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BUSINESS DEVELOPMENT

DIRECTOR

Peter Watkinson



Having already written lots of product news for the upcoming Bauma show, it was surprising to have so much more to write about it again this month. Details of new products being launched at the Munich exhibition have continued to pour in and it would be great to have more space available to include more of it.

Talking of space, even with an incredible 570,000 square metres, many of the more than 3,300 exhibitors at this year's record Bauma would have taken more, given the chance, and there is even a waiting list. With the amount of new products already announced and a good number of surprises still to come, it promises to be a fantastic event. More details about new cranes, transport equipment and components appears in the bauma stop press feature on page 15.

All the above-mentioned product development on show at Bauma was achieved despite the vast proportion of crane manufacturers' engineering resources in recent years being diverted into making cranes comply with the latest European and US engine exhaust emission regulations. It is a major issue that deserves more attention. We flag it up in this issue of *IC* with an initial story about the challenges, what is involved and what it means for end users.

Repowering is a technical minefield with several wide ranging implications. These include: restricted markets for used cranes; difficulty moving and using cranes in different regions around the world; extra cost to buy the crane; added weight that steals lifting capacity; increased maintenance; and more complicated operation. Looking into the issue also gives an idea of the sort of challenges that manufacturers of cranes, engines and ancillaries have to deal with and the amount of effort it takes from them to sort it all out, just to comply with legal requirements. See the feature on page 57.

I am sure that the engineers would rather be designing and developing new technical solutions that would better make money for their customers.

ALEX DAHM

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ON THE COVER



An exclusive first view of the new 1,000 tonne capacity Liebherr LR 11000 lattice boom crawler crane. See it at the Bauma exhibition in Germany. More on page 15.

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CONTENTS

NEWS 6

A roundup of news from the sector worldwide

BUSINESS 13

Chinese manufacturers' share prices have pushed the IC Share Index down when broad stock market indicators were setting new records.

Chris Sleight reports

SITE REPORT 23

A Liebherr tower crane works on a 20-year project at an open-pit mine. IC reports

BAUMA STOP PRESS 15

The last minute news on what to see at Bauma, the world's biggest exhibition, for the construction industry. IC reports



WIND POWER 27

What are the next developments for the wind power industry? Laura Hatton investigates



SPECIALIZED TRANSPORT NEWS 37

A roundup of news from the sector

SPECIALIZED TRANSPORT 39

A 147 tonne 3.6 MW wind turbine nacelle is transported to the Siemens training facility in the UK. David Weston reports

TOWER CRANES 47

London, UK, presents obstacles for high rise construction projects. Heinz-Gert Kessel reports

PRODUCT NEWS 55

Manitowoc launches a Potain flat top tower crane for emerging markets. IC reports

EMISSION LAWS 57

The industry is working hard to catch up with the latest engine emission legislation but it is a tough challenge. Laura Hatton investigates



IC50 ENTRY FORMS 62

It is time again to submit information for *International Cranes and Specialized Transport* magazine's IC50 listing of the world's largest crane-owning companies

REMOTE CONTROLS 67

Remote controls for the lifting industry now include some of the latest safety technology. Laura Hatton finds out more



CATLA PREVIEW 73

The market in Brazil is drawing top speakers to the 2013 Cranes and Transport Latin America conference. Graham Anderson reports

SITE REPORT 77

Three Link-Belt tower cranes with new engines on site at the new World Trade Center, New York, USA



ESTA NEWS 85

A record 73 entries for the 2013 ESTA Awards of Excellence. IC reveals the shortlisted companies

EQUIPMENT AND ACCESSORIES 87

A selection of equipment and accessories for all sectors of the lifting industry

OBITUARY 89

Christian-Jacques Vernazza
13 March 1948 – 18 March 2013

BACK PAGE 91

People news, Events diary, Picture of the month



SC&RA

SC&RA COMMENT 81

Comment from Joel Dandrea

SC&RA NEWS 82

Record attendance for STS, SCR foundation scholarship, International Crane Stakeholders Assembly meeting.

MEMBER OF



HIGHLIGHTS

■ IC regrets to announce the death of Christian-Jacques Vernazza, chairman of Mediaco and president of ESTA, on 18 March. An obituary appears on page 89.

■ It is that time of year again to enter your company for the IC50, the original ranking of the world's largest crane-owning companies. Entry forms for the 2013 listing are on page 62 or available for download from www.khl.com at <http://bit.ly/10PEoQH>

■ All Erection & Crane Rental in the USA has expanded its fleet with 66 new Link-Belt cranes. Included are 14 truck cranes, 32 rough terrains and 20 crawlers. Michael Liptak, All president, said, "It's a huge deal, but a regular part of our annual fleet expansion. Doing such a large package here in the first quarter reflects more on the surging appetite for cranes." The cranes will be delivered across the company's 34 branches throughout 2013.

■ Lifting and heavy haulage company Auto-Klug in Germany has taken delivery of a 220 tonne capacity Grove GMK5220 all terrain crane.

■ Rigging, heavy hoisting, and heavy hauling company Crane Service, based in New Mexico, USA, has added a new 250 tonne capacity class Terex AC 250-1 all terrain crane to its fleet. The AC 250-1 joins an AC 100/4L.

■ Lifting contractor Wasel, in Bergheim, Germany, has added 20 Liebherr mobile cranes to its fleet. The order includes a 750 tonne capacity LTM 1750-9.1 wheeled mobile telescopic crane, which will be used to assemble wind turbines. Matthias and Thomas Wasel, Wasel directors, have also ordered a Liebherr LG 1750 lattice boom wheeled mobile crane.

Giant cranes arrive at UK super port

The first delivery of ship to shore gantry cranes has arrived at the DP World London Gateway, the UK's new global shipping port on the north bank of the Thames Estuary in Thurrock.

The first three cranes, built and delivered by Shanghai Zhenhua Heavy Industries Company (ZPMC), arrived on Friday 1 March 2013. Two more are due on 15 April to be followed by 19 more. The cranes weigh 2,000 tonnes each and at full height stand 138 metres tall. They will operate on a new 2.5 km quay wall that has foundations 50 m deep.

Simon Moore, CEO, DP World London Gateway, said, "London Gateway port, and the combined logistics park, is Britain's new gateway for global trade. These cranes will bring new innovation and efficiency to the supply chain industry. It won't be long before importers and exporters across the country will be able to cut costs from their supply chains by choosing London Gateway."



The cranes on the quay of the DP World London Gateway, the UK's new global shipping port

Ahsan Agha, London Gateway mechanical and electrical services manager, is responsible for the design and build of the cranes. When the cranes arrived he said, "These cranes are what London Gateway is all about. They are future-proofing Britain's ability to trade with the rest of the world and I'm proud to see them arrive. It's a huge step forward for the whole team at London Gateway."

The super port will serve 0.5 km long ships that can

carry more than 10,000 containers. The cranes at the London Gateway are designed to serve container ships, which can carry 18,000 containers.

At full build London Gateway will create approximately 36,000 jobs, with 2,000 workers employed directly at the port and around 10,000 employed in the logistics park.

Look out for more on this project in *International Cranes and Specialized Transport* and at: www.khl.com

Konecranes Goliath gantry for Brazil

Brazilian shipyard Estaleiro Enseada do Paraguaçu (EEP) has ordered a Goliath gantry crane from Konecranes.

The Goliath gantry crane has a lifting capacity of 1,800 tonnes, a lifting height of 114 meters, and is 150 m high. It is one of the largest gantry cranes in the world and has been designed to operate independently in lifting heavy dry dock assemblies, the company said.

Jussi Rautiainen, Konecranes general manager, shipyard cranes, said, "We

made a commitment some time ago to support EEP in their search for an optimal lifting solution for heavy assembly cranes. We are now very happy to have signed the agreement for the delivery of the crane. Supplying the key equipment to the shipyard enables us to integrate other lifting equipment and services around it."

The new EEP shipyard has been under construction since 2012. The shipyard will begin operations in 2014 with a focus on building and



The Konecranes goliath gantry crane has a lifting capacity of 1,800 tonnes

assembling offshore units such as platforms, specialized ships and drill rigs.

WILBERT SEEKS INVESTMENT

Following February's news of Wilbert Turmkrane entering administration (*IC* February 2013 page 10), the tower crane manufacturer said it is continuing its business operations while searching for a new investor.

Insolvency administrator Martin Lambrecht and the founder of the German company, Franz-Rudolf Wilbert, said on 26 February, that they have stabilised the business and retained all 129 employees. Lambrecht has engaged KPMG as an advisor to search for a new investor.

"In recent weeks many strategic and financial investors have already indicated their interest in the company," Wilbert said.

Wilbert said it filed for insolvency because many leasing companies and financial institutions are no longer willing to finance the purchase of cranes.

The other companies of the Wilbert Group are active in the crane rental business and are not affected by the insolvency of Wilbert Turmkrane GmbH.

Wilbert Group reported 2011 sales of €59 million (US\$ 77 million) with a workforce of 200.

Sennebogen launches 130 tonne HD crawler

A new 130 tonne duty cycle crawler crane, the 6130 HD, will be launched this month by Sennebogen.

To launch the heavy duty model the German manufacturer is using the Bauma exhibition in Munich, close to its factory. Duty cycle cranes differ from machines designed purely for lifting in terms of their power and structural design to give them the strength to cope with sudden high loads that are part of foundation construction, dragline work and demolition. The difference is also illustrated in raw power. Whereas a 130 tonne capacity pure lift crane might have about a 250 or 300 kW engine, the 6130 HD comes with the choice of a 570 kW or 708 kW Cat diesel.

Improvements on the new model focus on efficiency. "One key discussion today

is fuel consumption, and improving efficiency is a crucial development point for us. There isn't scope to save 30% or 40% but we have done a lot with things in the hydraulic system, hose diameters, diameters in the valve block, and worked on things like the pump and motor

regulation, and those are areas where we can find 5, 10 or even 15% more efficiency," Erich Sennebogen, Sennebogen CEO, said.

Another key feature is the telescopic undercarriage, which narrows down to 4.0 m for transport, compared to the 5.1 m width that is used on site.

FORMER PETROBRAS EXPERT CONFIRMS SPEAKING SLOT

One of Brazil's leading experts on heavy lifting and construction management in the industrial and offshore sectors has been confirmed as a keynote speaker at the upcoming International Cranes and Transport Latin America conference, which takes place in Sao Paulo, Brazil, on 4 June.

Simao Marcelino Da Silva Tuma is an engineer by training and works as a consultant for Alvarez Consulting Engineering. He has previously worked at the state-controlled oil and gas company Petrobras and spent 33 years as a construction manager.

He will be speaking on the challenges facing Brazil's fast-growing crane and heavy transport industry, especially in safety and regulation.

■ For further information on the conference, please see the event preview on page 73, or go to www.khl.com/catla

Sarens in 750 tonne column lift

International crane and transport specialist Sarens chose a Terex CC 9800 lattice boom crawler crane to load support columns onto a vessel for an offshore wind farm in the Baltic Sea. The columns were loaded at Rostock Port in Germany.

The CC 9800 uses the same machine components as the larger CC 8800-1 Twin lattice boom crawler crane. Its maximum load moment is given by the manufacturer as 26,930 tonne-metres. Capacity using 800 tonnes of superlift counter weight is 1,122 tonnes at 24 metres radius.

To complete the lifts the crane was set up in SSL configuration with 66 m of main boom. The counterweight on the superstructure weighed 235 tonnes.

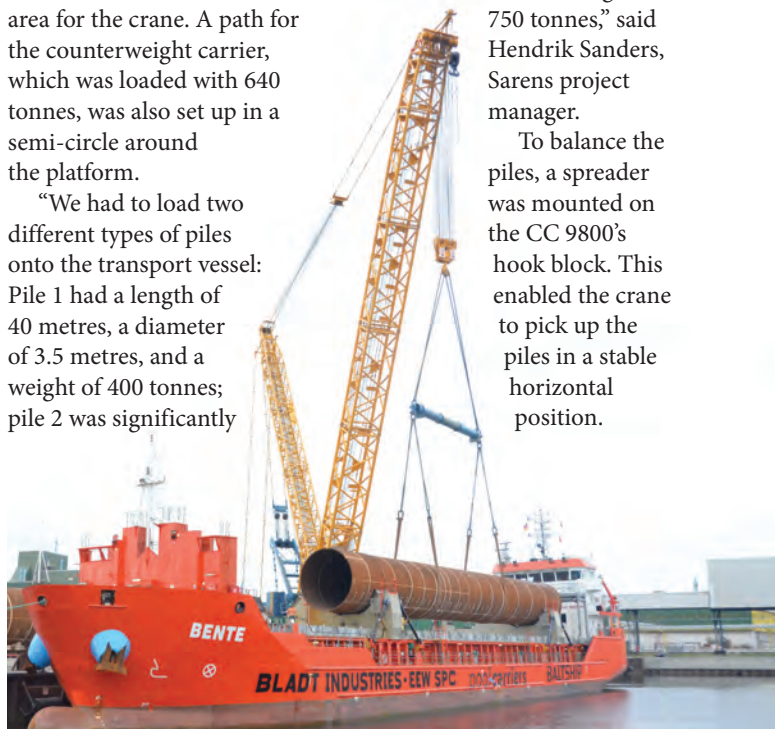
A platform made of concrete, steel plates

and wooden planks was constructed on the wharf at Rostock to stabilise the work area for the crane. A path for the counterweight carrier, which was loaded with 640 tonnes, was also set up in a semi-circle around the platform.

