many others. The company said that Dr Brock held some 100 US and foreign patents on construction machinery and drying equipment.

THAILAND

Cement producer Holcim has sold its 27.5% stake in Thailand's Siam City Cement (Public) Company Limited (SCCC). The private placement in the market was for CHF655 million (€627.71 million). Holcim said it would make a gain before taxes of some CHF365 million (€349.80 million) on the deal. The company said that it would use the proceeds for general corporate purposes. Of the 27.5% holding, 24.9% of SCCC was acquired by a member of the Jardine Matheson Group, a Hong-Kong-based conglomerate. The remaining 2.6% was purchased by institutional investors. SCCC has a cement production capacity of 14.5 million tonnes from its plant in Saraburi, Thailand. It employs 4,000 staff and recorded sales of THB 31.9 billion (€903.76 million) in



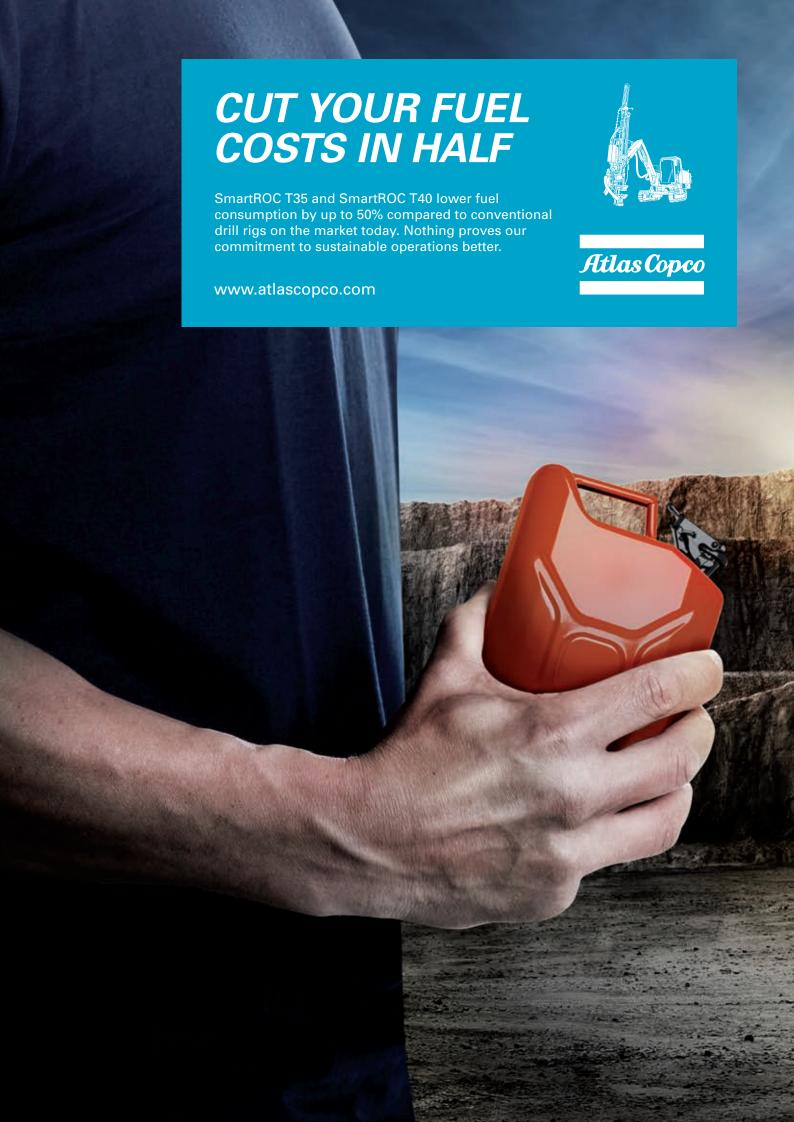


VIDEO
http://goo.gl/DLYPny

Just because the working environment's harsh, it doesn't mean the job has to be difficult. The new Volvo EC220E, with its eco-friendly Volvo Stage IV D6 engine, uses its fuel more efficiently to power effortlessly through each cycle. And life has been made more comfortable inside the cabin too. Thanks to a redesigned user interface, simpler handling makes it easier to focus on production. Even carrying out a regular service is easier and safer: all the filters are now grouped and accessible from ground level. With an excellent warranty and superb aftersales care, you'll be glad you selected the Volvo EC220E for the job.

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Rally is continuing



European construction shares continued to enjoy growth in March, but the depreciation of the Euro was a big factor in the growth in certain sectors.

Chris Sleight reports

his year's rally in equity prices continued in March, with the broad market indicators continuing to grow.

As reported in the February edition of CE, the FTSE 100 has already hit an all-time high in 2015, and the Nikkei 225 has been at its best for 15 years, so the latest improvements illustrate a bullishness in the market.

In terms of the major benchmarks, the Nikkei continued to be a leader in March, with another 5.09% of growth between weeks 9 and 12. However, the DAX was a moderately better performer with its 5.21% increase. There were more moderate gains for the CAC 40 and FTSE 100, while the Dow lost just less than half a percentage point of its value.

It was another good month for the European construction sector, with the CET Index for the whole industry enjoying a 2.25% rise

between weeks 9 and 12. While not exactly spectacular, growth is still growth, and it should also be noted that all three of the sectors which contribute to the CET - contractors', equipment manufacturers' and materials producers' shares were all up in March.

EURO IMPACT

However, not all of the CET's gain is about stock market sentiment. The CET measures capitalisation - the number of shares outstanding multiplied by the price - in Euros. This means that exchange rates play a part, because the capitalisation of each company is converted to Euros at the exchange rate of the day to calculate the CET.

The Euro's continued fall against the three other main reserve currencies - British Pound, Japanese Yen and US Dollar mean that the CET is somewhat inflated by the effect.

If for example a US equipment manufacturer has the same share price from one day to the other, but the Euro falls against the Dollar, the company's capitalisation converted to Euros

| EQUIPMENT MANUFACTURERS | | | | | | |
|--------------------------|----------|----------|--------|--------|--------|--|
| Company | Currency | Price | Price | Change | Chang | |
| | | at start | at end | | (%) | |
| CEE Index | | 285.93 | 294.61 | 8.68 | 3.03% | |
| Astec Industries | US\$ | 42.88 | 43.09 | 0.21 | 0.49% | |
| Atlas Copco (A) | SEK | 269.50 | 280.30 | 10.80 | 4.01% | |
| Bell Equipment | ZAR | 8.60 | 8.90 | 0.30 | 3.49% | |
| Caterpillar | US\$ | 83.80 | 81.19 | -2.61 | -3.119 | |
| CNH Industrial | € | 7.38 | 7.49 | 0.11 | 1.49% | |
| Deere | US\$ | 91.18 | 89.18 | -2.00 | -2.199 | |
| Doosan Infracore | WON | 12900 | 11950 | -950 | -7.369 | |
| Haulotte Group | € | 13.62 | 15.75 | 2.13 | 15.649 | |
| Hitachi CM | YEN | 2213 | 2214 | 1 | 0.05% | |
| Hyundai Heavy Industries | WON | 120000 | 127500 | 7500 | 6.25% | |
| Kobe Steel | YEN | 236 | 230 | -6 | -2.54% | |
| Komatsu | YEN | 2490 | 2484 | -6 | -0.24% | |
| Kubota | YEN | 1945 | 1992 | 47 | 2.42% | |
| Manitou | € | 12.98 | 15.27 | 2.29 | 17.649 | |
| Manitowoc | US\$ | 22.11 | 21.67 | -0.44 | -1.999 | |
| Metso | € | 28.32 | 28.65 | 0.33 | 1.17% | |
| Palfinger | € | 26.05 | 24.80 | -1.25 | -4.80% | |
| Sandvik | SEK | 93.05 | 97.40 | 4.35 | 4.67% | |
| Tadano | YEN | 1549 | 1675 | 126 | 8.13% | |
| Terex | US\$ | 27.37 | 26.71 | -0.66 | -2.419 | |
| Volvo (B) | SEK | 99.80 | 102.20 | 2.40 | 2.40% | |
| Wacker Neuson | € | 20.38 | 22.72 | 2.35 | 11.519 | |

| CONTRACTORS | | | | | | |
|----------------------|----------|-------------------|--------------|--------|---------------|--|
| Company | Currency | Price at start | Price at end | Change | Change (%) | |
| CEC Index | | 214.23 | 217.05 | 2.82 | 1.32% | |
| Acciona | € | 70.85 | 71.50 | 0.65 | 0.92% | |
| ACS | € | 33.58 | 32.87 | -0.71 | -2.11% | |
| Astaldi | € | 6.49 | 7.86 | 1.37 | 21.11% | |
| Balfour Beatty | UK£ | 2.50 | 2.31 | -0.19 | -7.59% | |
| Ballast Nedam | € | 3.57 | 2.68 | -0.89 | -24.93% | |
| Bam Group | € | 4.22 | 4.17 | -0.04 | -1.02% | |
| Bauer | € | 17.01 | 17.73 | 0.73 | 4.26% | |
| Bilfinger | € | 53.35 | 52.71 | -0.64 | -1.20% | |
| Bouygues | € | 35.64 | 36.64 | 1.01 | 2.82% | |
| Carillion | UK£ | 3.67 | 3.32 | -0.35 | -9.45% | |
| Eiffage | € | 49.27 | 54.61 | 5.35 | 10.85% | |
| FCC | € | 10.71 | 10.91 | 0.20 | 1.87% | |
| Ferrovial | € | 19.03 | 19.43 | 0.40 | 2.10% | |
| Hochtief | € | 71.66 | 70.33 | -1.33 | -1.86% | |
| Salini Impregilo | € | 4.03 | 4.01 | -0.02 | -0.60% | |
| Keller Group | UK£ | 10.18 | 9.93 | -0.25 | -2.43% | |
| Kier | UK£ | 17.24 | 16.63 | -0.61 | -3.51% | |
| Lemminkäinen | € | 11.00 | 10.81 | -0.19 | -1.73% | |
| Morgan Sindall | UK£ | 7.14 | 7.73 | 0.58 | 8.16% | |
| Mota Engil | € | 3.34 | 3.51 | 0.17 | 5.03% | |
| NCC (B) | SEK | 290.80 | 289.50 | -1.30 | -0.45% | |
| OHL | € | 22.08 | 20.11 | -1.97 | -8.92% | |
| Peab (B) | SEK | 71.15 | 66.75 | -4.40 | -6.18% | |
| Sacyr Vallehermoso | € | 4.03 | 3.92 | -0.11 | -2.73% | |
| Skanska (B) | SEK | 206.90 | 198.80 | -8.10 | -3.91% | |
| Strabag SE | € | 21.07 | 21.22 | 0.15 | 0.74% | |
| Taylor Wimpey | UK£ | 1.44 | 1.54 | 0.10 | 6.96% | |
| Tecnicas Reunidas | € | 37.54 | 39.42 | 1.88 | 5.01% | |
| Trevi Group | € | 3.30 | 3.30 | 0.00 | 0.00% | |
| Veidekke | NOK | 92.50 | 93.25 | 0.75 | 0.81% | |
| Vinci | € | 52.89 | 54.97 | 2.08 | 3.93% | |
| YIT | € | 5.77 | 5.14 | -0.63 | -10.92% | |
| Period: Week 9 - 12 | | | | | | |

CONTRACTORS

will be higher, so the share index will be higher.

If the CET had been calculated in week 12 at the same exchange rate as week 9, the gain would only have been 1.07%, instead of the 2.25% reported. This means that more than half the gain of the CET in March was due to currency effects.

| MATERIALS PRODUCERS | | | | | | |
|----------------------|----------|-------------------|-----------------|--------|---------------|--|
| Company | Currency | Price at start | Price at end | Change | Change (%) | |
| CEM Index | | 183.25 | 186.94 | 3.70 | 2.02% | |
| Buzzi Unicem (Ord) | € | 12.59 | 13.35 | 0.76 | 6.04% | |
| Cemex (CPO) | MXP | 15.40 | 14.31 | -1.09 | -7.08% | |
| Cimpor | € | 1.04 | 1.22 | 0.18 | 17.31% | |
| CRH | € | 25.07 | 25.31 | 0.24 | 0.96% | |
| Heidelberg Cement | € | 70.83 | 72.31 | 1.48 | 2.09% | |
| Holcim | CHF | 73.25 | 75.60 | 2.35 | 3.21% | |
| Italcementi | € | 6.96 | 7.19 | 0.23 | 3.31% | |
| Kone (B) | € | 41.40 | 42.20 | 0.80 | 1.93% | |
| Lafarge | € | 66.73 | 63.17 | -3.56 | -5.33% | |
| Saint-Gobain | € | 40.19 | 41.24 | 1.05 | 2.61% | |
| Schindler (BPC) | CHF | 153.60 | 162.40 | 8.80 | 5.73% | |
| Schneider Electric | € | 71.43 | 73.76 | 2.33 | 3.26% | |
| Titan Group (Common) | € | 22.73 | 20.31 | -2.42 | -10.65% | |
| Vicat Group (Common) | € | 63.83 | 64.60 | 0.77 | 1.21% | |
| Wienerberger | € | 13.93 | 14.58 | 0.65 | 4.66% | |
| Wolseley | UK£ | 39.76 | 42.15 | 2.39 | 6.01% | |
| Period: Week 9 - 12 | | | | | | |

For the year to date, the CET was up some 16.83%. However, using the same exchange rates in week 12 as prevailed at the start of 2015 would take the gain down to just 12%.

The effect has been most pronounced among equipment manufacturers, where only six of the 22 manufactures which make up the CEE are within the Eurozone. In terms of capitalisation, the Eurozone manufacturers make up less than 10% of the CEE.

This means that at exchange rates fixed at the start of the year, the CEE would be up some 5.65% for the first quarter of 2015. Instead, with the depreciation of the Euro, the gain has been 13.64%.

GROWTH IS GROWTH

Even without this direct currency effect, there was growth in construction sector share prices in March, and there has been growth all year.

The strongest sector between weeks 9 and 12 was the equipment segment, where the CEE was up 3.03% (at changing exchange rates).

half over of manufacturers which make up the segment saw their share prices rise, and the most spectacular gainers were Haulotte, Manitou and Wacker Neuson. All three manufacturers saw their share prices rise on the back of strong profits announcements in March.