"We had to load two different types of piles onto the transport vessel: Pile 1 had a length of 40 metres, a diameter of 3.5 metres, and a weight of 400 tonnes; pile 2 was significantly

heavier and larger with a length of 70 metres, a diameter of 3.9 metres, and a weight of 750 tonnes," said Hendrik Sanders, Sarens project manager.

To balance the piles, a spreader was mounted on the CC 9800's hook block. This enabled the crane to pick up the piles in a stable horizontal position.



Contracts worth \$285 million for Sparrows

Offshore lifting and mechanical handling company Sparrows in the UK has secured new business deals worth £190 million (US\$285 million).

The contracts will secure 134 existing jobs on and offshore while 54 new positions have already been created with more expected to follow, the company said.

Sparrows is headquartered in Aberdeen, Scotland, and provides offshore lifting and mechanical handling services to the oil and gas industry. The contracts are with Shell, CNR, ConocoPhillips, Perenco and Wood Group in the North Sea.

Renewed contracts include work with BP in Angola and CNR in Gabon and Cote d'Ivoire. The European and

African contracts, worth £150million (\$225 million), will be managed from the Sparrows operating base in Aberdeen, the company said.

In addition, the company has also won orders and contracts worth an additional £40 million (\$60 million) in the USA, Middle East and Asia.

Sparrows chief executive officer, Doug Sedge, said, "We will be reporting robust results for 2012 later this year and, with these latest contract wins, are well on course to deliver exceptional results for 2013. Our focus is firmly on excelling in delivery for our clients. We have a strong reputation for delivering on our promises and this is underlined by the amount of renewals we are securing."



Olympic Park demo outing for Keltbray

Demolition contractor Keltbray in the UK assisted main contractor Balfour Beatty in the latter's work in clearing the London Olympic Games site as part of the Queen Elizabeth legacy project by lifting the Stratford City Bridge. Designed by Tony Gea & Partners, the structure served to provide primary access for visitors entering the Olympic Park from the Westfield Shopping Centre. With five main girder trusses, some of which weighed more than 75 tonnes, the removal was the largest single lifting operation ever undertaken by the company.

The bridge, more than 70 metres long and 30 m is being recycled. The timber decking was removed 90% intact, with most of it donated to a sustainable eco-garden at the Cre8 Lifestyle Centre in Hackney Wick, London. The remaining materials are being crushed and recycled in

other projects.

Keltbray lifting operations manager, Steve Leyton said, "A Liebherr LG 1550 550 tonne mobile crane was used to lift the main girders as part of the single biggest lift operation Keltbray has ever completed."

IRONPLANET ACQUIRES APPRAISAL FIRM

Online auctioneer IronPlanet has acquired Asset Appraisal Services (AAS), an inspection, appraisal and online auction services company, which is headquartered in Omaha, Nebraska.

"Their expertise in inspections will further enhance IronPlanet's exclusive IronClad Assurance and inspection services capabilities, while their deep experience and relationships in the truck market will strengthen our expansion in this growing sector of our business," commented Greg Owens, IronPlanet CEO.

"I am excited that Asset Appraisal Services has joined IronPlanet, the pioneer of online equipment auctions," said Michael Cox, president and founder of AAS.

MODULIFT FOR ROLLS-ROYCE

Spreader beam manufacturer Modulift supplied equipment to lift a Rolls-Royce MT30 gas turbine in the UK.

The turbine was installed into the Royal Navy's new aircraft carrier *HMS Queen Elizabeth*, at the Babcock Rosyth Shipyard in Scotland.

Modulift was approached by Rolls-Royce to design and manufacture spreaders to lift the 36 megawatt (MW) MT30 turbine. The turbine weighs 50 tonnes and will provide two thirds of the 109 MW needed to power the aircraft carrier.

The *Queen Elizabeth* weighs 65,000 tonnes and is the largest British naval ship ever built.

Sue Caples, Modulift operations manager and head engineer, said, "The gas turbine had a 75/25 offset centre of gravity which meant that we had to design a lifting rig that would enable the turbine to be lifted level despite the extreme offset CoG."

"We achieved this by designing a '1 over 2' lifting rig that had different length top slings so that the crane hook would be directly over the centre of gravity during the lift. It is important for loads to be lifted level, particularly for installations such as this one."

New lifters from Galizia

The GF25 works at a Pirelli factory in Italy



Galizia has delivered the first units of the new model GF25 and Multis 215 industrial lifting machines.

The two models from the Italian manufacturer are based on the same chassis, however, the GF25 is a pick and carry crane, while the Multis 215 is an electric multipurpose industrial telehandler.

Features of the Multis 215 include a front tool holder plate with hydraulic auto-levelling. This design means it is possible to quickly and safely fasten forks, operator platform,

suction system, or jib, the company said.

Both models, which are electric, have compact dimensions and use a front two-motor drive system, which was installed on the GF200.

The GF25 and the Multis 215 will be on show at the Bauma exhibition in Germany this April, together with the Multis 636, which has been fitted with a special vacuum system. A special version of the F200 along with other models of the Galizia range will also be on show.

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HIGHLIGHT

■ Auctioneer Ritchie Bros sold more than US\$ 44 million of equipment at a two-day unreserved public auction in Fort Worth, Texas, USA. More than 3,900 bidders and 2,300 online bidders registered for the auction, which was held 5 and 6 March.

■ Cargo and load handling company Kalmar has secured an order for port equipment to Venezuela's government-owned port operator Bolivariana de Puertos (Bolipuertos). It includes a zero emission rubber-tyred gantry crane, 30 Kalmar reach stackers, eight heavy forklifts, nine light forklifts, seven heavy terminal tractors and 41 medium terminal tractors. It is part of the investment from the Venezuelan government into the two main non-petroleum export ports Puerto Cabello and La Guaira.

BP adds second Grove RT

A second Grove rough terrain crane has been added to a maintenance fleet at BP's Chembel refinery plant in Geel, Belgium.

The Grove RT9150E has a 135 tonne capacity and a 60 metre main boom, which can be increased to 81 m with the use of a bi-fold swing-away extension. It can lift 3.6 tonnes at 39 m radius. It will be used to carry out maintenance work on the 1,150,000 square

metre site all-year around, the company said.

Paul Spaepen, CEO of Belgian Lifting & Equipment Company, the Grove dealer that supplied both cranes, said the Chembel plant is one of the few refineries to conduct its own maintenance.

"This Grove RT9150E is far more compact and easier to

manoeuvre than an equivalent capacity all terrain crane and it is ideal for the congested industrial environment in which it will operate," he said.

The new crane will work alongside an 80 tonne capacity Grove RT890E rough terrain. The RT9150E replaces an old 80 tonne capacity all terrain crane.

NEW CRANE FOR TYNESIDE

A new crane standing 64 metres tall will bring new life to the former Swan Hunter shipyard at Tyneside in the UK.

Local Wallsend businesses WD Close & Sons and Titan Heavy Transport are responsible for the new crane. It will be used to transfer heavy manufacturing goods in and out of Tyneside by river. The facility will have the capacity to lift 240 tonnes. Previous cranes at the site were demolished in 2007.

North Tyneside Mayor Linda Arkley said, "I know that the local population had a great affection for the previous giant cranes that used to be based on the Swan Hunter site. This new crane will be a positive marker that Swan Hunter is back open for business."

Jupiter Offshore Services invested in transporting the crane from Holland. The company is formed by Dean Close, of WD Close, an engineering company, and Chris Taylor, of transport company Titan.



The Grove RT9150E rough terrain crane

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Cranes miss rally

Investors in the USA seemed to find new confidence in March, with the Dow setting a string of new record highs. In fact, there was buoyancy in many markets, with the FTSE 100 in the UK rising to its highest level since mid-2007, for example.

This was a little surprising given factors such as the US\$ 85 billion in budget cuts that will hit the USA this year as a result of sequestration, and the downgrading of the UK's credit rating by Moody's. The markets, however, were clearly disposed to give more weight to positive news, such as up-beat economic forecasts for the second half of the year, and an improving picture in the USA for employment and housing starts.

Despite all these positives, crane manufacturer shares lost ground. While the Dow was up 3.26% between weeks 9 and 12, the *IC Share Index* lost 4.64% of its value. Although there were some useful gains over the course of the month – Manitowoc and Tadano stood out – declines for many of the large Chinese construction equipment manufacturers did a lot to pull the sector down. There was also weakness elsewhere, which did not help – Konecranes, Kobe Steel and Palfinger also saw their share prices fall.

Looking over the longer term, there is clearly a disconnect between crane manufacturers, particularly the Chinese, and the wider

markets. Compared to 12 months ago, the Dow is up 11.24%, the FTSE 100 is not far behind at 9.55% up and the Nikkei is a huge 25.32% ahead. Compare that to the *IC Share Index*, which has lost 5.03% of its value over the last year.

It is clearly the Chinese manufacturers' shares that are pulling the sector down. The Legacy *IC Share Index*, a longer-running index for the sector, which excludes Chinese manufacturers, is up 9.91% compared to a year ago. And looking down the list of companies that make up the *IC Share Index*, it is generally the Chinese that have lost most ground over the last year.

Indeed, all other manufacturers apart from Kobe Steel have gained ground.

This would seem to point to continued weakness in the Chinese construction sector as a whole. While the likes of Liugong, Sany, XCMG and Zoomlion have done a lot to internationalise their businesses over the last few years, including major overseas acquisitions, their domestic market still accounts for the majority of their revenues.

The logical conclusion of this is that despite buoyancy on other markets, the *IC Share Index* will not start to recover until the Chinese construction market bounces back. ■

Chinese manufacturers' share prices have pushed the *IC Share Index* down when broad stock market indicators were setting new records. CHRIS SLEIGHT reports

MARCH *IC SHARE INDEX*

STOCK	CURRENCY	PRICE AT START	PRICE AT END	CHANGE	% CHANGE	PRICE 12 MTHS AGO	12 MTH % CHANGE
<i>IC Share Index</i>*		71.77	68.44	-3.33	-4.64	72.06	-5.03
Legacy <i>IC Share Index</i> **		333.64	331.30	-2.34	-0.70	301.43	9.91
Dow Jones Industrial Average		14054	14512	457.54	3.26	13046.14	11.24
FTSE 100		6380	6432	52.49	0.82	5871.28	9.55
Nikkei 225		11606	12546	940.08	8.10	10011.47	25.32
Hitachi Construction Machinery	YEN	2085	2101	16	0.77	1795	17.05
Konecranes	€	28.24	26.05	-2.19	-7.75	20.49	27.14
Kobe Steel	YEN	126	111	-15	-11.90	135	-17.78
Liugong	CNY	9.84	9.07	-0.77	-7.83	13.38	-32.21
Manitowoc	US\$	18.52	20.65	2.13	11.50	14.19	45.53
Palfinger	€	21.00	20.35	-0.65	-3.10	17.60	15.63
Sany Heavy Industry	CNY	11.78	10.86	-0.92	-7.81	13.25	-18.04
Tadano	YEN	907	1088	181	19.96	598	81.94
Terex	US\$	32.81	35.21	2.40	7.31	23.52	49.70
XCMG	CNY	12.20	11.54	-0.66	-5.41	14.64	-21.17
Yongmao Holding	SGD	0.11	0.12	0.01	7.14	0.10	16.50
Zoomlion	CNY	9.36	8.56	-0.80	-8.55	9.08	-5.73

**IC Share Index*, 1 Jan 2011 = 100

**Legacy *IC Share Index*, end April 2002 (week 17) = 100

EXCHANGE RATES – US\$

CURRENCY	VALUE AT START	VALUE AT END	CHANGE	% CHANGE	VALUE 12 MTHS AGO	12 MTH % CHANGE
CNY	6.22527	6.213052	-0.0122	-0.20	6.3066	-1.48
€	0.6591	0.6568	-0.0023	-0.35	0.6329	3.78
Yen	92.65	94.68	2.03	2.20	83.09	13.95
UK£	0.7646	0.7697	0.0051	0.67	0.7595	1.34

Period: Week 9 – 12

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Here's the last minute news on what to see at Bauma, the world's biggest exhibition for the construction industry. *IC reports*

Showtime

Momentum is building for the biggest show in the industry's calendar as the Bauma exhibition prepares to open its doors to hundreds of thousands of visitors. Munich in Germany hosts the 15 to 21 April show where, considering a couple of major factors, a surprisingly large number of new cranes, transport equipment, components, accessories and services will be launched.

Following on from our main show guide in the March issue, here we present the last minute news of what will be seen for the first time at Bauma.

Lifting range

As this issue went to press Terex confirmed that it will show its new 650 tonne capacity Challenger 3800 lattice boom crawler crane. It will be displayed with super lift. Also making its debut will be the first model in a new family of five axle all terrain cranes. The 220 tonne capacity class Explorer 5800 can meet any configuration from 9.1 to 16.5 tonnes per axle for operation in all world markets, Terex said. Axle spacing is 2.44 metres, carrier length is 13.2 m, boom overhang is 1.2 m and



Comer slew drive for tower cranes

there are boom-off and dolly options to help meet road regulations.

The Explorer 5800 is a single-engine crane with a six-section, 70 m, boom and maximum system length of 103 m. Maximum load moment is 660 tonne-metres and it has the strongest lift chart over its entire working range in its capacity class, Terex said.

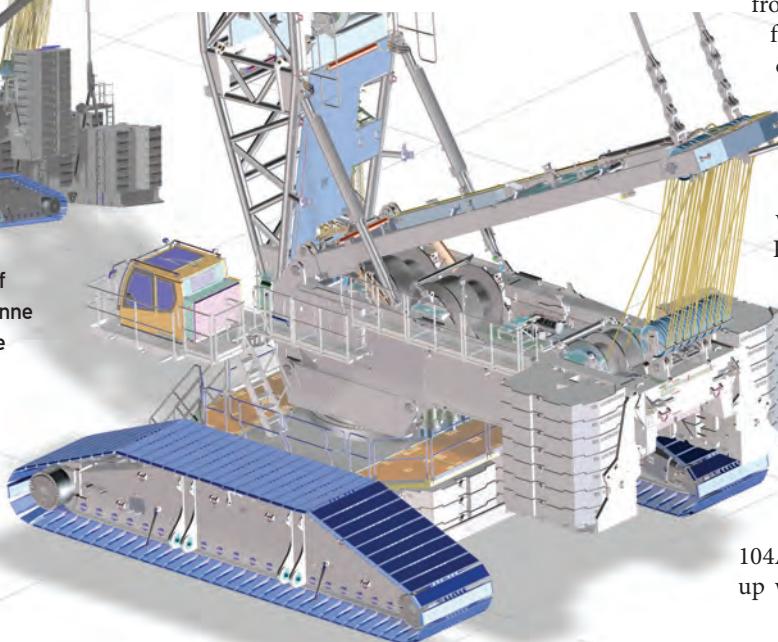
Visitors can also expect to see a new Terex rough terrain crane built at the company's plant in Crespellano, Italy. Following the launch of the Quadstar 1100 from Waverley, USA, the new model will fit in the range between the 60 tonne capacity RT A600 and the RT 100.

From Russian company Avtokran, in collaboration with its new commercial agent Namex, will be truck mounted cranes with U-section telescopic booms. Production at the Ivanovo plant began last year, and it is unique in Russia, the manufacturer said. Avtokran said its annual revenue of more than €220 million makes it the leading Russian producer of truck mounted cranes, with a 38% share of the more-than 4,500 unit total.

On show from Italy is Ormig's 100 tonne capacity truck mounted model 104AC telescopic crane with 32 tonne all-up weight. Ormig pick and carry cranes



Preliminary drawings of Liebherr's new 1,000 tonne capacity LR 11000 lattice boom crawler crane





A 6 metre tall jib section of the Linden Comansa LC3000 flat top tower crane folded down in half to 3 m tall for transport

Faymonville adds to its SPMC self-propelled range for heavy transport on site

with electric or diesel power for industrial handling up to 60 tonnes will also be there.

Towers

In the tower crane sector Spanish manufacturer Jaso announced its new J380PA-36t luffer. Its 6.9 m counter jib and steel counterweights help minimise its dimensions. Maximum free standing tower height is 61.9 m. It has variable speed electric drives on all functions and there are super high speeds and secondary brakes on luffing and hoist mechanisms with large drum capacity for high rise buildings, the manufacturer said.

The J380PA-36t lifts 3 tonnes at its maximum 65 m radius and can lift 36 tonnes in three line configuration with 50 m jib, Jaso said. A new internal climbing system can be used allowing this crane to fit and climb in 2.5 x 2.5 m lift shafts.

Jaso is also showing an integrated dismantling package comprising the J80PAR-8t recovery crane with 30 m radius



Polymer crane sheaves from Nylacast



Avtokran is building U-section telescopic booms for its 16 to 80 tonne capacity truck crane range

and the J1125 dismantling derrick pole with a capacity of 2.5 tonnes at its full 11 m length.

Also from Spain, Linden Comansa has added to its previously announced display. Representing the world's largest flat top crane will be two sections of the LC3000 Series. The 4 m wide and 5.5 m tall D56 mast section and the 3AM640 first jib section of the 30 LC 1450 crane. The jib section is 10 m long and 6 m tall. Its upper part folds to fit in an open top container for economical transport.

From China, Yongmao will show its new STT553B tower crane. It is undergoing CE certification with TÜV and, at the time of writing in March, it was under load testing to FEM and Chinese GB (Guo Biao) standards. In the mini crane sector Unic says it will launch a surprise new addition to its range but will not reveal any details until the show.

In the field of hydraulic lifting, Enerpac will showcase its equipment through live demonstrations. It has a new evolutionary EVO-synchronous lifting system, the SBL1100 telescopic gantry, heavy lifting strand jacks, and the Enerpac Bolting Service for repair on site.

Transport

Faymonville is enlarging its SPMC self-propelled range for on-site heavy transport. It is a standardised modular platform with electronically controlled hydrostatic drive. It is designed for simpler control and improved driving and service comfort, said Guy Fickers, Faymonville technical manager.

Capacity is 17 tonnes per axle line and maximum speed is 14 km/h. Also innovative is the communication system using CAN-bus supplemented by Faymonville's own communication protocol, the company said. It includes an interactive graphical control with touch screen. Benefits include easier configuration of complex vehicle combinations and less training is needed, the manufacturer said.

Also on show from Faymonville is the Multimax trailer with width adjustable bed. Previously drivers had to manually



HBC radiomatic's new Spectrum E transmitter for radio remote control applications in cranes



pull out the side extensions. Now the widening on both sides from 2.54 to 3.20 metres is done via remote control and solenoid valves. It can

be fitted on any three-, four- or five-axle Multimax where, with a loading platform that is divided into two, the rear part can be steered separately.

Weight optimisation is another focus at Faymonville. The company's Variomax offers transport for loads up to 100 tonnes. Air suspension increases payload by 2 tonnes because it is lighter than other types. The Prefamax trailer with pneumatic instead of hydraulic suspension for moving concrete components has also been optimised. It saves 2 tonnes of tare weight, meaning a 4 x 2 truck is enough to pull it instead of a 6 x 4, saving a total of 3.5 tonnes.

Transport equipment manufacturer Goldhofer promises a surprise new product it describes as a world first in heavy-duty transportation "The limits of performance and deployment of our transportation systems are being redefined and the benchmark once again raised in the heavy-duty industry," said Stefan Fuchs, Goldhofer CEO.

Transport for big wind turbine rotor blades and new semi-trailers and low loaders will also feature. "We are breaking payload barriers with new road vehicle solutions and minimising dead weight in the field of heavy-duty operations while achieving unheard-of levels of torsional stiffness at the same time. We are significantly increasing the manoeuvrability of our vehicles and their flexibility in terms of deployment," Fuchs continued.

Components

A highlight for radio remote controls manufacturer HBC-radiomatic will be units with colour display and a live video

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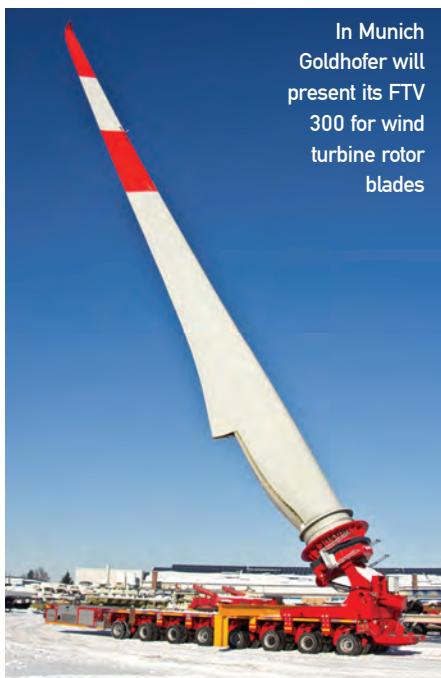


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In Munich Goldhofer will present its FTV 300 for wind turbine rotor blades

transmission via a video camera for working areas with limited view. Spectrum E is a new high-end version of the spectrum series. It is for applications where a large number of functions is needed, for example, on special transport vehicles. The transmitter weighs 3.5 kg, which is about 3 kg lighter than previous models with a comparable function range, HBC said.

Spectrum E is available with up to six joy sticks or 10 linear levers plus push buttons, toggle or rotary switches, either maintained or with spring return. A 3.5 inch colour screen shows machine data, status and warnings, according to requirements. A new lithium-ion battery gives up to 18 hours of continuous operation. The CPS (continuous power supply) function allows the operator to replace the battery without interrupting power so the machine stays activated.

Technos 2 is a new HBC-radiomatic radio control with colour display. It indicates operational data and, for example, the new live video transmission with video camera for safe machine control



The Terex Explorer 5800 is the first in a new family of five axle all terrain cranes for all world markets

Rotzler Treibmatic hydraulic winch



where the view of the load is limited. The video function can operate with up to 8 cameras. Its range is 150 m and the signal is sent via a separate radio link. It is available with up to three joysticks (also with z-axis switches for 3 drive commands each), up to 8 linear levers, and other switches and buttons. Continuous running time is up to 18 hours, the manufacturer said, from a lithium-ion battery.

Highlights for winch manufacturer Rotzler will be the hydraulic Titan, Treibmatic and HZ winches. As a hoisting system for loader cranes, the compact Titan has matching top rollers, a modular hook-and-weight system and the MCD rope-end and load monitoring system add up to a superlative safety package: for improved rope spooling and exact load positioning. Treibmatics have pulling forces of 50, 80, 200 and 250 kN. The modular design is to save space. HZ winches have pulling forces from 50 to 250 kN.



Tecsis load cells

Ormig's 100 tonne capacity 104AC truck mounted crane comes in under the 32 tonne total weight threshold for unrestricted highway travel

Jaso's new J80PAR-8t recovery crane with 30 m radius and the J1125 dismantling derrick pole



Tecsis will show force transducers for cranes and other lifting applications now available in a redundant version with an additional safety electronic module. Two separate measurement links are monitored and an external control system detects discrepancy errors and responds accordingly.

Comer Industries' new products include the new heavy duty track drives 11003 and 7003 for crawler cranes and for winches. They are planetary design with three stage reduction in ratios from 70 to 250:1. Also new are the PG 3500 PR and the PG 503 PR slew drives for tower cranes.

Polymer components on show from Nylacast will include sheaves, outrigger pads, bushes, bearings, hose pulleys, gears and wear pads. Advantages of polymer sheaves over steel include being approximately 1/7th of the weight of steel sheaves while maintaining load capacity and they give longer rope life, the manufacturer said.

Nylacast materials require no lubrication and have a low co-efficient of friction, which can eliminate maintenance. Nylacast will also show its Bigfoot outrigger pads, used by crane rental companies for more than 20 years.