However, manufacturers based outside Europe tended not to perform so well. Share prices for many of the key US players fell, including Caterpillar, Deere and Terex. Things were more mixed for the Japanese manufacturers, with a few gains and a few losses. Among the risers was Tadano, which was the best performing non-European manufacturers' equity in March, with a 8.13% rise between weeks 9 and 12.

Materials producers' share prices were also relatively subdued comparing week 9 to week 12, with the CEM Index putting on a moderate gain of 2.02%. Most companies saw single-digit movements, although Cimpor and Titan were the exception to

However, between the end points of weeks 9 and 12, there were some lively moments for the



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BOOM

| VALUE OF €1 | | | | | | |
|--------------------------------|---------------------|------------------|------------------|---------------|--|--|
| RESERVE CURRENCI | ES | | | | | |
| | Beginning of period | End of period | Change | Change (%) | | |
| British Pound | 0.7287 | 0.7250 | -0.0037 | -0.51% | | |
| Japanese Yen | 133.87 | 129.42 | -4.45 | -3.33% | | |
| Swiss Franc | 1.0654 | 1.0563 | -0.0091 | -0.85% | | |
| US Dollar | 1.1219 | 1.0770 | -0.0449 | -4.00% | | |
| British Pound | 0.7287 | 0.7250 | 42.2000 | -0.51% | | |
| Bulgarian Leva Czech Koruna | 1.9558 27.492 | 1.9558 27.445 | 0.0000 -0.047 | -0.17% | | |
| Danish Krone | 7.4665 | 7.4559 | -0.0106 | -0.14% | | |
| Hungarian Forint | 302.81 | 304.22 | 1.41 | 0.47% | | |
| Norwegian Krone | 8.5570 | 8.6930 | 0.1360 | 1.59% | | |
| Polish Zloty | 4.1503 | 4.1340 | -0.0163 | -0.39% | | |
| Romanian Lei | 4.4371 | 4.4367 | -0.0004 | -0.01% | | |
| Swedish Krona | 9.3598 | 9.3097 | -0.0501 | -0.54% | | |
| Swiss Franc | 1.0654 | 1.0563 | -0.0091 | -0.85% | | |
| Period: Week 9 - 12 | | | | | | |

Holcim and Lafarge share prices. Mid-March saw Holcim issue a statement saying it wanted to renegotiate the terms of the two companies' all-share merger.

The deal will see existing Lafarge shareholders exchange their equities for Holcim shares - so strictly speaking Holcim is taking over Lafarge - and the exchange ratio that will be applied is one area Holcim wanted to re-visit. Another was the proposed management of the future company.

Holcim delivering better profitability than Lafarge in 2014, plus the rise in the value of the Swiss Franc, put pressure on a different share exchange ratio. The management issue was that Holcim was no longer happy with current Lafarge chairman & CEO Bruno Lafont being CEO of the meraed entity.

After a nervous week and, no doubt, some animated discussions, it was announced that Lafont would be co-chair of the new company, with a different CEO to be proposed by Lafarge but agreed by Holcim. On the exchange ratio issue, it was agreed to move this from oneto-one to nine Holcim shares for every ten Lafarge ones.

CONTRACTORS

The CEC Index, which reflects European contractors' share price performances, was up 1.32% between weeks 9 and 12. As in the materials sector, it was a case of mostly single-digit share price movements.

The positive exceptions to the rule were Astaldi and Eiffage, which rose on up-beat results filings. On the downside, YIT dropped more than 10%, while almost a quarter was wiped-off Ballast Nedam's stock market valuation.

Ballast Nedam's nose-dive was linked to a mid-March announcement that it was scrapping its previous forecast for 2014 and delaying its results announcement. The company's latest problems relate to cost over-runs on two Dutch road building projects.

The company now says it will publish its annual results in late April, and that its results will be worse than the previously forecast operating loss of €35 million to €45 million.

OUTLOOK

At just over 227 points, the CET Index is within sight of its alltime high of 247.65 points, which was seen in the second week of July 2007. At the kind of growth rates seen this year, that could be eclipsed soon.

However, so much of this year's

stock market growth has been driven by the depreciation of the Euro, and the debate about where the currency will go next is a complex one. Some would

due for a rebound. But there is clearly confidence on the stock markets this year, albeit patchy in some sectors.

argue it has fallen too far and is

| KEY INDEXES | | | | | | |
|------------------------|---------------------|------------------|--------|---------------|--|--|
| Index | Beginning of period | End of period | Change | Change (%) | | |
| CEE (Equipment) | 285.93 | 294.61 | 8.68 | 3.03% | | |
| CEM (Materials) | 183.25 | 186.94 | 3.70 | 2.02% | | |
| CEC (Contractors) | 214.23 | 217.05 | 2.82 | 1.32% | | |
| CET (Total) | 222.43 | 227.43 | 5.01 | 2.25% | | |
| Dow | 18214 | 18128 | -87 | -0.48% | | |
| FTSE 100 | 6948 | 6999 | 51 | 0.74% | | |
| Nikkei 225 | 18798 | 19754 | 956 | 5.09% | | |
| CAC 40 | 4913 | 5053 | 140 | 2.85% | | |
| DAX Xetra | 11333 | 11924 | 42 | 5.21% | | |
| Period: Week 9 - 12 | | | | | | |

CE BAROMETER

Spring in the step

Sentiment on the European construction sector enjoyed a marked improvement in March following four relatively weak winter months.

Most striking was the leap in month-on-month activity, which went from the negative figures of November to February to a positive balance of 16.7%. The balance figure is the percentage of positive responses minus the percentage of negative responses.

This was the highest this measure of confidence has been since July last year.

Another positive was survey respondents' expectations for the future. A positive balance of 40.9% of people who took the survey said they expected activity levels to be higher in a year's time than now.

This continued a trend of robust responses to this question which have been seen since mid-2013.

However, a surprise in the March survey was that a negative balance of 4.5% of respondents said activity was lower this month than it had been a year previously. It was the first time this measure of confidence had slipped into negative territory since December.

But all-in-all, the survey painted a positive picture. The CE Climate, an overall measure of confidence, stood at +17.7%, which is the best it has been since August last year. It just remains to be seen if March's momentum carries forward into the next few months for a more sustained period of industry growth.

TAKE PART

The survey, which takes just a one 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

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

Manufacturers based outside **Europe tended** not to perform so well. Share prices for many of the key US players fell. Things were more mixed for the Japanese manufacturers, with a few gains and a few losses



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Reducing risks around corruption and bribery

Compliance firm Cerico's James Armstrong, director, and Julia Trotter, head of client operations, highlight some ways the company can help

orruption and bribery related activity has always been an issue within the infrastructure, construction and engineering industries, however, in recent years, it has increasingly come under the legislative spotlight across Europe.

In any industry with significant, lucrative contracts to be won or lost, the risk of bribery and corrupt practices occurring is a greater threat. This risk is particularly prevalent within these industries due to the unique blend of project scale, complex contractual relationships and requirements for a highly-skilled workforce.

A recent Flash Eurobarometer Survey conducted by the European Commission business attitudes towards corruption in the EU declared that nearly 80% of Europeanbased construction companies believed that corruption was widespread within their country.

There is now a real risk of criminal prosecution, both at a corporate and individual level, with countries across Europe implementing and enforcing legislation with real bite.

In addition, with governments, funders, project owners, competitors and employers across the industries becoming less tolerant of corrupt practices - or the lack of prevention of them - there is an increasingly significant risk of financial loss and long-term reputational damage resulting from corrupt practices.

As a result, companies operating the infrastructure, construction and engineering industries must therefore make every effort to uncover bribery and corrupt practices, and put in place stringent compliance processes to prevent such practices from arising both within their organisation and across their third party relationships.

A multi-tiered approach is required to tackle this increasing issue adequately.

The actual and potential bribery and corruption risks across the compliance landscape must be adequately identified and understood. It may be desireable to engage a third party advisory service provider to carry out a risk assessment and develop a risk mitigation strategy.

The key questions at this stage are: where is the risk? How much of the supply chain/distribution chain are you responsible for? How are joint ventures catered for within the regulatory framework? How are international workers and contracts managed within a risk framework? And are your procurement agents working within your own ethics policy?

The output of any risk assessment will be used to develop a comprehensive set of compliance policies and procedures and, in certain cases, an overarching Code of Conduct.

It is essential that these compliance policies embedded across the business and beyond, into the third party network.

A compliance framework is only truly embedded if a number of questions can be answered with

These are, do you have a clear and widely understood multilevel process for managing compliance risk across your organisation, which reflects the unique risk landscape faced by your business/industry? Is this same approach used across the entire organisation? Is core compliance-related information gathered about all identified risk entities (employees, contractors, suppliers, distributors, assets etc)? And is a risk-based scoring approach used to quantify objectively the level of risk posed by each entity/entity-type?

RISK MITIGATION

Also, is the risk-score used to focus compliance resources and risk mitigation activities on the entities/activities deemed to be the highest risk? Do you maintain a comprehensive audit log of all the information gathered and scoring applied during the risk assessment? Finally, are you able to analyse data via reports and dashboards from any stage of the risk assessment process?

A comprehensive compliance technology platform with a co-ordinated and flexible approach to executing your policies and procedures can become the hub of any modern compliance framework, and the key to a successful long-term embedding of your risk-based

Such a platform can take the heavy lifting out of the day-today operations of a compliance function by automating the transfer, retrieval, scoring and reporting of risk data.

Underpinning assessment and management activity is a responsive and multi-skilled team of compliance professionals. Companies need

to be able demonstrate that they have adequately implemented the statements written in their Code of Conduct into business as usual processes and behaviours.

A company should ensure that the following resources are in place: a flexible and scalable pool of compliance resources, able to react to business demand and emerging risk trends; compliance professionals subject-matter expertise and a comprehensive understanding of the ever-evolving legislative and regulatory landscape; data analysis experts embedded into the compliance management process, who can determine emerging trends and provide foresight of potential breaches.

An alternative approach is to partner with a compliance services provider. By outsourcing all or part of the compliance and risk management to a compliance service provider, such as Pinsent Masons' Cerico, a company can gain a legally-based, pay-as-youconsume compliance advisory, managed service and platform

Such a solution wraps around the business and enables it to remain focused on its core business activities, knowing that it has a team of specialist compliance professionals and a cutting-edge compliance platform working around the clock to protect the business in this ever-changing compliance environment.

A partnership with Cerico will reduce the overall organisational costs involved in carrying out compliance activities in today's heightened legislative Furthermore, environment. a comprehensive approach will significantly lessen both the financial and reputational impact of remediation following a compliance breach, and ultimately reduce the cost of risk across the organisation.

Pinsent Masons LLP is the world's leading construction law firm with a true infrastructure and energy sector focus. Pinsent Masons LLP is ranked No 1 for construction law by all legal directories in the UK. It is an international law firm with offices across Europe, the Gulf and Asia.

■ For more information on any legal or contractual issue, please contact Virginie Colaiuta at virginie.colaiuta@pinsentmasons.com or +44 (0)20 7490 6498.



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Towards revision of the **Single Market Policy**

With a new Commissioner in charge of the Internal Market, a new strategy is promised which will affect the construction industry

nits work programme for 2015, the European Commission (EC) announced it would present a "renewed integrated strategy for the Single Market, including improvement of mutual recognition and standardisation, namely in the construction sector, and with a focus on SMEs".

The new Commissioner in charge of the Internal Market, Elżbieta Bieńkowska, arrived in her position in early November 2014, and surely needed time to get acquainted with the matter. But now the time has come.

In its first official move, on 2 March, the Council - in its competitiveness formation adopted conclusions on the Single Market Policy.

In view of the weak growth and high level of unemployment in the EU, these conclusions set guidelines for the EC in order to provide fresh impetus to the deepening and implementation of the single market policy.

The EC is expected to present its new strategy on the Internal Market later this year.

In particular, this renewed strategy will build on two reports which should be finalised by mid-

These reports deal with mutual recognition and services.

FIEC is involved in one of the ongoing studies commissioned by the EC, entitled Simplification & Mutual Recognition in the

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Construction Sector Under the Services Directive.

This study touches on national building permit legislation, horizontal authorisation schemes relating to construction service providers, voluntary certification schemes for construction services, and insurance requirements that apply during the building phase.

The objective of the study is to assess whether the implementation of the Services Directive has led to regulatory simplification and application of the mutual recognition principle in relation to these indicated areas, and whether there is further potential for improvement in this regard in the Member States.

The council's conclusions already provide us with some indications. Among the key issues mentioned, there are a number of interest to the construction.

MUTUAL RECOGNITION

There is, of course, a strong focus on the mutual recognition principle, which is promoted everywhere where harmonisation is not possible.

In particular, the Commission is expected to propose an EU-wide action plan for the raising of awareness of mutual recognition in 2016

The Council recalls the importance of the Small Business Act and other SME-oriented initiatives. In particular, a revision of the Small Business Act is expected in the short to medium term, based on the outcomes of a recent consultation.

The Council advocates the extension of the REFIT initiative, an exercise aimed at identifying and getting rid of all unnecessary administrative or regulatory burdens that prevent the full functioning of the Single Market.

The concept of e-governance is promoted, which translates into the promotion of electronic

procurement, in the framework of public procurement.

In this regard, there is a strong focus on the implementation at national level of the new public procurement directives, as the deadline for implementation is spring 2016. In particular, the Council insists on the better integration of social employment-related considerations, which FIEC requested a very careful approach, as well as environmental considerations.

The Council is calling on the Commission to help Member States addressing issues like SME access to public procurement, use of European standards, promotion of innovation and pre-commercial procurement, prevention of unfair practices, reduction of administrative burden, implementation of the European Single Procurement Document (ESPD) - expected to be a standardised self-declaration electronic document for making contractors' life easier when tendering, but is still under preparation at the Commission's level – and, the transition towards electronic procurement.

The Council is also calling for the strengthening and streamlining of Single Market tools, such as Points of Single Contacts, Product Contact Points, the SOLVIT system - aimed at solving problems with EU rights - and the IMI (Internal Market Information system), in order to meet the needs of businesses better in their crossborder activities.

The Council welcomes the ongoing mapping of national services standards by the CEN (European Committee for Standardisation) which should identify areas where national standards add to the fragmentation of the Single Market, and find topics for developing European service standards instead.

The Council calls on the Commission to keep working on the practical difficulties for service providers seeking to obtain insurance for cross-border activities, with a view to finding solutions based on Member States' best practices in this area.