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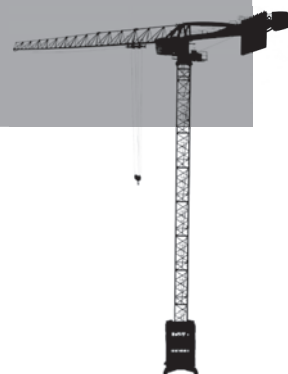


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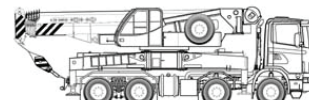
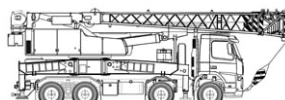
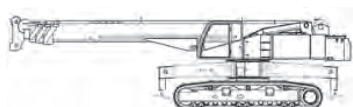
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The Link-Belt tower cranes supplied by Cornell & Company helping to erect Tower 3 of the new World Trade Center. To meet the strict environmental requirements of the City of New York, the operator had the cranes refitted with MTU Series 60 engines

Going to great heights

Three Link-Belt tower cranes work on site at the new World Trade Center in New York, USA. IC reports

Three Link-Belt tower cranes, owned by USA-based crane firm Cornell & Company, are helping in the construction of Tower 3 at the site of the new World Trade Center in New York City.

Each of the TG2300-B tower cranes has a lifting capacity of 230 US tons (208 tonnes) and a maximum boom length of 240 feet (73 metres). The cranes were leased to Falcon Steel Corporation, a Delaware company in charge of manufacturing and erecting the tower's steel structure.

The new World Trade Center will include five new skyscrapers, the National September 11 Memorial & Museum, 550,000 square feet of retail space and a performing arts centre. Two granite basins have already been built as a memorial to

those who lost their lives in the attacks on 11 September 2001.

Tower 3 will be 80 storeys high and will be 2.8 million square feet. It will be the third tallest building at the site measuring 1,080 feet (330 metres) tall. The tower consists of a reinforced concrete core with a steel structure outside the core, clad in an external structural steel frame. The new tower will meet or exceed modern standards for safety and sustainability.

Emission standards

Equipment used at the site must comply with the New York emission standard, Local Law 77. The regulation requires operators of diesel equipment to use ultra low sulphur diesel (ULSD), to install diesel particulate filters (DPF) on the exhaust and to comply with EPA Tier 3 diesel

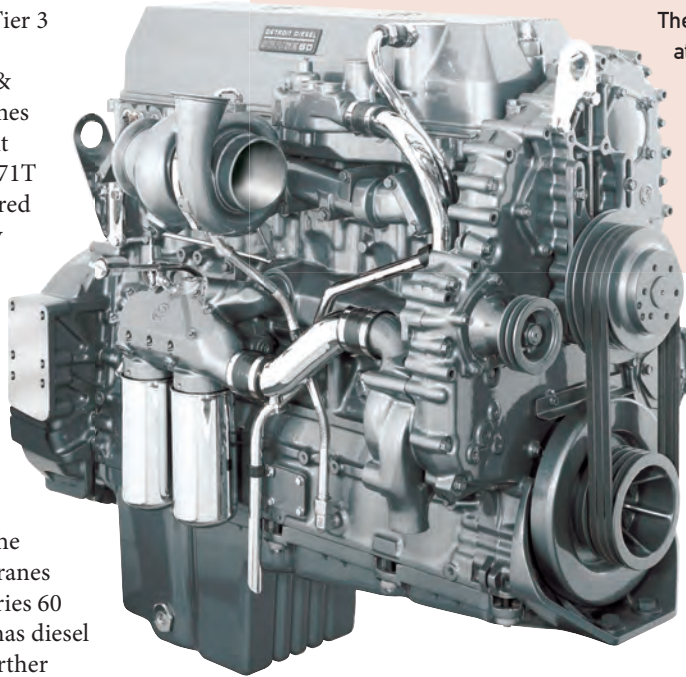
emissions regulations. A result of this has meant the Link-Belt cranes have been fitted with Tier 3 compliant engines.

Originally Cornell & Company's fleet of cranes were fitted with Detroit Diesel two-stroke 12V71T diesel engines. Compared with new engines, they used too much fuel and their exhaust emissions were too high to comply with any of the EPA Tier levels or Local Law 77. To meet the terms of New York's emissions law, Cornell & Company updated the engines in its fleet of cranes to the 525 hp MTU Series 60 engine. The Series 60 has diesel particulate filters to further reduce particulate matter in the exhaust and is EPA certified to Tier 3.

Don Garrahan, Cornell Crane general manager, explained the process behind the repowering. "As an initial test, we bought an MTU Series 60 engine and put it in one of our TG1900 tower gantry cranes. We looked at other manufacturers' engines too, but the people who offered the best service and who helped us the most were Johnson & Towers, the local MTU distributor. They made it happen. They gave us an excellent product and excellent service. That's a good combination. Good engines, good people and a lot of effort made this a success."

Johnson & Towers helped Cornell &

ENGINE IMPROVEMENT



The MTU Series 60 engine has been proven at construction sites all over the world, the manufacturer said. Rated at 525 hp with 1,313 pounds-feet of torque, Cornell & Company's new Series 60 engines deliver 17% more torque in the lower and middle speeds than its old Detroit Diesel 2-cycle 12V71T diesel engines.

Improvements

After the first test engine was installed, Garrahan reported immediate improvements in performance, noise, exhaust emissions and fuel efficiency. Garrahan also suggested that fuel savings for the three cranes was approximately \$500 a day, or upwards of \$90,000 to \$100,000 annually.

Bob Shomo, Johnson & Towers senior vice president engine sales, says, "Cornell & Company is the only crane fleet in America to make this kind of environmental commitment. It feels good to know that we worked together to make cleaner air. And not to mention, it gave them a step up on the competition."

Speaking on the project, Garrahan said, "We're very proud to be affiliated with the project...It's a great honour, and we're very humbled by the whole experience."

The cranes are working up to 10 hours a day, five days a week, erecting the steel structure at 3 World Trade Center. Work began in autumn 2012 and two of the three cranes are contracted to continue working until the winter of 2013. The project is scheduled to be completed in the summer of 2014.

Company apply for a federal grant as part of the Diesel Emissions Reduction Act (DERA). This federal programme set aside US\$150 million to help subsidise the replacement of older diesel engines in marine, rail and industrial equipment throughout the USA. Of 251 proposals submitted to DERA in 2010, Cornell & Company's application was one of only seven in the country that were approved.

The grant covered 75% of the cost of the new engines. By repowering its entire fleet, Cornell expects to reduce emissions of oxides of nitrogen by 30 tons (27 tonnes) a year and particulate matter by 1.5 tons (1.3 tonnes) a year.

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Other Cranes	Must Purchase Separately	Must Purchase Separately	All North American Cranes
Standard Features	X	X	X
Advanced Features		X	X
3D Objects	\$1,000	\$1,000	X
DXF Export	\$750	\$750	\$750
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The next developments in the wind power industry are taller turbines and higher safety standards.

LAURA HATTON investigates

A Terex CC 2800-1 at work in the Swiss Alps on Europe's highest wind turbine

Reach for the skies

Currently 2 megawatt (MW) wind turbines on 80 to 100 metre towers are a standard size throughout the wind turbine market for onshore wind farms, but this is changing. Now 3 MW turbines, on towers up to 150 m tall, which are more commonly erected offshore, are being installed at onshore wind farms across Europe.

At the time of writing in March 2013, reports from the European Wind Energy Association (EWEA) say that, "The EU wind energy sector installed 11.6 GW of capacity in 2012, bringing the total wind power capacity to 105.6 GW. Wind energy represented 26% of all new EU power capacity installed in 2012, and investments of between €12.8 billion and €17.2 billion. It is now meeting 7% of Europe's electricity demand – up from 6.3% at end 2011."

Although most EU member states are meeting or exceeding their country's individual targets for wind energy, 18 member states are falling behind. These countries include Slovakia, Greece, Czech Republic, Hungary, Portugal and France.

With countries around the world striving to meet their wind capacity production targets, contractors in Europe and the USA are experiencing both a demand for larger wind turbines and an increase in the number of wind turbines being erected.

BMS Heavy Cranes (BMS HC), a contractor for onshore and offshore wind turbine projects, is already witnessing the move to larger turbines, "We are currently erecting 26 x SWP 2-3 DD wind turbines

on 115 metre shell towers near Stamåsen in Sweden. At another project site we are busy setting up an onshore wind farm near Vetlanda in Sweden called Lemnhult. We started in September 2012 and have been setting up 32 x V112 3 MW turbines on 129 metre steel towers."

Further south, in the Dutch town of Eemshaven, Netherlands, are some even larger wind turbines. A wind turbine with a machinery housing in the 6 MW class has been installed on a tower at a height of 110 m using a 1,350 tonne capacity Liebherr LR 11350-P1800 lattice crawler crane with the manufacturer's new parallel Power Boom. The housing weighed 340 tonnes. Plans are in place for 48 turbines of this type to also be installed from 2013 onwards in the North Sea East offshore wind park, off the island of Heligoland, crane manufacturer Liebherr adds.

Nordic Crane, a provider of mobile crane and specialized transport, which operates in Scandinavia, is also seeing this emerging trend. One of its ongoing onshore projects in Jädraås, Sweden, has included the erection of 66 Vestas 3 MW turbines on 119 m towers.

This trend for high numbers of turbines is not expected to last forever, as a company spokesperson from international heavy lifting and transport engineering company Sarens, explains, "The trend for the coming years seems to be that for Western-Europe there are going to be fewer of the big parks that have more than 20 turbines. Instead there will be smaller parks, with 1 to 5 relatively large turbines."

Outside Europe, the height of wind turbines has also increased in the USA. This has proved to be a challenge for contractors. In Eastbrook, Maine, construction contractor, Reed & Reed is installing 19 wind turbines at the Bull Hill wind farm. Ron Babb, a crane operator with the Woolwich, Maine-based company says, "This job was a real challenge for us because we moved from 262 feet (80 m) towers up to 312 feet (95 m) towers." A Boom Raising System from Manitowoc



A Liebherr LR 1600/2 erecting a turbine at the Verfahren wind farm in the south of Germany

WIND POWER

was eventually used so the company could complete the onshore wind turbine installation project.

Safe heights

As the height of wind turbines, whether onshore or offshore, increases, safety legislation and guidelines become ever more stringent. At the time of writing, all mobile cranes working in the European market must fulfil the requirements of the European Machinery Directive 2006/42/EC. The relevant European standard for mobile cranes is EN 13000 and the regulation includes load assumptions for calculating the load bearing structure of a mobile crane.

Even when safety standards have been met, however, wind turbine installation projects can still present a danger. As explained in the FEM (the European Association of Lifting Equipment Manufacturers, Product Group Cranes and Lifting Equipment, Mobile Cranes) *Guideline Safety Issues in Wind Turbine Installation and Transportation*, “lifting



Felbermayr from Austria at work installing a wind turbine

loads in strong wind conditions can present a potential danger that should not be underestimated... When lifting loads with a large surface area exposed to wind such as rotor blades or complete rotor units of wind mills, the conditions and assumptions for calculation of wind loads may differ significantly from the standard values provided by EN 13000.” As the industry has witnessed, when loads are affected by wind forces during lifting operations, serious

accidents can, and do, happen.

Preventing injuries of any kind is crucial for contractors and manufacturers alike. Unfortunately, due to a growing amount of pressure on contractors regarding time constraints, there is a general concern that “corners will be cut” to meet tight deadlines. As the FEM Guideline states, in some cases lead time is often reduced to an unacceptable level, which can jeopardise worker safety.

To avoid injuries of any kind, contractors are implementing safety procedures into their project policies. BMS HC, for example, includes a “zero risk policy” into project schedules. A company spokesperson explains, “We work according to the HSEQ (Health, Safety, Quality and Environment) principle and have high standards for these. This includes documentation with lift studies, risk assessments, on site frequent meetings and an assigned project manager for each separate project.”

For heavy lift company Sarens, lifting studies are drawn up for every wind turbine project, identifying effective wind sail areas of all wind turbine components to be lifted.

Calculating wind speeds

What contractors must be aware of is that the permitted wind speeds in the crane’s capacity charts are often not valid when lifting rotor blades, rotor assemblies or other structures with big sail areas. As stated in the FEM Guideline, “lifting of

>



Nordic Crane at work in Molkom, Sweden, with a Liebherr LG 1750 and 105 metre boom

DISMANTLING WIND TURBINES

As demand for larger and taller wind turbines increases, smaller wind turbines are ageing and need more maintenance. Some of these smaller wind turbines require dismantling.