EVALUATION ISSUES

The problem of mutual evaluation of regulated professions is also on the table and the Council hopes for structural reforms in this area.

The Council also promotes the concept of on-line registration for companies.

Against this background, the Commission is expected to make proposals for actions and set deadlines, targeting the most significant remaining barriers for businesses, with a particular focus

The key question is whether the Commission will propose a revision of the Services Directive.

This could be a tricky exercise and the construction sector should make sure of drawing a clear distinction between what can be improved in the frame of the current Directive and what needs a real legislative revision. Indeed, even if barriers remain, we should be careful about the potential negative impact of a legislative revision.

Finally, a Single Market Forum took place on 26 March in Riga, Latvia, under the Latvian presidency.

During this conference, the outcomes of the 20 local technical workshops which have been organised in the EU last year, were brought together.

It was another opportunity to review how Single Market legislation works on the ground, identifying the remaining problems, and discussing the need for further action, through a debate between EU institutions, businesses - SMEs - and other stakeholders.

Fighting black sheep on Turkish market

Unregulated construction machines are finding a route into Europe, and the EU is being called on to help plug a major gap in the fence

urkey is a promising construction equipment market, but with more and more equipment being sold there, black sheep are also coming to the market, selling cheap and low quality products.

This is not only detrimental to the Turkish market. Noncompliant machines are also passing to and from to the EU,



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making use of the close ties between the two markets.

Together with the Turkish government, the Turkish CECE member association IMDER has implemented a market surveillance and inspection scheme. IMDER is calling on the European Commission to put the necessary surveillance of the markets in practice, and ensure a level playing field in the region.

In Turkey, the construction equipment sector is on a steady growth path.

Looking back 10 years, construction equipment in a range of 5,000 to 6,000 units was being sold. Today this number has risen to around 13,000 units, and reaching 20,000 units by 2020.

SALES IMPROVEMENT

Also, sales of industrial trucks have risen considerably during the last 10 years - while there were 3,000 to 4,000 units sold 10 years ago, sales are now around 12,500 units and are expected to reach 20,000 units by 2020.

According to IMDER, around 660 companies are working in the Turkish construction equipment sector, and among these are around 200 machinery manufacturers. The others are mainly component suppliers or distributors. The sector employs around 17,500 people - 10,500 of these in production. Turkish companies produce equipment including excavators, graders, rollers, cranes and asphalt mixing machines. Some 100 brands are on the market, and the local share of production is 60%.

Although Turkey is experiencing a slowdown in growth, forecasts are positive in the long run. This has attracted many new companies to the market. Among these, there are companies that keep to the rules and offer quality products, but there are also many firms selling inappropriate, low quality products.

The construction equipment sector in Turkey also falls under the EU machinery directive 2006/42/EC. Its main intent is to ensure a common safety level in machinery placed on the market, or put in service for the first time.

The directive also ensures freedom of movement of machines within the EU and Turkey. Even though construction machines that are placed on the EU and the Turkish market for the first time need to comply with the directive, the reality is different.

As demand for construction equipment is steadily rising, Turkey has become a gateway for non-compliant machines.

But conversely, companies and dealers see Turkey as a market to sell low quality equipment, as second-hand or used machinery that is mostly cheap and does not comply with the regulations.

The result is a distortion of competition that directly hits the local producers and the European manufacturing industry as a whole - all the more so, since customers tend to buy cheaper products in times of crisis.

According to a CECE survey, one in three companies faces losses in sales because customers opt for a non-compliant machine.

As complaints among the local Turkish construction equipment manufacturers had been growing steadily, IMDER decided to take action.

In 2005, IMDER and its sister organisation ISDER (Forklift, Trucks & Materials Handling Association) carried out the first studies on this subject. This resulted in the Turkish Ministry of Science, Industry & Technology establishing MAKTEK - the Mechanical Technical Committee.

MAKTEK is an official institution and acts as an adviser to the Turkish government. It is headed by an elected president, usually coming from IMDER. Its members include representatives

of ministries, as well as of the equipment industry.

Within the committee, a special working group is keeping an eye on construction equipment matters alone. One of its major tasks is to look after the harmonisation of EU technical legislation, as well as to ensure that safety standards are met.

With the support of CECE, guidelines have been developed on how to inspect equipment and companies, and on how to identify products that are of low quality and not safe.

PROJECT FUNDING

This has been funded by the Turkish government - by the General Directorate of Market Surveillance & Inspection. Under this scheme, the number of market surveillance controllers rose from around 100 to almost 600 today, inspecting almost 1,500 products.

All 30 member companies of IMDER and ISDER have been inspected, but also 85 crane suppliers, 25 mobile crane firms and 30 truck suppliers.

The result was that almost 50% of the equipment inspected was not compliant with the law and the applicable regulations. They were inappropriately marked or documents were missing. The Turkish authorities have taken legal steps against those companies.

This is important in order to restore the level playing field, according to Halil Tamer Öztoygar, president of IMDER. He said, "An improved market surveillance system enables a shift from price competition to competition on quality, reliability and efficiency. And this is what we want to achieve on our market."

However, to ensure better market surveillance money, training and manpower is needed as well as a common consensus between politics and industry. Ce



Bringing Europe together

James King on why he set up the magazine 25 years ago



In 1986, the Single European Act was signed, to create a single market by December 1992, and while the benefits are taken for granted, there was back then

no free movement of people, capital or goods in Europe.

This new Single Market would become the largest construction industry in the world.

With fewer trade barriers existeing, contractors, consultants, rental companies, utilities and manufacturers could expand throughout the continent.

The whole process resulted in a revolution in trade, regulations, health and safety, currencies, capital movement, company strategies and general business practices.

At the time, there was no magazine covering this huge new, unified market.

There was a shortage of public information to help construction companies understand the consequences and changes in Europe, and suppliers to the industry had nowhere to promote a pan-European image and commitment to match their customers' expansion.

With this critical information requirement and a new demand for advertising, in a massive new market, it became clear that a new magazine was required. And so, KHL was born on 7 December, 1989, with Construction Europe launching in April

On the whole, the Single European Market has been a force for good in the

Recently, many countries are reverting to a more nationalist way of thinking but memories are short.

Europe was a far harder place to do business before 1992 and, from a geopolitical point of view, we live in a far safer and more peaceful continent now than the generations before us.

Construction Europe, in its own small way, has furthered the integration of Europe and certainly the European construction sector by providing a platform for free speech and dissemination of vital information to the market.

Silver issue

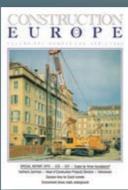
Construction Europe is marking its 25th anniversary with this issue. Europe has come a long way in that time - and so has the magazine

n April 1990, with significant changes about to happen all over Europe and the world, James King published the first, and still the only pan-European construction magazine.

He set up a company, KHL, and with Paul Marsden on board as editor, the first issue of Construction Europe was created.

Many of the industry decision-makers who were attracted to those first issues are still readers today, and, in many ways, the editorial aims of the magazine are much the same as they have always been - to inform the construction industry across Europe.

CE has always been at the heart of Europe, with close relationships with the people and companies making the news, but also with the organisations at the sharp end of the legislative process. With Brussels the epicentre of much of what goes on in Europe, it has



Single European market

was key to the rationale



International shows have always been important



The first issue in what is

so far a 25-year run

Bauma, the CE 50 recurring themes CONSTRUCTION INTERY AT M

Digital version introduced as long ago as 2003



All areas of construction are covered in CE

celebration

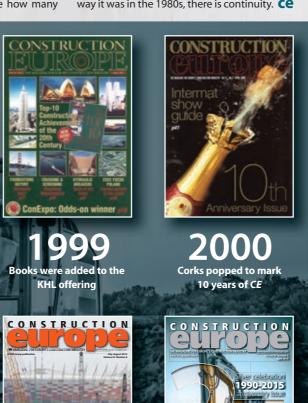
been important for CE to work with the people there, listening to those who are chipping away at the regulations to make sure the voice of the industry is heard and understood.

These relationships go back to the very first issue where readers were able to read the CECE Report from the Committee for European Construction Equipment. CECE still has a regular column in the magazine, and has been joined by FIEC (the European Construction Industry Federation) and EFCA (the European Federation of Engineering Consultancy Associations), with legal advice from international law firm Pinsent Masons.

Companies have come and gone over the past 25 years, but it is noticeable how many companies mentioned in the first issue, or who advertised, are still around, still making news, and still advertising. The construction industry is remarkable in its family-like structure - once in the industry, it is rare for anyone to leave.

This is mirrored by CE. There have only ever been three editors - Paul Marsden was followed by Chris Sleight, who now edits sister magazine International Construction. Sandy Guthrie took the reins nearly five years ago.

There have only been two advertising managers in CE's history - James King and, since 1998, David Stowe. So while many aspects of the construction industry have changed, and publishing is unrecognisable from the way it was in the 1980s, there is continuity. Ce



CE marked its 20th anniversary issue

Machinery is at the heart of

the magazine

Polish metro

There have been many jobsite reports



Just a stepping stone for the future

A quarter of a century of news

The first editor, Paul Marsden, on industry changes

A week is a long time in politics but 25 years is certainly a long time in the construction construction equipment industries and how the industry has changed.



Over the last 25 years, Construction Europe magazine has reported on those changes. There have been changes in construction methodology, technical developments, innovations in engine technology, taller buildings, longer bridges and tunnels, and many more advances.

The idea of a building climbing almost a kilometre into the sky 25 years ago was just pie in the sky. Now, through the combined efforts of designers, engineers, project planners, architects, financiers and other visionaries, such sky scrapers exist and taller ones are planned.

Those buildings stand as a tribute to an industry that continually strives to advance its methods and techniques, its achievements, its safety record and the professionalism of its people.

In the field of construction equipment, there have also been many significant developments. Legislation across the globe, particularly in Europe and the US, has demanded incredible reductions in emissions from the industry's engine suppliers. These have been demands that the industry has met with flying colours.

The way that information within the pages of Construction Europe is disseminated has also changed.

In the beginning there was just paper. Today, we still send out thousands of paper magazines, but we have added many other information streams - digital magazines; tablet versions with rich media; e-newsletters; e-news alerts; a big social media presence; and more.

This is all, of course, in addition to our website, www.khl.com that features news from CE and all KHL's other constructioncentric magazines and news sources.

We strive to provide information in the format our readers want, as we always have. In fact, CE was the first businessto-business magazine in Europe to be made available in the then new digital



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The latest telescopic handlers on the **European market** have seen some key enhancements.

Neill Barston looks at the sector's trends and new machine releases

> Caterpillar's 17m TH417C GC is targeted to meet the requirements of rental fleet



ith sales increasing in the telehandler market across many areas of Europe during the last 12 months, there has been a steady flow of new products emerging onto the market.

While these versatile machines' features, including electronic control systems, may have evolved since early pioneers such as Merlo and Dieci first released models in the early 1980s, the machines' core function of handling and placing material in hard-toaccess places has remained consistent.

They continue to be used on a number of major European construction projects, and even for more unusual tasks such as clearing up the sea of poppies displayed at the Tower of London in the UK to commemorate the centenary of the First World War.

The machines' popularity has been underlined by companies including Bobcat and Merlo reporting that European sales have

has been an increasing focus by the rental sector on these products.

This has included Finnish-based Ramirent acquiring the telehandler business of Kurko-Koponen.

There have also been signs of manufacturers paying increasing interest in rental, with several key models being specifically pitched at this sector.

Xavier Larroque, Bobcat's business line director for telescopic handlers, said the company had responded to changes in the sector over the past few years, and one of these responses was in meeting a growing demand for machines specifically for the rental sector.

CONTINUING GROWTH TREND

Looking at the market generally, he expected the telehandler growth trend to continue into 2015. However, he warned the geopolitical situation in Russia had proved a negative factor on the European market last year.

The firm's latest range, which includes the T40180, has been developed with a side shift system - allowing fully-laden telehandlers to move their loads marginally sideways to fit into specific spaces.

The company is launching a 13m telehandler this year, featuring simplified specifications and user-friendly functions designed for the rental market

Larroque added, "We have seen a real trend towards rental, which is taking more space in the market. This has driven new innovations and we have responded to specific needs from rental companies.

"We have also worked on security features, as well as stabilising systems for the machines. We have also improved visibility for the rear of the machines and we're moving towards the Stage IV emissions machines."



As an important segment for Bobcat, the company has also launched its T35105, T35105L and T36120SL 10 to 12m middle lift telescopic series of handlers.

Among the range's main features is a new panoramic cab with a large parabolic windscreen allowing greater visibility, which is said to be especially useful when handling loads at height.

The telehandlers have been fitted with an electronic monitoring system for management of the machines' main components. The series' hydraulics systems have an active diagnostic function checking the machines remain within safe operating limits.

The range is available in a number of configurations, including 74.5kW Deutz Stage IIIB diesel engine which is said to provide high power and torque, even in difficult ground conditions. The company's T36120SL features stabilisers and frame-levelling system.

TARGETING RENTAL FLEETS

The telehandler rental market has also been a core focus for Caterpillar, which has launched two new models specifically targeting rental fleet operators - the 12.8m maximum lift height TH414C GC with a load capacity of 3.6 tonnes, and the 17m maximum TH417C GC at

According to the company, low operating costs, simple maintenance, reliability, durability and ease of operation remain at the heart of its approach to telehandler design. The firm's models have been developed with heavy-duty booms and frame construction, field-proven power-train components, robust hydraulic system and intuitive operator

Caterpillar said its UK dealer Finning recently sold €30 million worth of telehandlers made up of 436 units of TH414C, TH337C and TH417C machines - to rental company Hewden. It was the largest single order of building construction products that Finning has ever completed.

JLG has also launched a new rental specification range designed for the European market. Among these models are the JLG 3614RS, which has a 3.6 tonne maximum lift capacity and 14m maximum height. The 4017RS has a 4 tonne lift capacity and 17m maximum lift height.

Brian Boeckman, JLG Industries global

product director for telehandlers, said these machines had been purpose-designed for the rental market.

He said, "Operators will immediately appreciate the machines' simple, comfortable cab, which includes single joystick controls, enhanced visibility from the cabin, and a mechanical suspension seat - all for enhanced comfort and productivity."

Also at the higher capacity end of the market, there have been several other heavy duty introductions. UK manufacturer JCB, for instance, has launched the 6 tonne lifting capacity 560-80, featuring an EU Stage IIIBcompliant engine and targeted at an industrial lifting market.

The boom has a Z-bar linkage, similar to a wheeled loader, delivering robust digging ability and breakout forces when used with a bucket. It can handle 1.7 tonne payloads.

At the other end of the scale, one of its smallest machines, the 525-60, has inherited



JCB's 540-200 lifts construction materials into place

many of the same features as its larger cousins - including a side-mounted engine.

Powered by a new 2.5-litre, Kohler fourcylinder engine, the 525-60 is rated at 55kW. It does not need a diesel particulate filter (DPF) or selective catalytic reduction (SCR) system to meet the emissions regulations.

The company has also offered an engine upgrade for the 4 tonne capacity 540-200,

Platform solution for island

Bobcat has claimed that its telehandlers' versatility has been demonstrated by hire firm 4Hire, on a project on the island of Jersey in the Channel Islands between England and France.

The island's Environment & Public Services Committee adopted a new solution provided by the machine hire company in using a Bobcat T40180 telehandler equipped with a platform attachment as a time-saving, more convenient and cost-effective alternative to scaffolding.

The telehandler has been used for a number of tasks including maintaining and upkeep of the rock armouring used in the sea walls that form a vital part of Jersey's coastal defences.



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which it claimed was currently Europe's only 20m rigid chassis telehandler, and it is capable of offering an additional 3m.

It combines hydraulic rams and chains that extend or retract all five sections of its boom in one movement

The company said, "With the rotational telehandlers market showing slight signs of growth, it was our challenge to manufacture a machine that competes up to a similar height, while still maintaining many of the benefits of a conventional telescopic handler.

"With this product predominantly being a rental machine, it is essential to offer the operator an efficient, easy-to-use system. The single lever controls on JCBs provide an inexperienced operator with greater control and a more comfortable operating experience."

The company has pitched its 560-80 at heavy duty applications, offering regenerative hydraulics which the company said could reduce cycle times by up to 20%. This is said to carry a significant reduction in both time and fuel consumption.

SMALLER CHASSIS

Italian manufacturer Magni has launched the 23m reach RTH 5.23, which has a 5 tonne capacity. Developed with European rental companies in mind, the machine is mounted on a smaller chassis than its standard counterpart.

The company also has a dedicated rental range that consists of the RTH 5.18RS, 5.21RS, 5.23RS, 5.25RS and 5.26RS models, with maximum reaches ranging from 18m to 26m.

Magni said all the models, except for the 26m, were built on the chassis of the 21m model, making the machines very compact.

The series has Perkins and Deutz engines, with the RTH 5.21RS, for instance, featuring a 101kW Perkins Tier 4 Final engine and a two-speed Bosch Rexroth hydrostatic transmission.

Meanwhile, Manitou is also unveiling its MRT 3255 rotating telehandler, which has a load state monitor to continuously check on

Operated by two joysticks, this model has a lifting capacity of 5.5 tonnes and features a new control system and cameras positioned at the rear or head of the boom to provide greater safety.

It also has an anti-leaning device which can be engaged by the operator to aid its stability under heavier loads or when operating in rough-terrain.

Kevin Arnou, product line manager for construction, said the company's markets had produced mixed results.

"In 2014, we have seen a growth in volume for the construction market in Northern and Southern Europe," he said. "The market was mainly dominated by rental companies who renewed their rental fleet in the first semester.



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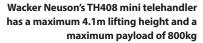
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TELEHANDLERS





"However we noticed a decline in construction end users' investments in materials.

"The future of the sector is still uncertain especially in public works. For the moment, rental companies are not as active as in 2014."

The company's other launches included a hydrostatic version of its new M26/30/40/50-2 series, which has been designed for rough terrain and greater ground clearance.

It has a Perkins 55kW Stage IIIB engine, reduced fuel consumption over previous models and a maximum lift height of 7m. The company is targeting the rental sector with its MT 625 Easy, which has been developed specifically for construction work.

This model is powered by a Stage IIIA 36kW Kubota engine and has a reach of up to 5.6m in height. It has a maximum payload capacity of 2.5 tonnes.

Dieci's new Hercules 190.10 joins its heavy duty vehicles range. The maximum lifting height is 10.20m, and the maximum capacity is 19 tonnes. The telehandler is equipped with a Stage IIIB/Tier4 Interim engine capable of developing 129kW.

The machine's hydrostatic transmission has a third central differential, which can be locked, if necessary. This means that when under load, it compensates for the differences between the front and rear axle, minimising effort and leading to improved fuel savings.

Wacker Neuson has released its compact TH408, which the company claims is among the smallest telehandlers on the market. It has a maximum payload of 800kg and has a



lifting height ability of over 4m. It is powered by a 19.2kW Yanmar engine.

The company said that this model's small size made it suitable for work in tight environments, such as narrow alleys or high bay warehouses.

There is also a new telehandler from German-based Kramer, part of Wacker Neuson, with the 5085T which has a bucket capacity of 0.85m³.

Liebherr's series of handlers includes three different versions with lifting height capability The Manitou

M625 Easy is just one of the company's latest range of telehandlers



Genie has started production of its GTH-2506 telehandler.

from 7 to 13 metres, and lift capacities between 3.6 and 4.1 tonnes.

The company's manufacturing plant in Telfs, Austria, has a dedicated production line for the telehandler segment. The three new models are powered by a new turbocharged 74kW Deutz engine that meets Stage IIIB emissions standards.

Genie has started production of its GTH-2506 telehandler at its Italian factory. It has a Stage IIIB compliant Deutz TD 2.9 diesel engine, and the company said that despite being compact, the cabin remained spacious.

It said that the multi-function joystick allowed simultaneous control of all boom movements in an intuitive manner, while interchangeable, common components, plus easy no-tool access to daily inspection points made Genie telehandlers straightforward to service.

360° OPERATING SAFETY

Italian manufacturer Merlo has launched its M TSS System, which is technology that is said to lead to 360° operating safety for its telehandlers. The company said this was achieved by integrating the management of longitudinal stability with that of lateral stability.

Integrated onto the operator's colour display, the system has a progressive bar graph indicating vehicle stability and a buzzer providing real-time information on the telehandler's stability.

The company's highest capacity telehandlers make up its HM series, incorporating the 5 tonne, 18m P50.18HM; the 6.5 tonne, 14m P65.14HM; and the 12 tonne, 10m P120.10HM.



TELEHANDLERS

Merlo said the series had been designed to maximise productivity and reduce fuel consumption.

Comfort has also been an important part of their development, including what the company claimed was the largest cab on the market, at 1,010mm wide, and a joystick on the armrest as standard.

There are also two new compact telehandlers being prepared for launch by Merlo - the P 33.7 and P 30.9. These will go into production in the fourth quarter of 2015. The company claimed these machines would feature the largest cab in their class and said they would be powered by Stage IIIB engines.

For the P33.7, there is an increased load



Merlo's present range of telehandlers includes its roto series

capacity of 3.3 tonnes and a maximum lifting height of 7m, while the P30.9 has a 3 tonne capacity. Its EcoPowerDrive system claimed a fuel saving of 18% over previous models.

Joe Rodgers, Merlo UK's media and sales manager, said the company had experienced growth in the UK, which mirrored a positive performance by the company across Europe.

He said, "The market for telehandlers in the UK has been good due to our economy doing well. It appears that we are through the recession, though we are seeing quite a trend towards the rental sector as people are perhaps scared of spending £70,000 or £80,000 (€96,000 or €110,000) on a new machine. We're also seeing a lot more fleet deals being done.

"Our roto models, which have 360° swing capability, have sold well in the construction sector," he added. "We were the first to bring these out and they have been used on a lot of projects like the National Grid, water companies and also in the bio-energy sector, as they are very versatile on sites."

He added that the past few years had seen major advances within the sector.

He said this included improvement to cab displays, which now offer enhanced monitoring of machine payloads to try to improve and avoid equipment from safety



potentially overbalancing under heavy payloads. With manufacturers looking to introduce a greater range of efficiency, safety and fuelconsumption measures into the design of telehandlers, it is clear the demand remains strong for these machines across a full-range of construction ventures.



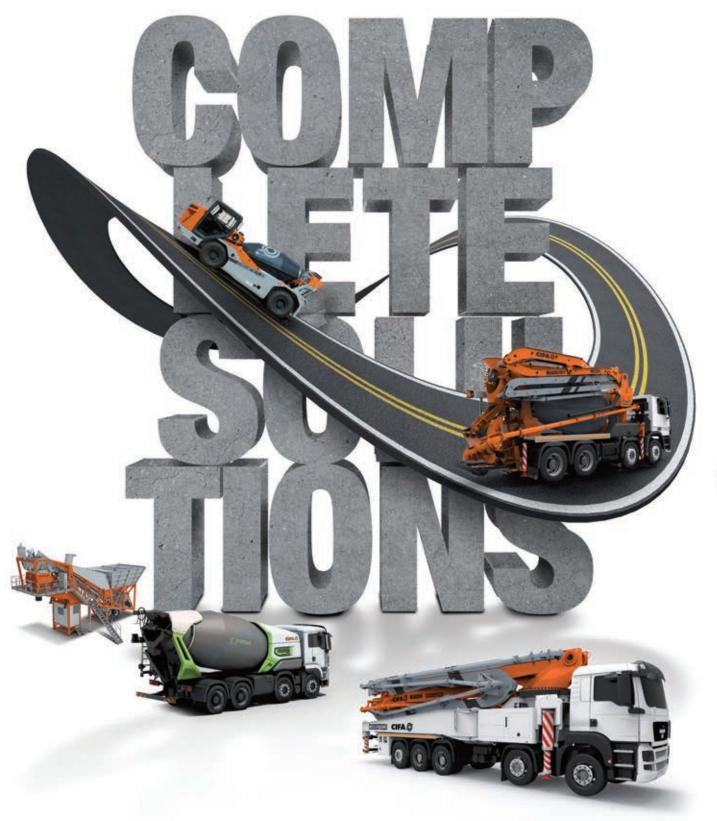


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Designing a new machine is not a quick process, and haulers are getting more sophisticated all the time. Sandy Guthrie investigates

he total cost of ownership plays an increasingly significant part in the customer's decision to purchase a machine, and manufacturers have to bear this firmly in mind when designing new machines.

At Bell, Tristan du Pisanie, project leader, engineering, said that the evolution of a new machine was a long process - machines being designed at the moment are expected to be launched in 2018 - but total cost of ownership is key.

He highlighted some of the important goals, which he said included simplicity, lighter weight machines, off-road ability, fuel burn, grade ability and ride comfort.

"Better cost of ownership allows customers to tender cheaper, and so get more jobs and make more money," he said.

At Bell, the design philosophy revolves around the total cost of ownership, which du Pisanie admitted was a complicated equation. The desired result is more tonnes/h, which is

a combination of many elements, including a faster cycle time, capacity and comfort. The cycle time alone is dependent on features such as rim-pull, speed, retardation, automated functions, ease of load and discharge, and off-road performance.

Other parts of the equation include durability, reliability and service intervals, not to mention parts supply and response time.

He summed up the equation as costs vs performance vs fuel burn vs reliability vs durability.

Bell is based in South Africa, but it is on the global market, and compliance is important – and a CE mark is a priority, said du Pisanie.

"If there is a CE mark, you are most of the way there," he said.

FUEL CONSUMPTION

Fuel consumption has been a focus for many years at Bell, he added. He said that it had been "driven into all areas of design of our ADTs (articulated dump trucks) since 1984 by technical director Peter Bell. This is not just engines but transmissions, weight and so on."

Other innovations highlighted by du Pisanie included on-board weighing. He pointed out that this had been a big feature for all manufacturers at last year's Conexpo show in the US, but he claimed that Bell had produced the first ADT to offer on-board weighing in 2003. He added that Bell was the first to offer



a satellite-based fleet management system, also in 2003.

Bell, virtually an ADT specialist, offers 20 models, and du Pisanie said that an ADT consisted of 5,000 parts, 2,350 engineering drawings, 75,000 engineering man hours and 1 million lines of software code.

It was in 1984 that Bell launched the A series, and since 2013 it has been the E series that has been available. The company classifies its B18E - with a payload of 18 tonnes - to B30E - 30 tonnes - as small trucks.

A change to Allison transmissions has been greeted with excitement by customers, said du Pisanie, who added that the E series small truck was designed to accommodate the new Mercedes Benz OM936LA engine. He said no fundamental changes had been needed going from Stage IIIB to Stage IV, adding that a diesel particulate filter (DPF) was not required.

Bell's large trucks are the B35E to B50E, while a massive 60 tonne class B60D concept was revealed in 2013 - it is on test and low volume production at the moment.

According to du Pisanie the 60 tonne machine was the largest ADT ever built, and by virtue of its size had the lowest cost per



Bell's du Pisanie, "Better cost of ownership allows customers to tender cheaper"

tonne of any ADT. Full production is expected to start in the fourth quarter of 2016, but it is fair to say that most interest will probably be from the mining sector.

He said the B50D, launched in 2004, remained the only 50 tonne class truck in

The E series large trucks have Stage IV straight 6 OM471LA engines from Mercedes Benz, and claim a payload increase, more speeds in transmission and a reduction in cost per tonne over previous models.

Caterpillar has new ADTs among its Stage IV-compliant machines. Its ADT series has updated features as well as new Tier 4 Final/ Stage IV engines.





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HAULERS

They have new transmissions with expanded electronic control, automatic traction control, automatic retarder control, hill assist and waiting brake systems.

An optional payload weighing system is available, along with other upgrades designed to deliver lower operating costs through reduced cycle times, fuel savings and easing the operator's workloads.

The ranges includes the 32.7 tonne capacity 735C, 38 tonne 740C EJ ejector model, and 41 tonne 745C. The 745C's1.5 tonne capacity increase over its predecessor is said to enable production gains.

Julien Balardelle, Caterpillar product specialist, said, "Our new 745C is going to be a game-changer within the 40 tonne articulated truck class. It is not just a replacement for our successful 740B series – it is a completely new machine.

"Some of its top features include a new Acert C18 engine and a brand new transmission. There is also a new set of drive shafts and braking systems which enhance productivity and fuel efficiency."

The 735C's Cat C15 Acert engine is rated at 337kW, while the C18 Acert engine used in the 740C EJ and 745C has a higher output, rated at 381kW.