At a site in northern Germany, the dismantling of some smaller wind turbines has already begun. A 300 tonne capacity Grove GMK6300L all terrain crane dismantled two Enercon wind turbines in a day. Dismantling was at the Simonsberg wind park near Husum in northern Germany. The crane was rigged with a 34 tonne capacity heavy lift jib.

The first part of the project was removing the rotor blades. This was completed in a single 24 tonne lift, from a height of 42 m and working at a radius of 14 m. The 5 tonne gearbox was also removed. The crane is owned and operated by Heider Kranverleih, from Heide in northern Germany.

Nordic Crane has also experienced several dismantling projects. Fortunately the turbines dismantled so far have been “in good shape if you look at lifting points”, a company spokesperson says. Although the turbines can be in good shape, however, access issues can arise during dismantling projects. As a spokesperson for Dufour Cranes explains, “Access requirement must be the same as it was for the first installation of the turbines. A security margin between 10 and 20% must be calculated.”

Guntram Jakobs, Terex Cranes product manager, explains another potential problem during dismantling, “In Europe for the smaller wind turbines there are issues with picking up something that could be ‘fixed’ – but you don’t know how fixed it could be.”

Although not directly involved in any dismantling projects of late, BMS Heavy Cranes sister company Krangården/BMS, has been carrying out service work on existing wind turbines with hydraulic mobile cranes.

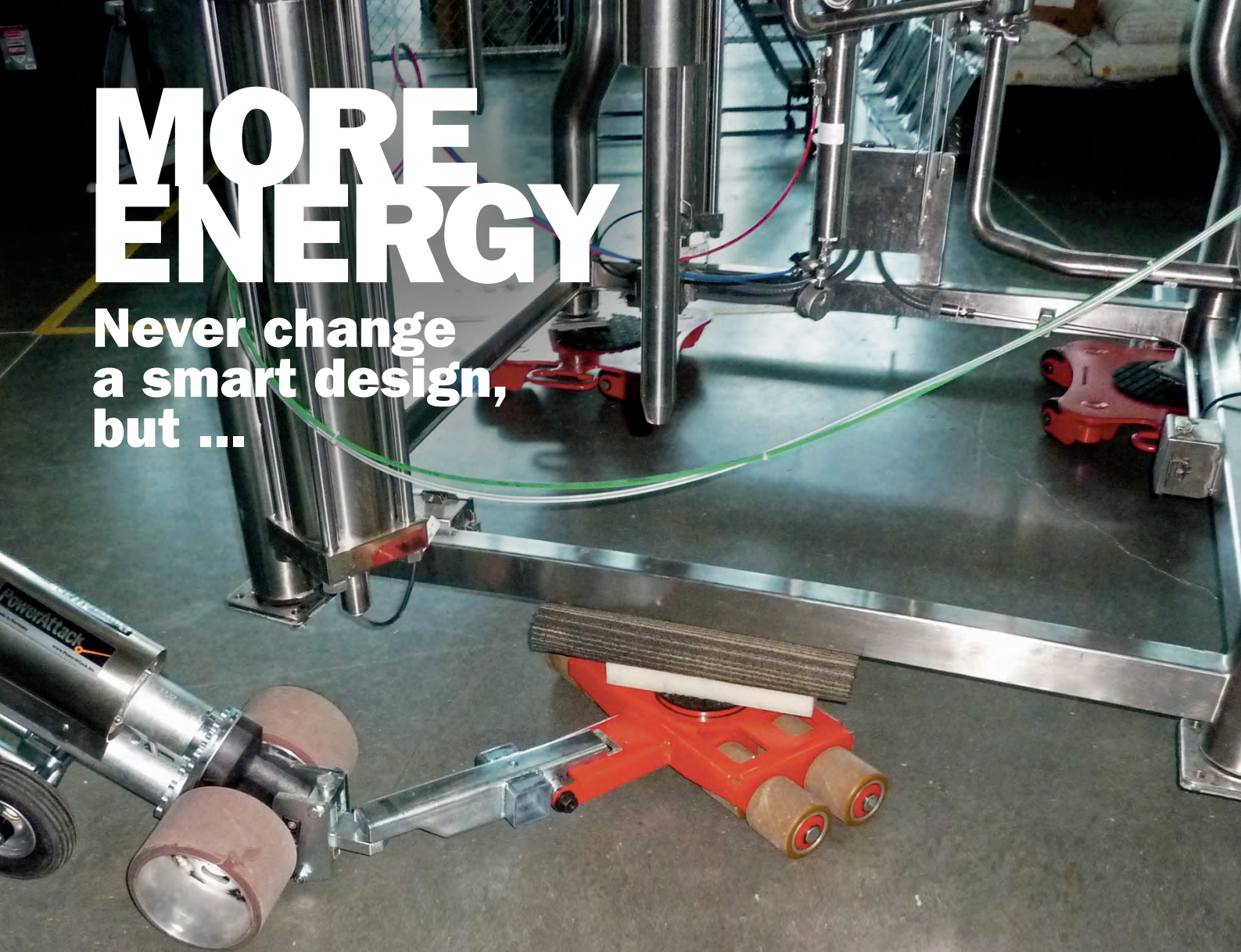
Laramie Equipment Company, Detroit, Michigan has also been involved with wind turbine repair work at a wind turbine site in North Dakota. During the project the company erected 100 wind turbines and repaired three using a Manitowoc 16000 crawler.

Dismantling turbines can be an issue. A spokesperson from Sarens explains some of the issues faced with dismantling projects. “The main problem to overcome when dismantling existing wind turbines is that the empty hook goes up and the rope on the winch drum is spooled on with almost no tension. When the load gets in the hook, there is a risk of snagging of the tensioned hoist rope through the windings on the drum, leading to shock loads and possible damage to the hoist rope.”

This issue is something that is relevant throughout the lifting industry. In an upcoming issue of *International Cranes and Specialized Transport* magazine, the problem of proper spooling when dismantling a wind turbine and other similar situations will be discussed by rope experts from the industry.

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A Liebherr LR 1600/2 travelling between turbines with its boom fully erected



A Manitowoc 16000 crawler crane on a job site in Northern Quebec, Canada

these items will require lower wind speeds, compared to the wind speeds allowed when lifting tower sections, a nacelle or other heavy items.”

Crane and transport rental company Dufour Cranes, devises safety plans prior to lifting projects to accommodate this element. Its safety plans inform customers on wind speed limits based on manufacturer recommendations. The company also carries out inspections and periodical checks to ensure the safety of its equipment. “For the lifting equipment and cranes, this inspection is performed every six months in France (by external party) and every three months in Belgium (by external party) at each assembly.” In addition, the company states that no lifts are allowed in “gusting” conditions, a weather condition that is of universal concern throughout the lifting industry.

In reference to “gusting” conditions, the *FEM Guideline* states that, “Regarding EN 13000 the wind speed referred to in capacity charts is the so called ‘3-second gust’ measured at the highest point of the boom system, and not the average wind speed measured at a 10 metre elevation over a time period of 10 minutes as given

by most weather stations. The 3 second gust wind speed can easily be higher by a factor of two and more; i.e. taking into account the average wind speed at 10 m elevation may significantly underestimate the real conditions.”

The three factors to take into account here are wind surface area of the rotor and rotor assemblies; drag factor; and “3 second gust” wind speed, which is measured at the highest point of the boom system. “These factors are among the reasons why thorough planning is required, the weather conditions need to be observed and why waiting time should be expected and calculated when planning the lifting of rotor blades and rotor assemblies,” the *FEM Guideline* states.

To meet these requirements, crane rental and transport company Felbermayr, Austria, uses Liebherr and Terex cranes for wind turbine projects. As a company spokesperson says, this is because “each of these cranes has a producer manual in which it is clearly stated under which conditions it is not allowed to lift.”

Nordic Crane has a similar policy, whereby they follow the tables provided from crane manufacturers regarding maximum wind speeds. “However, it is always up to the crane operator to stop

lifting activities even below these figures if he or she cannot guarantee a safe lift,” a Nordic Crane spokesperson adds.

Reliable and versatile

With pressure on contractors to keep to tight schedules, deciding what cranes to use for a turbine project isn’t a simple choice for end users. Nordic Crane uses a Terex Demag CC 2800 for some of its wind turbine projects, “Their superlift is easy to handle and the crawler crane can move fully rigged on a hardstand,” a spokesperson explains, “But whenever the turbines are small enough we use a Liebherr LTM 1500. This ‘small’ 500 tonne crane is hydraulic and easy to move.”

BMS HC use three main cranes to set up wind turbines, “These are the Liebherr LG 1750, the Liebherr LR 1750 and finally the Liebherr LR 1600,” a company representative says. “For port-handling operations we primarily use our LR 1750s and LR 1600, whereas our LG 1750 cranes are typically allocated to be used for onshore projects. The LG 1750 has a very high load capacity and has a very small chassis of only 3 metres wide, allowing it to travel on the public road.

“The LR 1750 has about the same capacities as the LG 1750 but cannot drive >



Dufour Group using a Terex AC 700 on a wind farm project in Europe



Nordic Crane installing an Enercon E-82 with a 100 metre hub height in Öland, Sweden, using a Terex Demag CC 2800 fitted with SSL/LSL 102+12 metre boom

A Manitowoc 16000 crawler crane lifting a section of a turbine tower with the help of a Wind Attachment at the boom tip



on the public road. But it can drive short distances while carrying the heavy load. Finally, the LR 1600 is our 'smallest' crane. It has a smaller engine and can, therefore, lift up to 600 tonnes. Just like the LR 1750, it has to be moved on the back of a flatbed, but it also has the same advantage of the ability to drive while carrying a heavy load."

To meet varying demands, the Dufour Group owns a large range of crane models, "Our fleet offers a lot of different setup matching with most of the turbines, so we can easily reply to customer needs," a company spokesperson says. "The main production equipment includes a LG 1750, which has a load capacity of 750 tonnes at 7 metres, a TC 2800, which has a lifting capacity of 600 tonnes and has great flexibility, and an AC 700 [Terex] telescopic crane, which is fast to rig and has optimised transport weights for all configurations."

New technologies

With varying time constraints and the increasing "standard" turbine size and height, new engineering technologies are appearing across the lifting industry. Manitowoc has introduced its Boom Raising System for the 400 tonne model

16000. Also with the Wind Attachment this crane was used on the Bull Farm project, mentioned previously, to prevent the need for an assist crane.

"The boom raising system allows end users to lift up to 351 feet [106 m] of wind attachment boom plus 25 feet [7.6 m] of extended upper boom point (EUBP)," crane company Manitowoc explains.

The boom attachment has been used by crane rental company Guay Crane, "When new wind farm projects came along that required the erection of 80 metre turbine towers, we purchased a Manitowoc wind attachment (WA). With the WA, we have erected more than 100 wind turbines in the last year on projects such as Massif du Sud and Lac Alfred, with more coming this year. The WA gave our 16000s a second life."

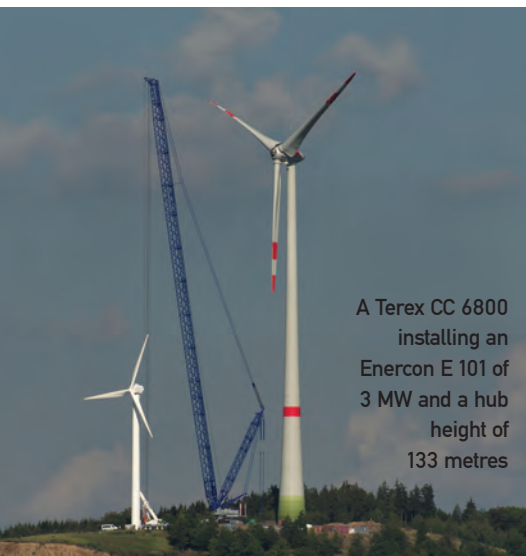
Other crane manufacturers are also meeting demands for the increasing heights of wind turbine projects. Terex's most recent example is the Superlift 3800, a 650 tonne capacity class lattice crawler crane, which replaces the Terex CC 2800-1. For more on this crane see *IC* November 2012, page 14.

In June 2012 Liebherr introduced a 750 tonne capacity telescopic wheeled mobile crane, the LTM 1750-9.1. It also introduced a new boom system for the lattice boom mobile crane LG 1750, the SL12D2FB. "With a new and even more powerful boom system, the LG 1750 is now in a position to erect the new large types of wind power systems at tower heights from 140 metres to 150 metres," a Liebherr spokesperson says.