The 740C EJ ejector model, which combines the 745C's tractor with a horizontal discharge

The DA40 from Doosan features an articulation hinge behind the turning ring to provide equal weight distribution to the front axle

body, provides added versatility in having the ability to unload material to uniform depths while travelling at speed. This is said by the company to reduce the need for on-site spreading equipment.

Another advantage is said to be the ability to discharge loads in soft conditions, on slopes, and also where there are overhead obstructions.

The series features the company's Cat Connect system, which gathers data about machine performance and can be used as a tool to improve site efficiency.

An additional option is Cat Production Measurement, which measures payloads to give a greater insight into productivity, and costs per tonne. If linked to Cat Connect Link technologies, payload data can be accessed over the Internet for further central analysis.

MODEL SUCCESS

At Volvo, Masood Akr, GPPE (general purpose and production equipment) product manager for Volvo Construction Equipment's EMEA region, said, "Some models are becoming more popular in particular markets, depending on the application and of course the customer's awareness of the concept." He said Volvo was, therefore, focusing

"We have a strong software program that supports Volvo CE and dealers in order to calculate the total cost of ownership for GPPE products. We can even calculate the cost of moved material per hour and we can show our customers how to optimise their fleet and operate their site at peak efficiency.

on the machine concept and customer

requirements.

"In fact," he said, "the customer can compare results with other transport solutions such as trucks and rigid trucks in order to make an informed decision."

Akr said that with all of Volvo CE's articulated haulers, the machines were designed to be fuel-efficient, comfortable, and easy to operate and maintain.

"By offering the on-board weighing system, together with the Volvo CareTrack (telematics) package for the bigger A35 and A40 haulers, customers can easily follow the





Waste role for Volvo in Germany

In Germany, Volvo articulated haulers are being used to transport approximately 50,000 tonnes of waste a year to a treatment facility and landfill site.

Zweckverband Abfallwirtschaft, a waste disposal company in Hanover, uses three 25 tonne Volvo articulated haulers, including a 10-year-old A25C-Series with 20,000 hours on the clock and two new A25F-Series. An A25F model will replace the vintage C-Series. They transport waste to the mechanical biological waste treatment plant in Lahe, just west of the city, and then deliver the treated product to one of its three landfill depots in Wunstorf-Kolenfeld.

The three-axle F-Series articulated haulers carry the roll-off containers via the A2 motorway for 30km. The Volvo haulers make up to 16 journeys a day. The containers usually only travel on smooth roads but Volvo haulers can carry them the final stretch up the mountain to the landfill's door, over rough, soft and bumpy terrain. Volvo said the machine's "excellent stability" made it possible.

The A25F articulated hauler flags up every 150 hours of operation so that the company's local dealer, Swecon in Garbsen, can service the machines regularly.



This A25F model will

replace the vintage

C-Series



a Scania DC9 276kW diesel engine, and the DA40 features a Scania DC13 368kW diesel.

Fuel consumption reductions are credited to a combination of features including new Scania selective catalytic reduction (SCR) and exhaust gas recirculation (EGR) engines, and a new ZF EP transmission. A DPF is not needed to meet the emission regulations.

Specifically designed by ZF for use on ADTs, the new ZF EP countershaft transmission provides eight forward speeds - with a top speed of 55km/h – and four reverse speeds.

The design of the new DA30 and DA40 is said to go far beyond just meeting the latest emission standards, with many additional features and product improvements claimed to establish a new benchmark in load carrying performance, fuel efficiency, enhanced controllability and high operator comfort. It



The Volvo A35F offers a telematics package

also claims improved reliability, durability, and reduced maintenance and servicing costs

Like all Doosan ADTs, the new DA30 and DA40 models feature an articulation hinge positioned behind the turning ring to provide equal weight distribution to the front axle even during maximum steer articulation. This,

machine's production, fuel consumption and fuel efficiency from the office."

Doosan Construction Equipment has launched new versions of the company's DA30 and DA40 ADTs meeting Stage IV/Tier 4 Final engine emission regulations.

Roy Haaker, product line director for wheeled loaders and articulated dump trucks at Doosan, felt that construction equipment markets were improving.

He said, "The global ADT market is recovering slowly from the financial crisis, and apart from a small dip in 2013, the market has seen growth in the last few years."

EUROPE STRONG

Though active across global markets, he said that Europe had been especially strong for the company. With its manufacturing base in Norway, he said this had provided Doosan with the additional strengths of short lead times and easy access to expertise at the factory.

The new version of the DA30 is powered by





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together with a free-swinging rear tandem bogie, is said to ensure equal distribution of weight to each wheel, and guarantees permanent six-wheel contact and drive, for equal power distribution and excellent performance on difficult terrain.

In response to requests from ADT users, Doosan will be supporting the DA30 and DA40 Stage IV/Tier 4 Final machines with a new, optional, tracking system designed specifically for use on Doosan ADTs, providing full information on payloads, fuel consumption and cycle times.

Komatsu has brought out its 36.3 tonne capacity HM400-5 ADT on the European market. It features the company's 353kW SAA6D140E-7 Stage IV-compliant engine.

The 24m³ body capacity is combined with a loading height of 3.16m, which Komatsu said enabled easy and quick loading.

Selectable work modes allow the operator to choose between economy and power modes to tailor machine performance to the application or to work conditions, and a further feature is Komatsu's Traction Control System (K-TCS) for automatic and optimum traction in soft ground.

AUTOMATIC TRANSMISSION

The HM400-5 also features Komatsu Advanced Transmission with Optimum Modulation Control System (K-ATOMiCS), which offers a six-speed, fully-automatic transmission with an advanced electronic system to eliminate shift shock and torque cut-off to improve engine efficiency.

An option on the HM400-5 is an integrated Payload Meter, which displays the weight of loaded material on its high-resolution LCD operator monitor. This indicates payload information to the loader operator via external display lamps. The data can be accessed via the internet.

Komatsu's EU Stage IV engine features SCR, and has a Komatsu Variable Geometry Turbocharger (KVGT). It has also used an EGR valve for more precise temperature and air management control.

Hitachi Construction Machinery (Europe) -HCMF – is one of a number of manufacturers offering rigid haulers as part of its range.

It has supplied Baltic energy company



The EH1100-5 rigid hauler from Hitachi

Eesti Energia with 11 of its EH1100-5 models for use on a shale extraction operation at the Narva quarry, Estonia, whiih is near the Russian border.

Hitachi has supplied the haulers from its factory in Canada. It had to prove its equipment could carry a nominal payload of 63.5 tonnes as part of the deal in Estonia.

The project included a calculation of the capital cost of the machine and a guaranteed buy-back after a number of years.

Malcolm Edwards, HCME manager of mining and quarrying, said, "Supplying the first dump truck gave the customer further confirmation of many of the other claims we were making about the EH1100-5s and confidence in the product."

LONG ROUTE

The new Hitachi dump trucks will haul material on an unusually long route, ranging from 3 to 15km (from loading to tipping), with slope increases of up to 9%. Eesti Energia's long-term strategy means the length of the route could increase to 25km each way in the future.

Hitachi will provide aftersales support for the new machines, and that will include parts support and training programmes, via Rotator Estonia.

"Rotator already has a wealth of experience in the mining and quarrying industry in Finland, which will support Eesti Energia with all of its aftersales requirements," said Edwards.

Japanese-based manufacturer Morooka has released its latest tracked carrier, the MST-2200VDR. The company said the 16 tonne dumper had greater operating efficiency thanks to its 360° body rotation.

It said the design enabled dumping at any angle, and prevented wear on its undercarriage as less steering was required. This also has an added benefit of an operator being able to remain in a face-first position at all times.

It is equipped with a Cat C7.1 Tier 4 Final emissions-compliant engine with a power output of 186kW.

The machine also features a rear-view camera and a cabin designed with a ROPS protection structure.

New Austrian dealer for Terex

Terex Trucks has appointed family-run business Mlečka Baumaschinen as the official distributor of its articulated and rigid dump trucks in Austria.

The company is based in Oeynhausen, near Vienna, and will cover the whole of Austria, providing full technical support throughout the region.

Owner Harald Mlečka said, "The efficiency and durability of Terex dump trucks make them ideal for sand and gravel handling at construction sites in Austria."

Meanwhile, Terex Construction has introduced a Stage IIIB/Tier 4 Final-compliant range of 9 and 10 tonne site dumpers.

Featuring 55kW JCB EcoMAX turbo-charged diesel engines, the new TA9 and TA10 models claim to offer users increased fuel efficiency without any exhaust after-treatment requirements.

Neal Nowick, general manager of Terex Construction's Coventry facility in the UK, said, "Ensuring our site equipment meets the latest international regulations - in particular emissions control - is essential, which is why we made the decision to move away from our current engine solution and instead look towards the 55kW EcoMAX alternative."



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over the competition. Sandy Guthrie finds

out more

ell is a specialist manufacturer of articulated dump trucks (ADTs), and Gary Bell, group chief executive, said that this strategy would continue and that the company could continue to be competitive globally.

"We see ourselves as a specialist ADT producer, and we are really focused on it. We don't have a huge portfolio of products that we need to spend our research and development (R&D) dollars on - 95% of what we spend on R&D is spent on the artic trucks, so we think we've got a little bit of an edge in terms of what we are doing there.

"We're a few years ahead on some things, and certainly on the bigger trucks, we've been in the field a lot longer than some of the other players who are now coming and trying to spec their machines to something bigger."

Apart from the single-mindedness of its approach, another notable point about the company is where it is based - South Africa. The business was started in the 1950s by Gary Bell's father, Irvine, who concentrated initially on machinery for the sugar cane industry. In the 1960s, Bell invented the tri

loader cane machine, which it said revolutionised sugar cane loading, and then Bell designed haulage tractors and front end loaders in the decades that followed.

> This led to the first ADT. which rolled out of the factory in 1984.

> > Gary Bell said the

Schürmann, "We have the flexibility to get the best"

first Bell models to be seen in Europe were forestry machines. "Then the development of the trucks began."

He said, "About 8 or 9% of our business comes from forestry and sugar cane, the bulk of our business comes from either mining or construction, and right now the pendulum has swung more towards the construction side.

"Traditionally mining would be about 60% of our business, but at the moment construction is about 60%. Because we own a big chunk of our distribution channels ourselves, we're at a little bit at a disadvantage, but that's what's

"What's changed over the last five or six years, and will change further, is that we won't necessarily own as bigger portion of our distribution as we own today, because the growth is coming from markets that use a different channel."

EXPANDING BUSINESS

He said he was happy with that move, because it freed up capital to allow the company to expand the business.

"There's not too many players in the sector, so from a distribution point of view we have got a lot of opportunities to work with people that don't have a truck in their programme, so that makes it all the more viable."

He added, "We're not at any huge disadvantage from a volume point of view, because in our segment, no one has any significantly more volume than we've got the market leader might do two or three times what we're doing, but it's not a factor of 50 or a 100 times more.

"We're looking to grow the business, focusing on some of the existing markets, where there's still a lot of opportunity for us."

Bell's main factory is in Richards Bay, on South Africa's east coast, with 43,000m² under roof, and it has an 11,000m² paperless global logistics centre close to Johannesburg Airport. There is also a smaller logistics centre in

At the factory at Eisenach, Germany – which opened in 2003 - machines are assembled for the European and North American market. Most parts come from South Africa, but those sourced in Europe do not make the long journey south and back again.

Marc Schürmann is managing director of Bell Equipment Europe, based in Germany. He said, "Every component has the best powerto-weight ratio. That sets us apart from our competitors. We're a niche player. Others will have their own engines, but we have the freedom and flexibility to get the best."

There are six Bell-owned operations in Europe, and 100 dealers. Schürmann, said that for Bell, the UK had traditionally been the largest market, followed by France and

He said there had been a period of time when Spain had been challenging France and Germany, and he said he thought Spain could challenge again in the future.

"Russia was also showing some potential," he said. "In 2013, it was challenging the UK as the biggest ADT market."

He said Russia was a good example of creating a market. "It's like the mobile telephone communication industry in Africa. It never went through the landlines – it went from nothing to wireless communications.

"In Russia, we were capitalising on the same type of mechanism. In a normalised environment where things are stable, Russia could become the largest market. It's an important market for us but you need some level of stability."

Schürmann said Eastern European countries had been a disappointment.

"There's a lot of European funding available but with the turmoil in the financial markets in the last couple of years, it hasn't reached the stage where the European Community can invest in those countries. But it's also waiting for some level of stability and positive sentiment to develop again and I think that will take off."



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Improving machine efficiency has required major advances in component quality. Neill Barston reports on some of the main industry developments recently

s advances in machine designs continue to emerge, creating components that are responsive to the demands of the construction industry remains a challenge.

Among the key goals for component makers are improving hydraulic performance and developing electronic systems.

This also extends to upgrading machine precision and reducing fuel consumption – which are core factors given budget and

jobsite time pressures facing contractors.

Developing machine efficiencies is a combination of in-house design by equipment manufacturers and using the expertise of components suppliers and other partners.

Hitachi is among the major

Rexroth is introducing its
Hydrotrac GFT 8000 gearboxes

manufacturers investing heavily in research and development (R&D). It has placed an emphasis on creating equipment specific to global territories – including machinery for Europe.

As Hiroyuki Kamata, engineering general manager for the company at its European headquarters said, product development is of core importance.

He said one of its core areas of focus had been in responding to the stringent emissions regulations that have seen engines developed to meet the latest European Stage IV requirements.

The company has also worked on improving its established TRIAS hydraulics system. This has three pumps and has been fitted to its ZX series of excavators of between 20 and 35 tonnes.

Kamata said, "From the feedback that we have gained from customers, some of the key features they are looking for are lowering of running costs and making cabins more comfortable.

"They are looking for machines with lower fuel consumption that can handle increased loads, while also being more efficient."

He said, "In general, the biggest challenge for engineers is to find the best balancing point in productivity, fuel consumption and total cost.

He said the company's development team

Altra Industrial Motion's group of specialist component firms includes Wichita's Aquamakks

The Twiflex VKSD disc brake calliper

had been trying to evaluate loss in the hydraulics of its current system. They have implemented all possible methods of loss reduction for the new hydraulic system, he said, and, as a result, they will achieve reduction in fuel consumption in future models.

Creating robust and versatile equipment is something that Liebherr has regarded as a

This has been demonstrated by its decision to expand its production facilities and serve customers beyond producing components for its own equipment.

Gebhard Schwarz, managing director of the company's components division, said there had been an "increasing importance" placed on developing its external customer base, served from its latest facilities in Switzerland.