The Liebherr crane uses a three strong 12 m lattice sections with a width of 3.5 m. It has a lifting capacity of 141 t at a height under hook of 143 m and 97 tonnes at 160 m. The basic machine of the LG 1750 can also be driven on public roads. At Bauma the LR 11000, a 1,000 tonne capacity crawler crane, which will be suitable for wind power thanks to its quick set up and compact design, will also be presented.

Of course, as turbines get larger and

The new Terex Superlift 3800 lattice boom crawler crane



A Terex CC 6800 installing an Enercon E 101 of 3 MW and a hub height of 133 metres

taller, for many companies transport problems are going to become even more complex, especially when travelling to and from different wind turbine project sites.

As a spokesperson from Nordic Crane explains, "Our main concern is that roads will not be wide enough, especially since the cranes are much wider than the trailers." This concern is felt by most crane manufacturers and contractors throughout the industry; but with road regulations becoming ever more stringent, this issue looks set to become even more of a challenge."

For more on transport matters in the wind energy industry, look out for the wind power transport feature coming up in a future issue of *IC*.

A PALFINGER crane is shown in space, lifting a large, white, ribbed space capsule. The crane's long, telescopic arm extends from the left side of the frame. The background is a deep blue space filled with stars, with the Earth's horizon visible at the bottom. The text "WITH PALFINGER, EVERY MISSION SUCCEEDS" is written in white and yellow in the upper right corner.

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ALE transports farmhouse

Heavy lift and transport company ALE transported a farmhouse in Lent, Netherlands.

Complete with thatched roof, the farmhouse, which dates back to the 1850s, weighs 450 tonnes. It was moved to make way for a highway exit already under construction.

Engineers from UK-headquartered ALE used 20 axles of self propelled modular transporter (SPMT) to self load the house before it was transported more than 800 metres. Poor ground conditions meant

that a temporary road was constructed for the move. The project was completed in less than ten hours, ALE said.



less challenging than large scale transportations, not only was this someone's home, we also had the integrity of the building to accommodate for. The team overcame this through careful planning and ensuring that every detail of the move was planned and surveyed beforehand. The building was successfully installed by ALE's hydraulic trailers to its foundations complete with a new basement."

The farmhouse being transported on SPMT

Slag pot carrier arrives from Herbst Smag in Europe

A new type of slag pot carrier, developed by manufacturer Herbst Smag, has been delivered to clients in Austria and Switzerland. The specialized piece of transport equipment is used in the metal smelting industry to transport



slag from furnaces.

The Majoris SLT series ranges from 35 tonnes to 90 tonnes capacity. Overall length of the vehicle is 9,340 mm and it is 4,950 mm wide. Height is 4,800 mm. The main features of the slag pot carrier include rapid acceleration via hydrostatic three-speed drive and a 411 hp twin-turbo V8 engine. Its operational speed is up to 28 km/h.

The Majoris slag pot carrier (SLT) series ranges from 35 to 90 tonnes capacity

FINNIE HEAVY HAULAGE ADDS SL TRAILER

Finnie Heavy Haulage, Lockerbie has added a Broshuis 8 axle SL trailer to its fleet.

The 8 axle trailer is split behind the first two axles and includes independent hydraulic suspension. It has a ride height of 850 mm and a maximum steering angle of 57 degrees. The trailer triple extends from behind the front two axles, providing an extended deck length of 35 metres. This will increase the company's carrying capacity to more than 100 tonnes in the UK, Finnie Heavy Haulage said.

Other features include a removable gooseneck so the trailer can operate as a 6 axle unit. The gooseneck also extends from the front two axles allowing variation in the front load support.



The 8 axle SL trailer

Allcargo generator from Mumbai to Bhagad

After winning a contract from Tata Projects, Allcargo Logistics in India transported a generator from Mumbai port to Bhagad in India.

The generator weighed 218 tonnes and measured 8.6 x 5.3 x 4.4 metres.

The generator arrived at Mumbai Port by the vessel *MV Palessa*. Two cranes performed a tandem lift to move the cargo from the vessel onto a barge. The generator was then placed on stools and beams,

which had been welded to the barge. Using 28 lashing points the cargo was secured. The operation was supervised and controlled by the Allcargo Marine department.

To make sure that the

barge aligned with the jetty, the jetty walls were dredged and cut. Specially fabricated T-shaped steel plates and base plates were used to safely roll-off the trailer from the barge. The steel plates were

also used to provide grip to the axles. A 15 axle Goldhofer hydraulic trailer was driven underneath the plates where the cargo then was attached. The trailer transported the generator through Roha Town, Maharashtra. Challenges included overhead service lines. A pair of Volvo heavy tractor units pulled the load.

Allcargo Logistics was responsible for transportation, customs clearance and port handling of the generator.



Allcargo transports the generator

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The trailer leaves the docks with the SWT-3.6 nacelle

Turbine training

A 147 tonne nacelle for a 3.6 MW wind turbine was transported to the Siemens training facility, an offshore wind turbine maintenance training centre, in Newcastle, UK.

DAVID WESTON reports on the challenges faced on the one hour journey

It will come as a surprise to many that the UK is the windiest country in Europe. Thanks to this it has become the eighth largest wind power producer in the world.

For years the UK has been a leader in offshore wind power generation. Capacity is 1,858 MW offshore around the UK and this figure will more than double with several further wind farms under construction. This is thanks to the UK being surrounded by shallow inshore

waters; such as those found in The Wash and Morecambe Bay, to name but two, that make ideal locations for offshore wind farms.

Finding a solution

The Cumbria coastline off Walney Island in the north of the country is the location of the world's largest offshore wind farm and home to 102 Siemens SWT-3.6 wind turbines. Regular maintenance is needed to keep them working. Most of them being



Getting through a housing estate proved to be another challenge for Randolph Transport



The nacelle was transported along public roads as it made its way to the Siemens training facility

offshore means that there are difficulties to train people in wind turbine maintenance.

To meet these training needs, an SWT-3.6 nacelle was shipped over from Denmark to Wallsend to be installed inside the Siemens training facility in Newcastle. This was the first time such a large wind turbine nacelle had travelled along UK roads. Previously, large nacelles had always remained inside the confines of the docks before going back offshore for installation at sea.

The SWT-3.6 nacelle weighed 147 tonnes and measured 14.10 x 4.2 x 4.3 metres. When in operation, they are fitted with 58.5 m long rotor blades, giving them a swept area of 11,300 square metres or

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The steep hill out of the docks was the first obstacle the transport company encountered

Hydraulic axle compensation on the Kamag K25 helps guarantee safe travel over uneven terrain



nearly two football pitches.

Once the nacelle had been unloaded from the ro-ro (roll on roll off) ship from Brande Maskintransport, Randolph Transport from Kirkcaldy, Scotland, was appointed to transport the nacelle from the docks to the training facility. The distance was 1.5 miles. Randolph used a Kamag K25 ten row, which is believed to be the first of its type in the UK. The Kamag K25 was pulled by an 8 x 4 MAN TGX 680 ballast tractor.

The final obstacle

Kamag modular trailers are not usually seen in the UK as typically trailers from Scheuerle, Goldhofer or Nicolas are more likely to be used. The Kamag K25, however, can be connected to modular trailers from fellow TII group member Scheuerle. This is because the K25 was developed in co-operation with fellow TII group members. Another feature of the K25 is that it is claimed to have the highest bending moment on the market.

The following morning, the load made its way out of the docks before being

transported down a steep hill. Once at the end of the hill it joined the main road for the short trip to the training centre.

Challenges during the transportation of the load included roundabouts and traffic calming road islands that had to be negotiated along the route.

Travelling at just about walking pace,

the load arrived at the training centre in 1 hour and six minutes. Once inside the Siemens building, the trailer was manoeuvred into place and the load was lifted off with a jacking system. Bill Tottenham, owner of Randolph transport, said the move went very smoothly with no problems.

Behind the Siemens factory some traffic-calming islands were the final obstacle



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Narrow and densely populated streets in the City of London, UK, present obstacles for high rise construction projects. Solutions are found in sophisticated construction procedures and smart crane concepts. HEINZ-GERT KESSEL reports

A view of the Leadenhall Building, as it was in March 2013, from the balcony of Plantation Place. In the foreground is the distinctive design of the Lloyd's Building

Raising landmarks

Looking across the London skyline you will see a healthy number of tower cranes on construction projects in full swing. These mostly luffing jib towers suggest an office space construction boom in the capital city, despite a double-dip recession. In 2012, 34 new buildings raised the total volume of office space under construction to 9.2 million square feet (855,000 square metres).

Construction volumes are three times greater than they were at the bottom of the market in 2008. At the time of the deregulation of the financial market in 1986 many companies signed 25-year leases, which have now come to an end,

and many tenants are looking for new offices.

Schemes under development in the inner city district, which are being raised by Terex luffing jib tower cranes, include the 20 Fenchurch Street project, nicknamed the Walkie Talkie due to its appearance. Another well known project is the Leadenhall Building or, more commonly referred to as, The Cheesegrater. These projects make up three quarters of the office space under construction. Typically congested inner city sites and complex building shapes call for special tower crane solutions adapted to the unique site conditions.

The Leadenhall Building

The 224 metre tapering shape of the Leadenhall building will see it become one of the most recognisable in the square mile. It occupies a prominent site between the distinctive Lloyd's headquarters and the stalled Pinnacle construction project, which was covered in the September 2010 Issue of *International Cranes and Specialized Transport* magazine.

The slanting wedge-shaped appears to lean away, making it appear to have less impact on the protected sightline of St Paul's Cathedral when viewed from Fleet Street and the west, than conventional high rise building design. The unusual shape of the 52 storey building will deliver



The two CTL650-F45 and one CTL630-32 Terex luffing jib tower cranes in their initial phase of the Leadenhall Building construction process

floor plates ranging from 21,000 square feet (1,951 square metres) on the basement to 6,000 square feet (557 square metres) at the top of the tower. The rectangular floor plates decrease in depth by 750 mm per floor towards the apex.

A distinctive steel mega-framework built around a T-shaped strong box in



The two remaining Terex tower cranes on top of the almost-finished Cheesegrater building in the City of London, March 2013



While the crane on the left of the picture is jumped as an internal climbing crane, the two on the right still have a climbing cage for external climbing

the centre of the building will provide the required stiffness. A traditional central concrete core providing structural stability was ruled out. Unlike most buildings, the service core, which is made up of a yellow coloured steel frame work, is in a detached north-facing tower at the rear of the building. The service core contains passenger and goods lifts, service risers, on-floor plant, washrooms and, in the top cooling tower, generators, switch rooms, etc.



Up to 28 m high mega frame columns have to be installed. Using internal climbing luffing jib cranes means jacking can be delayed by raising the boom and using the 48 m free standing capacity

Only TC2 at the left of the photo will be still raised by external climbing while all three of the other cranes changed over to internal climbing

The steel mega frame, designed by Arup, provides the stability of the office tower in front of the north core service tower. It is said to be the tallest in the world. The base features a 30 m (seven-storey) high atrium, which will be open to the public. The atrium will cover nearly half an acre and will extend to the adjacent piazza of St Helen's square.

In addition to the tower design and shape, the location of the building is on a remarkably tight footprint, allowing no lay down areas. The middle of this financial district of London is surrounded by narrow and densely populated streets and these factors represented considerable obstacles, which could only be solved by a sophisticated construction procedure and a smart crane concept.

Contract win

In July 2011 British Land and Oxford Properties announced Laing O'Rourke as the main contractor for the works of the new Leadenhall Building. British Land and Oxford Properties noted the benefits of the contractor's concept to do things differently; in particular to finish at least 83% of the construction work offsite and to base the construction activity on a full Building Information Model (BIM). The model included structure, cladding and all building services, enabling early design co-ordination. The 3-D model also incorporated the location and selection of cranes and their climbing steps. It even evaluated the impact of the cranes on structures and temporary works.

Benefits of prefabrication can be best demonstrated by the construction of the service core. This vertical wall, which runs the full height of the office tower, is built up using Lego-like bricks with a stack 15 m long and 3.5 m wide. The stacks are one story high and are prefabricated as table modules. In these steel frames, preassembled service modules are attached together with precast concrete planks. It takes one truck to deliver the modules.

Arriving on site, the complete table module weighs 35 tonnes, exceeding the



The Terex CTL630-32, left, needs extra ballast at the rear of its machinery deck when it is being operated with a shortened boom. The new CTL650-F45 on the right can be installed with just its standard movable ballast in short boom configuration

capacity of existing Terex luffing jib tower cranes. The weight of the table modules leads to two specially commissioned upgraded 45 tonne luffers, delivered by UK tower crane provider Select Plant.

Handling prefabricated modules for an iconic glass and steel structure relies on very precise steering of all crane functions and wearing white gloves to handle material on site is a major culture change for both the fitter and the tower crane driver.

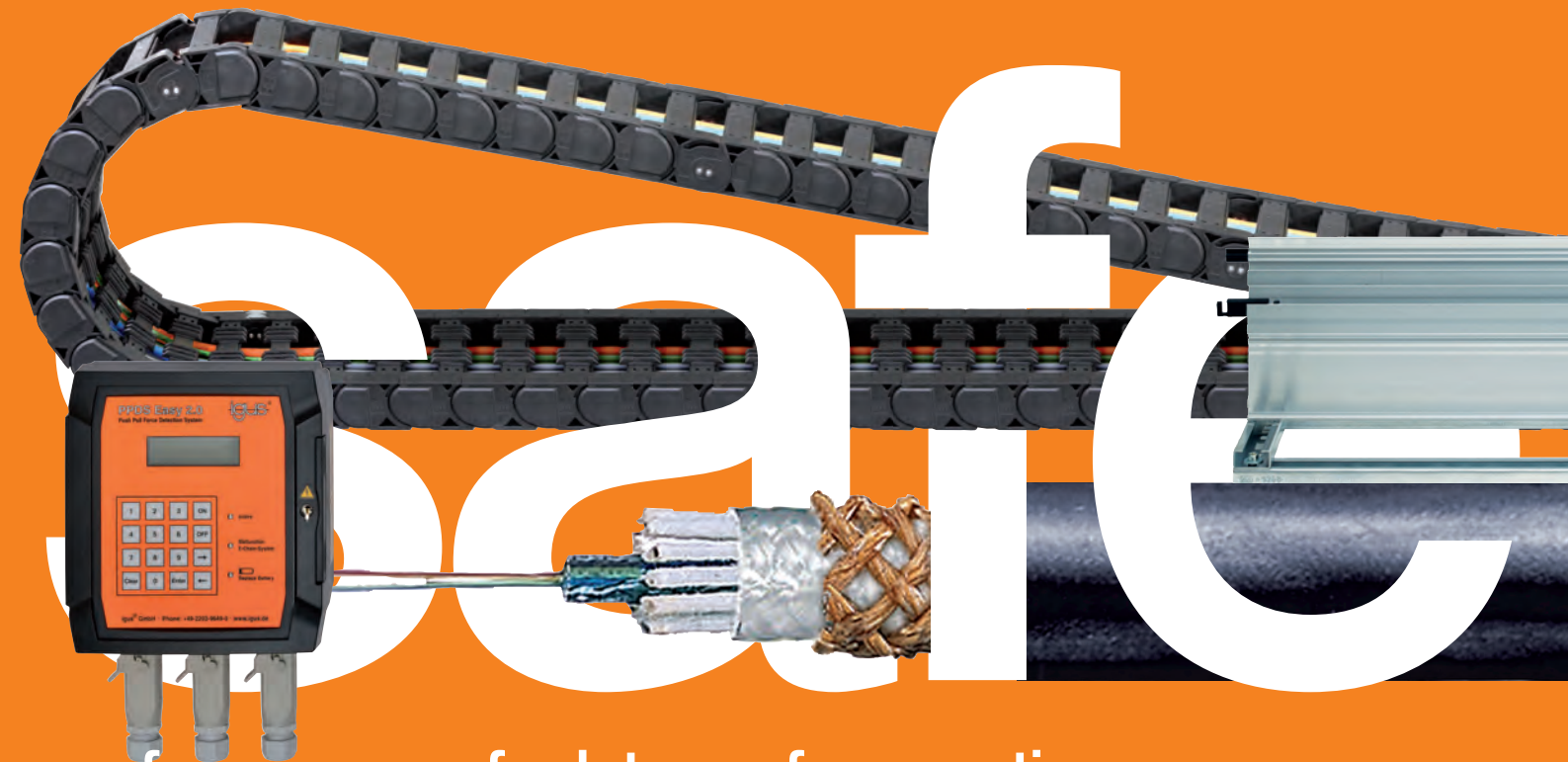
The 28 m high mega frame columns demand substantial free standing capacity of the chosen tower cranes. The internal climbing crane uses 48 m tower systems connected by two climbing frames within 14 m of the already installed steel work of the building.

During the initial construction phase, because the site was closely surrounded by high buildings, as many hooks as possible had to be installed. To meet the time frame four climbing luffing jib tower cranes were essential. The triangular shape of the building means that at least two of the cranes had to pass through the complex mega frame system of the building. A result was the need for a compact tower system for the climbing cranes, fulfilled by the 2.32 m wide HD23 Terex tower crane mast.

Internal climbing

Outfitting work on the massive atrium calls for the early removal of the tower cranes. To cater for this was an internal climbing crane concept, which also had





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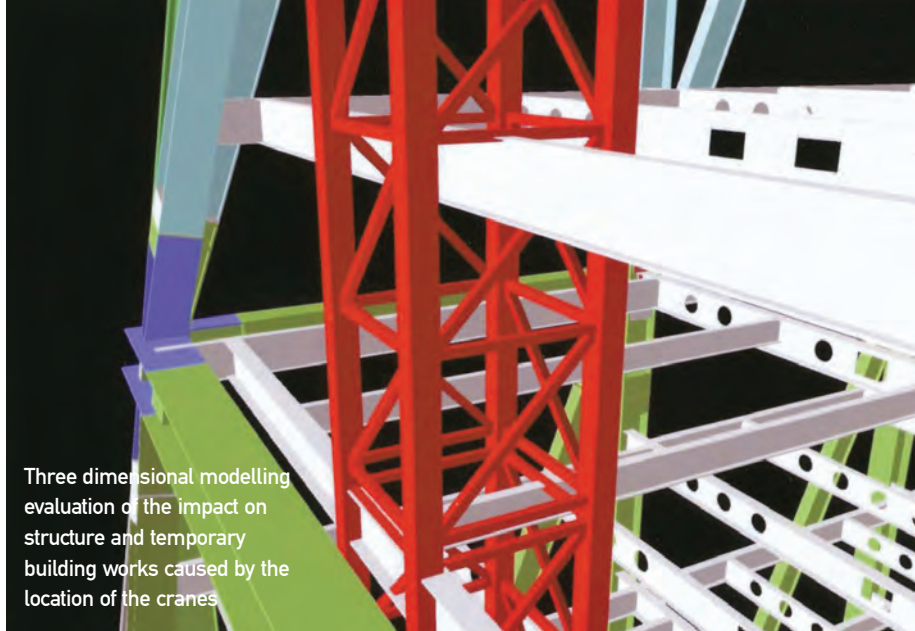
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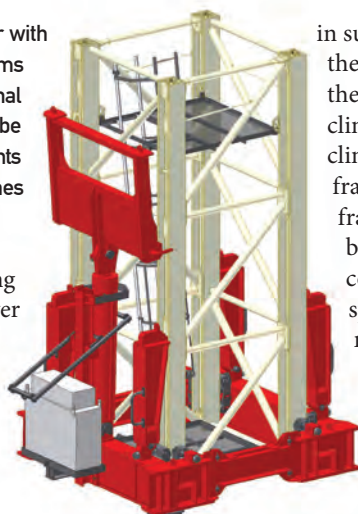
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Three dimensional modelling evaluation of the impact on structure and temporary building works caused by the location of the cranes

The lower climbing collar with hydraulic jacking unit forms the central unit of the internal climbing device and can be dismantled into components not heavier than 2.4 tonnes



to be very flexible. For example, the cranes serving the north service core tower could only be attached to the central office building framework when using the gap between both structures, not interfering with the cladding process of the yellow coloured wall of table-sized modules. In this case, climbing frames were connected to the mega framework of the building by specially designed tie-in supports. In this way the two tower cranes became "external hanging internal climbing".

The internal climbing cranes must have a reasonable free standing capacity to reach the 30 m height, while sitting over the steelwork at level 8 after the first climbing step.

A welcome feature of the Terex tower system is the universal application of the same size for external and internal climbing. For internal climbing, however, the three base sections are reinforced. In contrast to many other crane manufacturers, no climbing leaders are used in combination with a hydraulic jacking system in the base section of the crane tower. In addition, simple hydraulic rams at the lower climbing collar lift the crane by a yoke that grips into the same lugs of the tower used for external climbing. Only the compact hydraulic jacking system has to be reinstalled at a higher climbing frame to jump the crane again. A special base tower section is unnecessary.

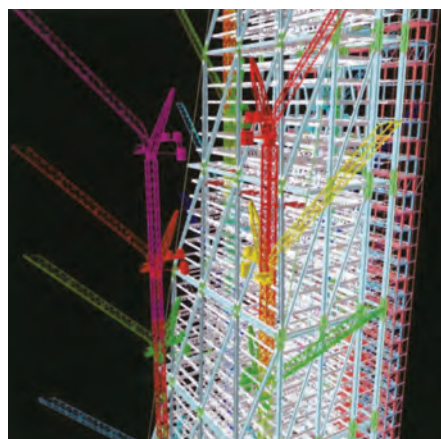
The distinctive shape of the building leads to an extension of possible tie-

in support points as high as the two cranes in front of the triangular structure are climbing. Like the internal climbing cranes, the wide steel frame structure of the mega frames carrying the whole building load must also be considered. Under these specific circumstances, the movable counterweight, which is typical for all Terex luffing jib cranes above the 300 tonne-metre class, creates a well balanced crane at all working

configurations. Structural loadings are reduced, minimising the impact on the building. In addition, the way in which the counterweight is connected to the crane boom also prevents overturning of the jib, which is always a risk when luffing jib cranes have to work on tight city sites.

While two CTL630-32 cranes served the site at the south side of the building with their 40 and 30 m booms, two new CTL650-F45 luffers were installed to work

Crane jumps were modelled to find out suitable anchoring places for the two cranes on the unusually tapered building stabilised by a complex outer mega frame steelwork



Still operated in free standing mode the Terex luffers overlook the first levels of the Leadenhall Building surrounded by the prominent London inner city skyline. In the front of the photo the short 30 m boom of the CTL630-32, a tribute to the cramped site conditions, can be seen

at the north side. They had extra capacity and 35 and 40 m booms.

All the Leadenhall Building towers were rigged in short boom configuration with booms of between 30 and 40 m. While the internal climbing versions have a 48 m freestanding capacity, TC2 will reach a tower height of 150 m in external climbing mode. In the initial construction phase, TC2 is rigged on a fixed undercarriage at the level-3 basement by a truck crane. All other cranes were installed by using existing tower cranes working on the site. They reach their maximum free standing capacity by climbing cage in external climbing mode before three change over to internal climbing.



Based on careful 3-D planning a solution was found to base the climbing crane on a special lower climbing collar before leaving the tapering shaped front of the building under construction



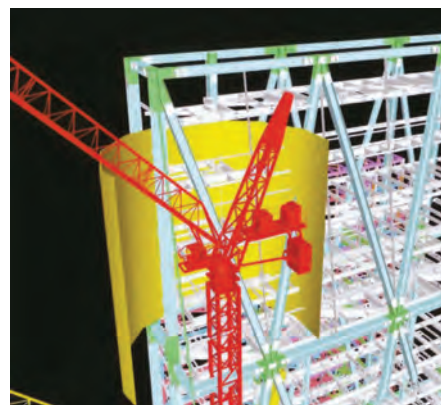
While the climbing collars for the crane at the left are attached to the central office building framework to the right, the crane in the middle of the photo is jumped through collars braced to the massive building frame at the left. For the crane at the right of the photo the tapered building shape leads to an extensive anchoring framework stabilising the second climbing collar at the diagonal mega frame nodes of the building, before the crane will be raised further in external climbing mode

to maintain the access road to the west and the proximity of the nearby Aviva building to the east. Also to be considered is the required 35 tonne lifting capacity to handle the table-shaped modules of the service core, along with the need to allow no interruption of the cladding of the lift shafts. TC4 has to be operated by an electronic restriction program to maintain safe clearance from the Aviva building.

Leadenhall Street is the only suitable access road for dismantling. The building's shape leans away from this street so a roof mounted derrick cannot be used. The removal sequence is as follows: TC1 was removed on 17 December 2012 to make way for the cladding rising up the slope of the building. It was dismantled by TC2 and lowered to Leadenhall Street. TC3 and TC4 needed to remain in place until the generators were inserted into the

service core tower at levels 47 and 48. TC3 will then be dismantled by TC4. TC4 will complete the attic construction, including the plant and building maintenance unit before being dismantled by TC2. Finally, TC2 will climb down, removing its own ties. The lower sections will be removed by truck crane from Leadenhall Street. Curtain wall panels left open after the tower crane is removed will be closed by the building maintenance unit.