He said, "In addition to large diameter bearings and drives, our focus is to promote the sales of diesel and petrol engines, common rail systems and axial piston units.

"The area of electronics represents a good future opportunity, as electronics are increasingly being used for central control and monitoring in modern machines."

Its current focus includes hydrostaticmechanical power-split transmissions.

The company has confirmed that the first version to be developed is a gearbox designed specifically for mobile machinery

Operational uptime increased

Manufacturer Metso has released its Orange Series Rotor for vertical shaft (VSI) crushing

According to the company, productive uptime can be increased through longer parts lifetime and faster service.

The company's new series of components have been reconfigured to allow easy interchange, which the firm said helped maximise its wear life. The change-out of primary components through the service door is also said to have been improved.

The number of wear parts with the new rotors has been reduced by 30% and the total number of components by 25%. This has been achieved by integrating several components and using fewer fixing points.

Tuomas Takalo, Metso's product manager for Barmac VSI crushers, said the increase in wear parts life achieved with the new Orange rotor series represented a key step forward.

He said, "We have tested the new primary components in real quarry operations, achieving in most cases greatly enhanced wear life. For example, the tip life was increased by 30 to 50%. Hard-facing during maintenance was said no longer to be required.

"In quarry operations, the extended lifetime will provide the operator with significantly increased operational uptime. Fewer intervals between wear parts changes will clearly

increase the total capacities produced."

Takalo added that in terms of tip and cavity wear plates replacement, the servicing time could be cut by more than half with the new rotors. This was a result of simplified retaining bar fixing.

He added that similar time savings could be achieved with other wear parts.

Metso's latest Orange rotor series of components for crushing equipment





that can fulfil strict requirements in

terms of dynamic performance and reversing. Liebherr has investigated the specific requirements for an optimum power-split transmission, and then designed a customised transmission based on this, which is still in its testing phase.

Klaus Graner, managing director for development and engineering at Liebherr's components division, said the company's

present research programme would prove decisive to its design strategy.

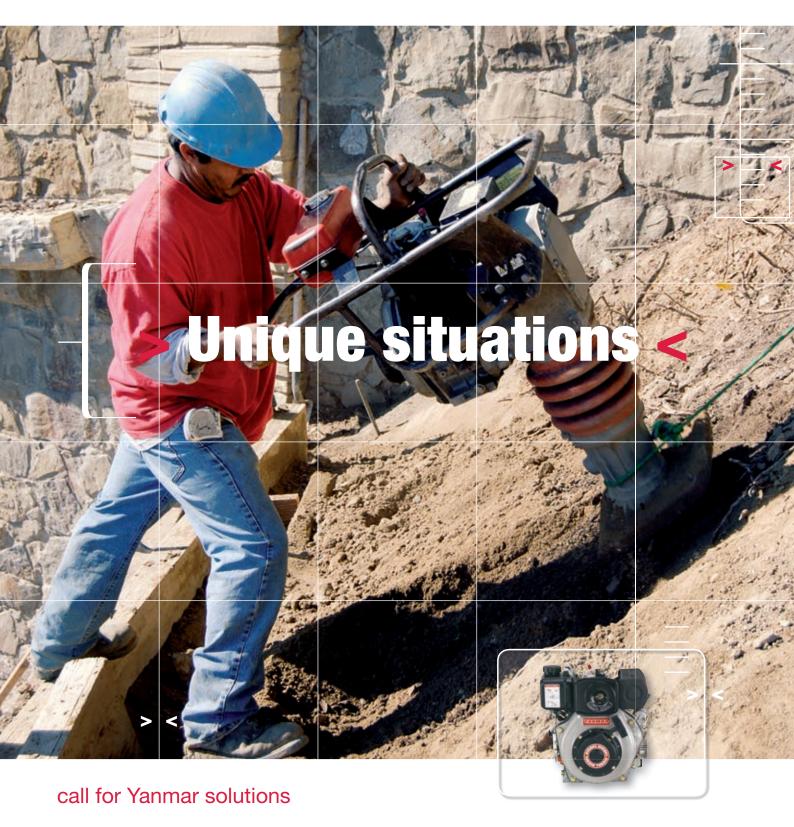
He said, "The development of a hydrostaticmechanical power-split transmission is an important addition.

"Our solution is an impressive example of our system expertise in the area of drives and hydraulics, and we can enter entirely new market segments with it.









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"Initially, our system is specially targeted for mobile applications with high requirements regarding dynamics and reversing. Adaptations to further application profiles are already planned."

Also in the field of transmissions, Rexroth has introduced its Hydrotrac GFT 8000 gearboxes. These are said to be

capable of increasing the drivetrain performance of mobile construction

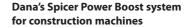
machines by 10%.

Based on a modular design, the new units combine twoand three-stage planetary gearing with axial piston motors to match the needs of mobile working machines.

Its performance improvements are achieved through its mechanical planetary drives transferring torque from the hydrostatic drive to the wheels or tracks.

The option of an integrated multi-disc brake within the unit further reduces installation space needed. It is said to require little maintenance and is designed for protection

Developed with an additional high level



Meanwhile, the heavy duty clutch and brake (HDCB) division of Altra Industrial Motion which includes the Twiflex, Wichita and Svendborg brands -

has developed a broad range of specialised calliper brakes and clutches.

With its Twiflex brand, the company has released a range that includes a compact MU series of lever brakes, and also the VMS-DP - a modular calliper design which is said to be one of the world's largest spring applied units, with a clamping force in excess of 900kN.

The Wichita product line has focused on multi-plate clutch and brake systems, which the company said had been designed to operate in harsh conditions.

This includes oil-in-shear technology, which is a fully-sealed concept designed for harsh machine operating environments. It has also developed a water-cooled AguaMakks highperformance series of clutches and brakes.

Within the field of driveshafts, GKN Land Systems has launched its new driveshaft range known as Synergy, aimed at the construction and mining industries.

Launched last year at the Conexpo show in the US, it has been developed by linking existing off-highway technology created by the company from its Mechanics series U-Joints range.

Product specialist Ben Ravenscroft said, "The Synergy range is a natural evolution of existing GKN product innovation with new features and benefits to offer significant advantages to customers in the off-highway

"In the main, these improvements will reduce the need for servicing and maintenance, and maximise uptime and productivity."

Another company making strides in developing the capabilities of transmission components is Dana.

Its Spicer PowerBoost technology system is said to anticipate operating demands to determine the most efficient means of operation. It has a modular design that >



braking system, dynamic brakes have been safety certified for operating equipment speeds of up to 50km/h. The

8000 series achieve torques of 20 and 30kNm, with seven further models to follow, ranging from 10kNm to 130kNm in output.

MODULAR DESIGN

The modular design of the transmission means OEMs can vary the drive torques and transmission ratios closely, matching them exactly to specific machines.

First birthday for Aventics

Aventics has marked it first year in business, having formerly been the pneumatics section of Bosch Rexroth.

CEO Paul Cleaver said the company was aiming at becoming globally-renowned for its component operations.

The company has focused on developing technology solutions that use engineered polymers and the integration of electronics into what it said was a growing pneumatics market.

Among its latest products are advanced valves (AV) which are said to have cross-industry applications including machine development, as well as within the marine and automotive sectors.

The new valves feature a diagonal arrangement of the valve spool – which reduces the size of a valve by around half, to the dimensions of a business card.

This also brings weight savings of 50% compared to conventionally-designed valves, which makes it possible for them to be placed in decentralised locations within a machine. The key benefit of this, it said, was to reduce compressed air consumption by 20%, improving energy

It also found increased energy efficiency through using electronic pressure regulators. Its ED series enables adjustment of air pressure levels according to the demand of pneumatic actuators. The use of electro-pneumatic pressure regulators for AV valves is said to save up to 50% in compressed air.







Eaton has released a new range of electronic control software for construction equipment, including the VFX70

offers OEMs flexibility in hybrid control performance. Among its core features is a hydraulic stop/start function.

The company said its engineers had conducted a series of field tests of the Spicer PowerBoost system integrated with a dualmotor hydrostatic transmission.

This included more than 1,000 hours on a 16-tonne front-end loader, and more than 500 hours on a telescopic boom handler powered by an 83kW engine.

These tests of typical duty cycles found fuel savings of 20% for the front end loader, and 25% on the telescopic boom handler. The company said the expected payback on these applications was less than 18 months.

Aziz Aghili, president of Dana Off-Highway Driveline Technologies, said, "Despite the recent downturn in diesel prices, off-highway equipment buyers are still actively pursuing technologies that can reduce overall vehicle operating expenses."

He added, "The financial benefits of the Spicer PowerBoost system have been clearly demonstrated in real-world field tests on multiple applications, and include significant machine productivity enhancements as well as reduced maintenance."

Danfoss has introduced its Reverse Displacement Motor (RDM) for construction equipment. This offers reverse circuit functionality without external values - which the company said was unprecedented in the industry for hydraulic systems. It is said to be ideal for fan drive systems and is reportedly

capable of assisting in delivering 10 to 15% power savings and a 15% average reduction in system costs.

A further key development in hydraulics has been released by Hawe with its V30E-270 variable displacement axial piston pump.

The company said it has been designed for a broad range of demanding applications in mobile hydraulics.

It can be used with concrete pumps, harbour cranes or large hydraulic excavators.

The V30E-270 has been designed for an operating pressure of up to 350 bar, with a peak pressure of 420 bar. The volume flow clocks up a maximum of 400 litres at 1,500rpm, with a geometric displacement of 270cm³/rev.

As an integral part of hydraulics, specialist fluids designed to maintain and improve performance have been making inroads in the construction industry.

For its part, Evonik Industries claims improved performance for a wide range of construction machines using its Dynavis formulas.

The company has worked with contractors across Europe in exploring how its hydraulic fluid solutions can improve machine efficiency.

One of the company's most prominent cases came in working with Italian contractor Ghizzoni.

10% FUEL SAVING

According to Evonik, there was a 10% saving in fuel achieved when its fleet of 14 Case excavators had operated with Dynavisformulated hydraulic fluids.

Evonik's marketing manager Rolfe Fianke explained that Ghizzoni machine operators

Hawe's V30E pump claims broad construction site applications

Curtiss-Wright has supplied Penny & Giles joystick controllers for container handling company VDL

had reported an improved performance from their equipment when using Dynavis. Fianke said that field tests had found that the company's optimised level of fluid viscosity was able partially to compensate for wear on machines' hydraulic systems.

A further case study in Lithuania involved mining company Vakaru Verslo Projektai, operating a range of wheeled loaders and crawler excavators.

After six months using Dynavis formulated fluid, the mining firm reported a 15% reduction in fuel consumption, amounting to a €5,000 annual saving.

Power management company Eaton has launched its new line of Pro-FX electronic controls and software, including the HFX controllers and VFX displays families.

The new controllers have a die-cast aluminium housing that the company said was rugged enough to withstand wide temperature ranges and water depths. Multiple inputs and outputs, including three CAN ports, provide flexible configurations.

Eaton said it used one of the fastest processors on the market for its control systems. In addition, memory can be allocated to perform data logging functions that can reduce cost by taking the guesswork out of maintenance by predicting problems before they happen.

The new line includes two displays - 109 and 178mm - and has been built to a rugged

Eaton has also introduced a speed sensor for its Char-Lynn HP30 motor, which is used in compact construction equipment. The new device measures pulses per revolution of the motor, enabling better monitoring of its performance.

The industrial division of Curtiss-Wright Corporation has supplied Penny & Giles JC8000 joystick controllers to Netherlandsbased container handling systems company VDL Containersystemen.

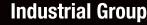
Its Containersystemen's classic control system for hooklifts uses cabin-based air controls to operate the hydraulic main valve that drives the hydraulic cylinders.

This has allowed the driver to operate multiple, but not simultaneous, functions, including the hooklift's sliding arm or sliding and tilting arm.

> With useable space within truck cabins becoming smaller, recent installations have been mounted to the far side of the driver's seat, away from the door, which then required rear view windows to be specified to enable the operator to monitor what was happening during the lifting

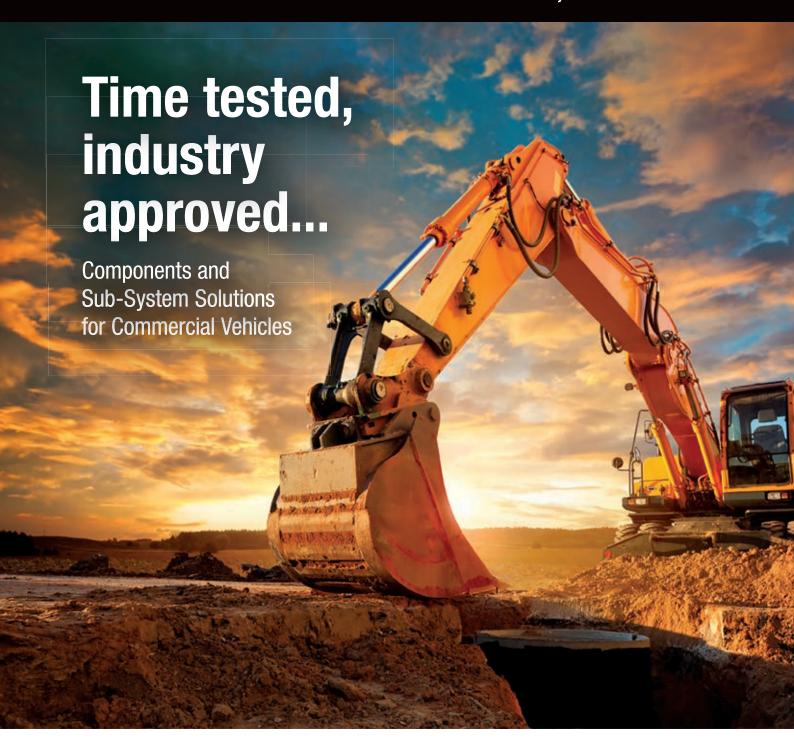
Fortunately, the change in layout did have advantages, according to VDL's Ruud Paridaans. "VDL's hooklifts feature

either a sliding arm or sliding and tilting arm, and, particularly for sliding and tilting arm applications, a higher level of functionality is usually demanded with operators wanting to control two or three functions proportionally and simultaneously." ce





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INTER AT countdown Paris 2015

Construction manufacturers from around the world will gather for Intermat in Paris this month. Here is a final chance to look at some of the equipment to be shown the event

ith just a few weeks to go before the 2015 Intermat event in Paris, France, there is just time to take a final look at what to expect there.

The show will see a number of world debuts of construction machines at the exhibition, which will be held from 20 to 25 April.

Organiser Comexposium has forecast total visitor numbers of around 200,000 for the

event at the Paris-Nord Villepinte site.

There will be more than 1,300 exhibitors present from 37 countries, in what will be the largest show of its kind in Europe this year. It features 375,000m² of exhibition space and a further

New additions to the Sunward range will include 0.8, 1 and 2.5 tonne compact excavators



30,000m² of outdoor demonstration areas.

And for the first time, the event is teaming up with World of Concrete (WoC), which has been staged in the US for 40 years.

TEREX's POWERSCREEN will launch the Warrior 600 mobile screen at Intermat – the

sixth in this series, it has been described as the most compact heavy-duty model.

The Warrior 600 is said to be easy to transport, and offers a simple conversion between twoway and three-way screening modes which can be completed in minutes.

> The unit features a high amplitude, two-bearing screenbox, that has been designed to separate large items from fines in recycling tasks.

> Other features include fast setup time, easy operation aided by hydraulic folding side conveyors, and a rigid feed hopper sides and two speed tracks.

TEREX FINLAY's stand at the show will see the launch of the company's new J-1170 primary

tracked jaw crusher.

Its key feature is an on-board detachable sizing screen, and it has been developed with either a Stage IIIA Cat C9 diesel delivering 261kW or a Stage IIIB Scania unit delivering

Hydrostatic transmission of the jaw chamber offers operators reversible operation in the event of a blockage. The hydrostatic system also provides variable chamber speed to suit given applications. The crusher features hydraulic assist chamber closed side setting (CSS) adjustment, and can be changed in a matter of minutes.

KEY PLAYERS INTER MAT

UNDER WRAPS

HIDROMEK has kept plans for the firm's first ever articulated wheeled loader closely under wraps, with the machine's global debut planned for Intermat. The 24 tonne loader features a 4m³ bucket as standard and a 180kW engine, though its full specifications are being saved for the show.

INTERMAT STOP PRESS



Engcon's tiltrotators are being updated to the Q-Safe quick hitch

SUNWARD will exhibit updated versions of its 1.7 tonne SWF17B and 2.0 tonne SWF20B mini excavators at Intermat.

These will appear along with the re-worked SWE40U short tailswing model. Also on show will be brand new machines at the lighter end of the spectrum, such as the 800kg SWE08B, 1 tonne SWE10UB and 2.5 tonne SWE25U zero tailswing model.

The company will also show the new 1.8 tonne SWE18UE excavator, which is an electric battery-powered machine offering zero emissions. Other machines on display include skid steer loaders and models from Sunward's foundations equipment range.

MOBA will feature its Xsite range of 2D and 3D excavator control systems at the show. These add-on units feature a large touchscreen and the 2D version can be upgraded to the 3D version through GPS data.

The units are used to help position machines and control functions, which are said to increase accuracy, help less able operators, and cut down on the work required to document and check excavation jobs.

Meanwhile, **DANA** will be showcasing its Spicer PowerBoost hydraulic-hybrid powertrain concept designed for off-highway vehicle and materials handling equipment.

This energy management system captures kinetic energy from the drivetrain that would otherwise be wasted, and uses the recuperated energy to help power machines.

Its hydraulic hybrid technology evaluates the power levels needed, predicts operating demands, and determines the most efficient means of operation.

The company has reported field tests of the system integrated with a dualmotor hydrostatic transmission in a series configuration. This included more than 1,000 hours on a 16 tonne front-end loader and more than 500 hours on a telescopic boom handler powered by an 83kW engine.

It said these tests of typical duty cycles had verified fuel savings of over 20% for the frontend loader and over 25% on the telescopic boom handler.

Wear-parts manufacturer MTG specialises in creating innovations in teeth, adapters, shrouds and locking devices for earthmoving machinery.

The Spanish-based company said its equipment teeth were designed to maximise penetration, wear and impact resistance. It will be showing products for a wide range of machines.

This includes the ProMet system incorporated the MTGtwist locking solution, which has been developed to prevent accidents when assembling and disassembling equipment.

The RDS stand at Intermat will focus on its LOADEX 100 material weighing system, which has been developed to be retrofitted for tracked and wheeled 360° excavators.

With an increasing focus on machine productivity, LOADEX 100, which checks equipment bucket loads, is said to have been designed to operate in fast-loading environments.

As the company explained, loading correctly first time eradicates return trips to the stockpile reducing vehicle movement, fuel usage and machine tyre and wear.



KOBELCO's crawler crane line-up for the show will include its G-series models, which have a fully hydraulic operating system for powering joysticks. The company said this gave operators a genuine feel for machine bucket loads, while providing smoothness and precision.

All G-Series models feature the energysaving G Mode to help conserve energy, including functions such as Auto Idle Stop, which shuts down the engine after a predetermined period of inactivity. Models on display will include the 135 tonne capacity CKE1350G, and 250 tonne CKE2500G.

Italian manufacturer MAGNI will be adding to its heavy-lifting telehandler range at

Magni is releasing its heavy-lifting HTH30.12 telehandler at Intermat Intermat with the HTH30.12, which has a

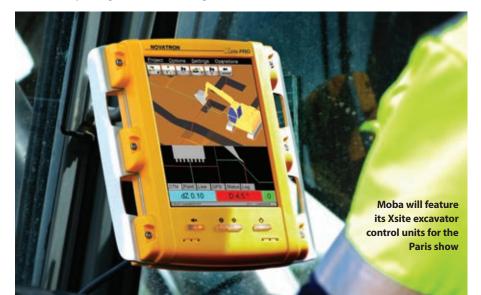
lifting height of 11.72m. It is fitted with a Bosh Rexroth transmission.

The machine has a 30 tonne lifting capacity, featuring a Mercedes 6 cylinder 239KW engine. There is also a cabin air conditioning filter, which the company said made the handler suitable for operating in a range of demanding construction environments.

GEITH will be unveiling products from the company's latest additions. These include a new mechanical coupler for 2 to 4 tonne compact excavators, that allows an attachment to be picked up and secured in a single movement. The system operates with an audio and two visual alerts to confirm safe connection.

There will be two additional models unveiled during 2015 for 1 to 2 tonne and 2 to 6 tonne machines. Also on show will be a new coupler control system, which is said to feature a simple and safe operating sequence.

The new compact design is complete with a wiring harness for plug-and-play installation







which Geith said saved time and money. The new control box, mounting bracket and wiring harness will be supplied as standard in all full hydraulic hose kits.

Swedish firm **ENGCON** manufactures tiltrotators from the EC02B at 1.5 to 3.5 tonnes to the EC30 at 22 to 32 tonnes.

At the end of 2014, it began upgrading its EC-Oil hitch units, starting with the S60, to Q-Safe. It said the Q-Safe quick hitch could be selected with or without EC-Oil.

It said there was a triple safety system. First, the unit's hydraulic safety system senses whether the tool attachment has contact with the ground before operating the quick hitch lock. Then, double mechanical locks prevent the tool or attachment coming loose from the quick hitch, even in the unlikely event of some part of the locking system failing.

Finally, sensors in the quick hitch activate an alert and shut off the machine's hydraulic system, with audio and video alarms alerting the operator, when the lock is open, failing or operating incorrectly.

Engcon also offers the DC2 digging control, which allows control via smartphone. It said that with DC2, a number of the excavator's tiltrotator functions could be controlled directly on the screen of a smartphone. Using a smartphone via Bluetooth – or PC with USB - the speed of the controls could be adjusted at any time, it said.

Personal settings can be stored in the user bank for quick retrieval by each operator, and there is a smart joystick adapter for steering/ controlling all tiltrotator functions.

PHOTO IMAGING

Surveying technology firm TOPCON will be showcasing a wide range of its products at this year's Intermat.

Among its highlights is the DS-200i, which

provides real-time, touch-screen video and photo imaging to capture measured positions.

According to director of geomatics lan Stilgoe, the product's software has an intuitive interface system to assist when staking out complex structures, and is said to deliver significant productivity gains for contractors.

Other innovative releases such as its 3-D positioning system for one-operator layout - the LN-100W, used for BIM (building information modelling) – are also on show.

It will be displaying its range of next generation geodetic GNSS reference receivers and antennas - the NET-G5 receiver and CR-G5-C antenna.

TRIMBLE will be demonstrating how its latest Connected Site solutions connect workers, machines and projects across the planning, design and construction lifecycle

with its mix of hardware, software and mobility technologies.

The company said its systems had been designed to deliver real-time data to contractors and project stakeholders for enhanced information about materials and products, resulting in improved productivity.

Its connected site solutions are said to create greater visibility and control across both large and small projects, helping complete jobs faster, reducing costs and improving safety and environmental impact.

DISPLAY UNIT

EPEC will be demonstrating its new series of high-performance 178mm intelligent 6107 display units designed for use with mobile construction machines

The company said its control units and



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Kobelco will show two G-series crawler cranes, including a 250 tonne capacity model

embedded displays had a robust design and were produced to meet harsh operating environments of mobile machinery.

The series has been developed to operate in conditions ranging from -40°C to 85°C, and protection against mechanical shocks.

After three years of development, a wristworn safety alarm system has been produced, and the company behind it said that Intermat 2015 would be where it begins taking orders.

The device, PACHOM from SWISSTIP, is a bracelet which notifies the wearer through vibrations if they are in dangerous areas while on construction sites. On certain models it also operates as a watch.

The vibrations are achieved by the emission of a signal from an on-site beacon which is picked up by the bracelets in pre-determined areas that are considered dangerous.

This utility is a response to studies by the French National Institute for Research & Safety (INRS), which demonstrate the risks posed by the close proximity of workers and machinery.

SwissTIP said previous INRS reports showed that current systems of accident prevention - ultrasound, radioelectric markers, image analysis, radar and laser - depended too much upon the vigilance of the machine operator, who is then under unnecessary stress from being solely responsible for the safety of those around him.



French-based CTP CONSTRUCTEUR, which specialises in designing and building road maintenance equipment for the construction industry, will be at the show to discuss its latest range of products.

These include recycling solutions for

aggregates and excavation work, plus a range of products for the construction and maintenance of roads.

Its wide range of equipment includes machines such as chip spreaders, combined sprayers and road finishers, as well as providing software designed for management of aggregates used within construction.

French IT firm MISTRAL will be releasing a number of products at Intermat.

This includes MobiVip Smart, a smartphonebased system that allows the sales department of a distributor, renter or importer to monitor activity.

A tablet version, MobiVip Tab, is said to be complementary to MobiVip Smart.

It has additional features such as expense reports management and the ability to conduct studies and process contracts.

Terex Finlay will launch the new J-1170 tracked jaw crusher at Intermat





The all new Warrior 600 will be added to Powerscreen's range at Intermat

INTERMAT STOP PRESSI

Construction machine lighting specialists Tyri, will be showing its new 1323 LED work light

Mistral's MobiTec is tablet-based software for field technicians to have access to such information as client files, locations, contacts, client history, spare parts inventory, payment history and technical documents.

CARBON STEEL

GUERTON, which specialises in the design, creation and manufacture of heavy sheet metal equipment made from carbon steel, will also be at Intermat.

The company provides silos for clients looking for storage solutions and has seen an increasing trend of work within the construction sector. Guerton has worked alongside designers and manufacturers of concrete, coating and liquid screed production centres.

It offers a wide range of single-sheet silos from 20 to 400m³, with larger silos requiring separately bolted sheets. Guerton added that it could supply fully-equipped silos to its customers.

Construction machine lighting specialists TYRI, will be showing its new 1323 LED work light among its range at Intermat.

The TYRI 1323 LED is said to offer a powerful lighting option, delivering a 13,500 effective lumen output with a 6.3 amp draw.

The curved design and range of mounting options is said to make it suitable for multiple applications.

Its durable design is reported to have undergone rigorous testing for salt spray and vibration to ensure it can withstand the harsh environments off highway industries often operate within.

Welsh-based welfare unit specialists GENQUIP GROUNDHOG will be showing its basic Groundhog unit at Intermat.





The GP360D is a single axle mobile welfare unit which can accommodate six people. The company said it met the requirements of the UK's Health & Safety Executive, including sanitary conveniences, washing facilities, provision of drinking water – there is a 20 litre container - and provision for drying clothing, There are also facilities for changing clothes and dining.

Genquip said the unit could be easily towed and that the units could be secured and moved on site by one person in less than three minutes. There are three rooms in the unit - a welfare area with table and bench for up to six people, a toilet area with warm water, and a warm room/generator area.

> Machine simulator firm TENSTAR has collaborated with multifunctional joystick supplier SVAB to create a number of equipment simulators for this year's Intermat.

Tenstar simulators equipped with SVAB's L8 multifunctional joystick grips have been used to create machines ranging from excavators and cranes, to wheeled

ORYX SIMULATIONS is launching an allnew excavator simulator at Intermat - the Oryx 500 Construction Excavator Trainer.

The Oryx 500 is the second in a series of new simulators from the company.

Oryx said operator training for heavy equipment was an investment, and the return on that investment was optimum performance from the start with less machine downtime while everyone learns through experience.

It said that when excavator operators could move more earth in a work cycle, while the using less fuel, profits would increase. It claimed that after using the simulator training from Oryx, skill levels increased to produce operators that contributed to reduced effects on a machine's wear and tear parts.

CONTROLS

CURTISS-WRIGHT will be displaying its ARENS CONTROLS, PENNY & GILES, PG **DRIVES TECHNOLOGY** and WILLIAMS **CONTROLS** brands.

From Arens, it will show by-wire shift

Epec will be demonstrating its new series of high-performance intelligent 6107 display units among its range at Intermat

IINTERMAT STOP PRESS



manual transmissions for on-highway vehicles

including trucks and buses; and off-highway

mechatronic controls including multiple-

function operator consoles and hydrostatic

Key sectors include hybrid vehicle power

management systems such as traction

inverters, DC/DC converters, DC/AC inverters

and power distribution modules.

lever controls.

Tenstar and SVAB have created a number of equipment simulators that will be on show

a range of finger- and handoperated, multi-axis joystick controllers and handle options; linear and rotary positions sensors, tilt sensors and solenoid actuators.

Products from the PG Drives Technology brand include AC, AC/ DC and permanent magnet motor controllers, which have been developed for small industrial vehicle applications.

Also on show will be an integrated, multi-module aerial work control system that controls a platform's entire functionality including variable lift, lower and traction.

Williams Controls brand will be represented by a range of floor, narrow, suspended, LCV, EM and rocker pedals; with complementary systems include lever-operated and rotary electronic hand controls and a range of standard and customizable heavy-duty industrial joystick controllers.

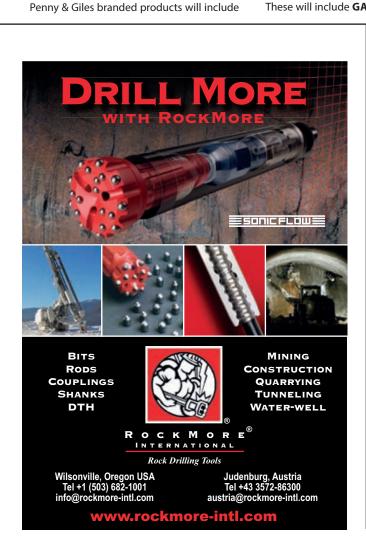
Among the national pavilions will be the UK's CONSTRUCTION EQUIPMENT ASSOCIATION, along with UKTI (UK Trade

This will feature 19 UK exhibitors comprising construction companies, industry suppliers and UK associations.

These will include GATE 7, which specialises



in the supply of vehicle branding, safety, warning and instructional decals; GKD **TECKNIK** which will be displaying its SiteGuard proximity warning systems: NUROCK MIXERS with volumetric concrete mixers; and INTERPART, which supplies replacement alternative parts for JCB machines.





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Cat's Stage IV machines to have 'major impact'

Fuel efficiency is a key part of the launch of a raft of new machines.

Neill Barston

found out more

aterpillar has launched a broad range of Stage IV/Tier 4 Final-compliant construction machines including a new series of loaders. excavators and dozers.

Additions at the lighter end of the range include compact excavators, compact wheeled loaders and backhoe loaders.

Paolo Fellin, Caterpillar's vice president for global sales and marketing, said its latest machines had been developed in response to a requirement to improve productivity and fuel efficiency.

He said, "I think the whole product line will have a major impact on how we are working with our customers and dealerships. For a third year in a row we have made major inroads in terms of our market leadership worldwide, including being number one for excavators in China.

"In my 30 years with the company, I have never seen such a confluence of products coming together at the same



Fellin, "For 2015, we are facing headwinds"



time. With Tier 4, they all have major changes. These are the best products we have ever had in terms of their productivity.

He added, "We had a very good 2014, which was the third most profitable year that we have ever

had. But for 2015, we are facing headwinds, because of what is happening in the world with oil issues and decreases in the Chinese and Russian markets."

Fellin said the first two months of the year had "shown promise", adding that the company faced a challenging year. He explained, however, that a number of improvements had been made that would place Caterpillar in a position to handle market conditions.

He explained that a key part of improving performance and efficiency was the Cat Connect system, which provides fleet owners with a range of information – from location, machine health, fuel consumption and usage levels, to productivity, cycle and payload information, and other job parameters. This is delivered over the Internet using Cat's VisionLink web interface.

Among the company's new excavators is the 336F XE hybrid.

The 313F L GC excavator features new Cat Connect monitoring systems





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This is an update of the 336E hybrid, with a 235kW Stage IV engine. The machine is said to be capable of fuel savings of up to 20% over standard models.

It is available in L and LN undercarriage configurations, and includes a factory-installed payload management system, which Caterpillar claimed was unique within the excavator segment.

Fuel savings are achieved through a variety of means. First, the engine output is matched to the loads on the machine, complemented by an intelligent hydraulic valve which delivers oil flow as it is required. In addition, waste energy from the braking of swing movements is captured by hydraulic accumulators, and re-used in other hydraulic functions.

STAGE IIIB

Another new model in the range is the 313F L GC excavator. Its 52kW engine achieves EU Stage IIIB emissions standards, rather than Stage IV regulations which apply only to 56kW engines and above at the moment.

With an operating weight of 13.3 tonnes, it has high-power and economy operating modes. Its Cat Connect technologies, which are integrated into the machine's monitoring system, are intended to help users improve overall fleet management. It features a one-pump hydraulic system that is said to offer operating flexibility for a range of construction tasks.

Caterpillar's latest dozer, the D6N, is said to deliver up to 15% savings in fuel over previous models. The 16.8 tonne machine's fuel-efficiency gains result from its new direct-drive transmission.

There is a lock-up clutch that allows the D6N to carry loads in direct drive for optimum fuel



efficiency, while the auto shift system allows operators to select the optimum ground speed for the load being moved.

Productivity gains in typical applications are estimated at up to 10%, compared with the previous model.

The dozer is equipped with Cat Connect to help manage construction tasks. Its grade systems use digital design data, in-cab guidance and automatic blade control, which help achieve greater accuracy for operators.

There are several options available, including Cat Slope Indicate, which displays machine cross-slope and mainfall on the primary monitor, helping operators work more confidently on slopes. This is linked to a stable blade option that compliments an operator's blade-control for achieving finished grades with less effort.

The D6N is powered by a 124kW Cat C7.1 Acert engine which meets Stage IV emissions standards.

New wheeled loaders include the Cat 950M and 962M, which are fitted with Stage IV Cat C7.1 Acert engines. They are said to be 10% more powerful than previous models, as well as being up to 10% more fuel efficient.

This has been achieved through a redesigned hydraulic system and the new engine.

Rated at 171kW, the new 950M's engine produces 9% more power than its K-Series counterpart, and the 962M's engine, rated at 186kW, has 13% more power than the model it

Peak torque is up an average 18% for the new loaders. They also have an economy mode, which automatically senses powertrain load and adjusts engine speed and torque for optimum performance.

The machines' operator environments have been improved with a new electrohydraulic joystick steering system. This has speed-sensing force feedback that the company said offered greater comfort and

There is also a new multicolour touch-screen display that simplifies the operation of key controls, a rear view camera and an integrated production measurement system. Operators are now able to view payload information on-screen in the cab, making it easier to monitor productivity levels.

The latest models also offer drivetrain refinement over previous models, as well as new cab amenities, optimised Z-bar linkage (combining enhanced bucket performance with parallel lift), and performance buckets and work tools.

WHEELED LOADERS

Other new models in what Caterpillar terms the small wheeled loader segment include the 926M, 930M and 938M. These machines have been developed with a power boosting system for improved road speed. The series is powered by a Cat C7.1 Acert engine and range in weight from 13.4 tonnes to 16.3 tonnes.

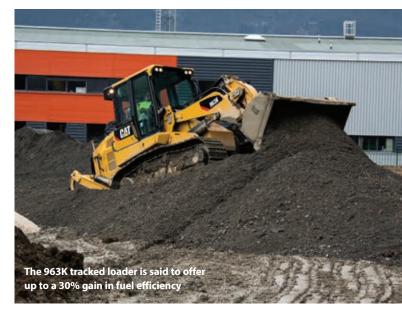
The four-range electronicallycontrolled hydrostatic drive now includes operator-selected powertrain modes including a refined torque converter mode that allows the machine to freewheel down hills and around grades.

There is also an ice mode to improve control in slippery conditions. Caterpillar added that tests showed the torque converter mode resulted in up to 5% fuel saving over previous models.

The new 963K tracked loader is building on Caterpillar's previous models, and is said to offer up to a 30% gain in fuel efficiency. It also has an updated cab and new safety features.

With an operating weight of 20.8 tonnes, the 963K is powered by a twin turbo 144kW Cat C7.1 Acert Stage IV engine. Its eco





EQUIPMENT

mode automatically reduces engine speed while maintaining selected ground speed when the machine is under light load.

According to the company, fuel savings of between 10% and 30% are possible compared with the previous model. It is said to offer further productivity with an optional high retention bucket that moves 5% more material per hour. For added versatility, it can be ordered with an optional fusion quick coupler to allow quick changes of forks and buckets.

MINI EXCAVATORS

Three compact radius Cat E2 series mini hydraulic excavators have also been unveiled.

The 305F2, 305,5F2 and 308E2 cover the 5.5 tonne to 8.5 tonne weight ranges, and will be produced at Caterpillar's new 78,968m² facility in Athens, Georgia, US.

Among the series' main upgrades is a High Definition Hydraulic System which provides load sensing and flow sharing capabilities, improving precision and controllability.

Standard features include automatic twin-speed pilot controls, which allow operators greater flexibility and control.

The design of its bucket allows for 200° of bucket rotation, which is said to increase material handling capacity. The 305E2 includes a redesigned operator station and have a digital control panel that offers improved control over its hydraulic systems.

The company has also released its new M series of compact wheeled loaders, including the 906M, 907M and 908M, which

feature optimised Z-bar loader linkage, and are said to offer aggressive digging power with parallel lift.

They are powered by an EU Stage IIIB 55kW engine, and have been designed with high-flow hydraulics for a broad range of construction applications.

The series, which ranges in weight from between 5.6 tonnes and 7.2 tonnes, is available with a range of work tools and couplers that the company said ensured its versatility and productivity. There are a number of options including a highspeed configuration, ride control system and high-flow hydraulics.

Several new backhoe loaders have been released. The F2 series comprises the 427F2, 428F2, 432F2 and 434F2, which feature a new operator environment as well as new engines.

Cabs have been restyled with better visibility of the loader attachment when at full height. In addition, the range has bluetooth connectivity, allowing site data to be exchanged efficiently.

There is also an in-cab



telematics system in order to track machine movement and provide operating statistics.

The 427F2 features a Cat 3.4B 55kW engine, with a diesel particulate filter, which complies with Stage IIIB emissions regulations. It is said to be 10% more fuel-efficient than its predecessor model.

Its other new models in the series - the 428F2, 432F2, 434F2, and 444F2 - are equipped with the Cat C4.4 Acert engine. These

range in power from 70kW through to 74kW and have a selective catalytic reduction (SCR) exhaust aftertreatment system.

Caterpillar's Stage IV dealer readiness manager Mary Roethler said the company had started an awareness programme among dealers on emissions legislation.

She said the company had focused on how equipment with Stage IV engines could be operated in less regulated markets through de-tiering.

Last autumn, the company announced its first de-tiering kits for its engines, which allow used machines from Europe, Japan or the US to be sold and operated in parts of the world where regulations are not as strict and fuel quality may not be as high.

She said, "Emissions regulation is a big issue for the industry, especially in terms of used equipment sales.

"Our 320 excavator is one of the first machines that have gone out to less regulated markets. We have taken a phased approach about how to handle this issue and we have now issued a number of de-tiering kits. It is something we are doing with even more of our products."

She added, "It will affect products like wheeled loaders that have had aftertreatment systems for Stage IV emissions that may not be required for use in another country.

"This means that there may be an option to remove such systems or maintain them to keep the certified status of the machine."

On the issue of proposed Stage V emissions regulations, which are expected in 2019, she added that discussions had yet to take place on deciding precise emissions criteria. ce





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Dozer claims smoother flow

omatsu Europe International has launched the D85EX/ PX-18 crawler dozer, with operating weights ranging between 26,800kg and 30,190kg depending on machine configuration.

The D85EX/PX-18 is powered by a 197kW Komatsu SAA6D125E-7 engine that is EU Stage IV certified.

It is said to have been built on a solid foundation initiated in 1996 with the introduction of Komatsu's Tier 1 engines.

William Groven, product manager for dozers, said, "Thanks to its automatic transmission, the D85EX/PX-18 always operates in its most efficient working range.

"This function drastically enhances the machine's productivity and lowers its fuel consumption, making it the most fuel efficient in its class."

The D85EX-18 is equipped with the Sigmadozer blade, which gives the machine a high blade capacity of 7.2m³. The

company said the Sigmadozer improved dozing performance and increased productivity by up to 15% over a conventional Semi-U blade.

The blade features a frontal design concept adopted for digging and rolling material at the centre of the blade. Komatsu said soil-holding capacity was increased and digging resistance reduced for a smoother flow of material. Larger amounts of soil can be dozed with less power, it



The D85EX-18 is equipped with the Sigmadozer blade

Genie telematics connector fitted

The latest deliveries of a wide range of Genie products feature a factory-installed telematics connector designed to increase equipment security and optimise the performance of rental fleets.

With an eight-pin connector, the new Genie Telematics Connector provides an interface between the electrical control system of Genie products and any third-party telematics modules currently available on the market.

The connector is currently available as standard in Europe on Genie S telescopic booms, Z diesel articulating boom lifts, the Z-40/23 narrow articulating boom lift, Runabouts and scissor lifts. By the end of 2015, all Genie aerial work platforms and telehandlers will also be telematics-ready, said the company.

Fuel check added to control panel

new 21 tonne Stage IV-compliant wheeled excavator has been introduced by Doosan Construction Equipment, which said the DX210W-5 set a new benchmark for wheeled excavator design worldwide.

Doosan said the new machine styling scheme was common to all new Stage IV machines from Doosan, and that the new DX210W-5 offered enhanced comfort and controllability together with new features to boost fuel efficiency, uptime and return on investment, with a focus on increased power, robustness and agility.

As with all Doosan Stage IV excavators above 14 tonnes, the DX210W-5 is factory-installed with the new CoreTMS wireless fleet monitoring system.

The new excavator is powered by a 6-cylinder, turbo charged Doosan DL06P water-cooled diesel engine, providing

an output of 141.2kW at 1,900rpm. It said this was a 17% increase in engine power over the previous generation. The engine meets Stage IV without the need for a diesel particulate filter (DPF), through the use of cooled exhaust gas recirculation (EGR) and selective catalyst reduction (SCR) after-treatment technologies.

Doosan claimed that innovative and exclusive features had been introduced that reduce fuel consumption by an average of 10%. Among these features is the new Trip Meter Setting screen which allows operators to check fuel consumption daily (or over a desired period) directly from the control panel. Also, to save even more fuel, there is a Doosan-developed system, Smart Power Control (SPC), which monitors both engine

and pump power, and limits unnecessary outputs depending on whether the work is light or

Further fuel efficiency results from the electric fan clutch on the DX210W-5 excavator which drives the cooling fan at optimum speed. Based on coolant, hydraulic oil, cooled charged air temperatures and target engine speeds, the fan speed is controlled electrically - resulting in much lower fan noise and better fuel efficiency, said Doosan



Smart Power Control

both engine and

(SPC) monitors



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