In addition to more capacity and a maximum available hook load of 45 tonnes, the new Terex CTL650-F45 includes further advanced design features. The maximum jib length has been



3-D planning to evaluate which steel work must be delayed before jumping TC3 due to its counter radius

Placement

TC1 and TC2 at Leadenhall Street, both CTL630-32s, are inside the building to keep the length of their upper mast ties within practical limits. Their exact placing is governed by the diamond created from the mega frame through which they must pass between levels 12 and 19. The locations of TC3 and TC4, the two CTL650-F45s, are governed by the request



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TOWER CRANES

increased to 65 m where 7 tonnes can still be handled. While the 45 tonne lifting capacity is restricted to 15.5 m radius, it has 3 tonnes more capacity than the CTL630-32 could offer at 20 m radius by similar crane dimensions. The same tower system may be even more evident for contractors. An essential improvement of working speeds can be expected by the reduction in reeving for the luffing and



hoisting operation.

In contrast the CTL630-32 luffing time has been reduced from 2.8 to 2.5 minutes. While the CTL630-32 had to be operated in two- or four-fall mode, the CTL650-F45 can lift up to 16 tonnes in a single fall and 32 tonnes in a double fall condition. Due to the powerful 132 kW winch unit, a maximum lifting speed of 227 m/minute can be achieved in the single fall operation mode. While the CTL630-32 required a fixed ballast block, besides the movable ballast when being operated in 30 – 40 m short jib configuration, the new CTL630-32 needs no fixed ballast. In addition, the stainless steel covered electrical cabinet is on the extended cabin platform, leaving more access space on the machinery deck for the winches. The same platform can be used as access for the machinery deck installation.

Further features include an auxiliary assist winch, which supports the luffing rope reeving, the installation of the retaining slings during the jib installation and the connection of the luffing rope reeving to the jib tie bar. Foldable A-frame and machinery platforms can be loaded

The service core, in a detached north facing tower, being built using the CTL650-F45, hanging at the k-shaped central grey framework of the highly constrained site



The yellow service core on the north side of the building made up of table-like 35 tonne modules installed by the two CTL650-F45 luffing jib tower cranes

on one truck to reduce the transport requirements of the CTL650-F45. The complete upper crane can be transported in 10 HC40 containers for easy shipment all over the world. To extend free standing capacity, besides the proven HD23 tower system, a wider HD33 monoblock tower system and the all new HD45 can be used. While the CTL650-F45 has its debut at the Leadenhall Building in London, requests have already been addressed by Terex from different regions, including Asia, America and Middle East. ■

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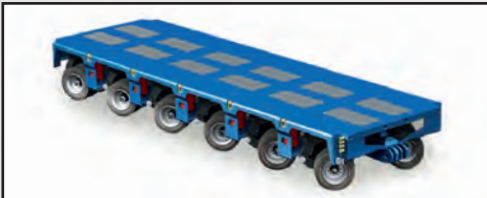


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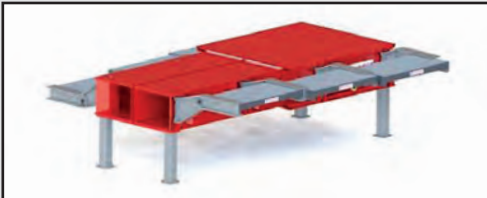


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A Liebherr tower crane has been assigned to work on a 20-year project at a high altitude open-pit mine in Peru. *IC* reports



The open pit mine is 4,100 metres above sea level

Reaching new heights

A Liebherr 630 EC-H 40 tower crane has started working on a 20 year project at the Antapaccay mine in Peru. The open-pit copper mine is 4,100 metres above sea level in the Yauri district of Espinar Province in southern Peru's Cusco Region. The mine is being developed by contractor Bechtel Chile for Brisbane, Australia-based Xstrata Copper.

The mine produces an average of 160,000 tonnes of copper concentrate per year, as well as producing gold and silver by-products. Facilities at the mine include a primary crusher, grinding area, flotation area, a regrind, a filter plant and a concentrate and tailings area. Antapaccay is the first of Xstrata's copper mines to use a concentrator plant of this kind.

The tower crane was supplied by Liebherr Chile to help with the

developments at the copper mine. It was installed by Liebherr's distributor for Peru, Metal Tecnica.

Until late last year, the Liebherr tower crane was handling the central lifting requirements on the flotation cell tanks. The design of the flotation cells meant that high precision lifting and placing during a tight construction schedule was required. A crane with a wide radius and a diverse range of lifting loads was therefore requested by the contractor.

Henning Kohler, regional manager at Liebherr Chile, explained why the 630 EC-H 40 was chosen for the project, "The 630 EC-H40 can lift 40 tonnes maximum and 5.4 tonnes at 80 metres, and consequently was suitable for all Bechtel's lifting purposes on the flotation cell line."

The crane was built with a tower height

of 40 m. It has now been assigned for on-site maintenance and assistance on the mine's flotation cell process. This role is expected to last for the next 20 years.

"Such requests are a tough requirement for a tower crane," said a spokesman at the mine, "[but] there is every confidence that this is the unit that we need."

Challenges

Due to the high altitude and remote location of the mine, the tower crane will be faced with certain challenges on site, including dealing with dramatic changes in temperature.

Jose Midzuaray, managing director at Metal Tecnica, explains, "We have to contend with low atmospheric pressure, and so maintenance of the hydraulics, electronics and mechanical system will require continual attention. However, Liebherr has a long track record of working under these kinds of conditions, and we see no problems of an unusual nature occurring."

Contractor Bechtel is in charge of engineering, procurement, construction and construction management services in relation to a series of potential copper mines, concentrators and related mineral processing facilities. Metal Tecnica will undertake the maintenance of the crane under LBC supervision.

At the mine 70,000 tonnes of ore will be produced per day before being transported to Matarani Port for shipment. The development is reported to be costing US\$1.47 billion.



The Liebherr 630 EC-H 40 tower crane working at the Antapaccay mine in Peru



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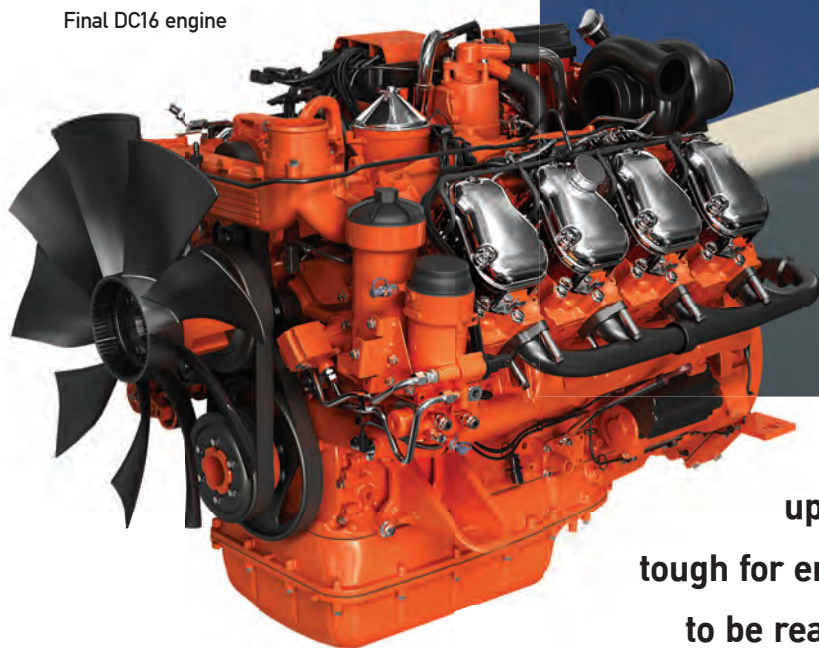


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The world market is splitting into two – one part where engine emission laws require cranes that run on ultra low sulphur diesel and the other where this fuel type is not even widely available

The industry is working hard to catch up with emissions legislation but it will be tough for engine manufacturers and crane builders to be ready in time. LAURA HATTON investigates

Too little so far

New laws that come into effect in January 2014 for the engines in large cranes will see exhaust emissions drop to near zero, compared to current EU Stage IIIA and EPA Tier 3 levels. European (EU) Stage IV and EPA (Environmental Protection Agency) Tier 4 Final in the USA engine exhaust emission regulations call for a further reduction in particulate matter (PM) and a 50% drop in oxides of nitrogen (NOx) compared to the 2011 EU Stage IIIB and EPA Tier 4 Interim levels.

Engines rated between 130 and 560 kW will be required in new cranes sold in Europe and the USA to meet the EU Stage IV / EPA Tier 4 Final standard from 1 January 2014. The 75 to 129 kW power band will have to comply from 2015. Engines installed in equipment purchased before these dates must comply with the regulation that was in effect when the engine was manufactured. All terrain, truck and rough terrain cranes in particular fall into the larger power band with their carrier engines, the latter band affecting superstructure engines and small cranes.

Technical engineering and supply challenges as a result of the legislation are first affecting engine manufacturers and crane builders alike while the ultimate impact will be on crane users and buyers. One manufacturer says that a typical new all terrain crane will cost between Euro 10,000 and 20,000 more for the crane

buyer to purchase a machine that complies with the EU Stage IV / EPA Tier 4 Final regulations. Most of the extra cost is in the engine and exhaust. On small, two axle, all terrains there could be a 10% increase in the overall purchase price for the buyer, with little immediate benefit. An EPA Tier 4 Interim engine costs 50% more to buy than an EPA Tier 3B engine. An EPA Tier 4 Final engine will cost 25% more again.

Another factor, where crane manufacturers have to change, for example, their engine supplier, may have implications for end users who, particularly on cranes when they get older, use independent parts suppliers. They may have to start and develop a new relationship with a parts supplier and thereby lose price and payment term benefits gained over time with another supplier.

Availability all round

Concern about the upcoming emissions law changes especially surrounds the availability of ultra low sulphur diesel (ULSD) fuel in all markets and the lack of suitable EU Stage IV / EPA Tier 4 Final engines being available from engine manufacturers so they can develop products in time for the implementation of the legislation.

Mike Herbert, director product planning and marketing at Manitowoc in North America, says, "We have experienced significant delays from our suppliers in

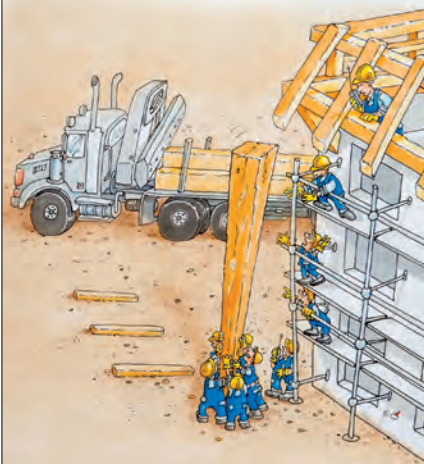
obtaining engines that are equipped with the latest legislation-compliant technology, as they themselves have experienced difficulties in developing and delivering the new systems on time."

While new engines for EU Stage IV / EPA Tier 4 Final regulations are already available, they are only in the power output range used in the smallest mobile cranes where the regulations are applicable from 2015. Few engines in the output range needed for the vast majority of mobile cranes – and on sale from January 2014 – will be available from the fourth quarter of 2013. Crane manufacturers, however, already need prototypes for their own product development, testing and type approval work.

Moving problems

On the fuel situation, EU Stage IV / EPA Tier 4 Final engines must run on ULSD, which has a sulphur content of less than 50 parts per million. An advantage is that it is suitable for all diesel vehicles (including those running EU Stage II / EPA Tier 2 and EU Stage III / EPA Tier 3 engines). There is concern, however, over the availability of ULSD in many parts of the world.

Maloney explains, "One major concern for customers is using the cranes in markets that have no EU Stage IV / EPA Tier 4 Final requirement or a ready supply of the ultra low sulphur fuel the engines require. This situation has implications for >



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EMISSION LAWS

large crane fleet owners who move their equipment across borders, for example, large contractors or rental companies who work in developed markets but also take on projects in markets such as Africa, Asia, Latin America or the Middle East. The export of used cranes from mature markets to emerging markets is also affected by emissions standards."

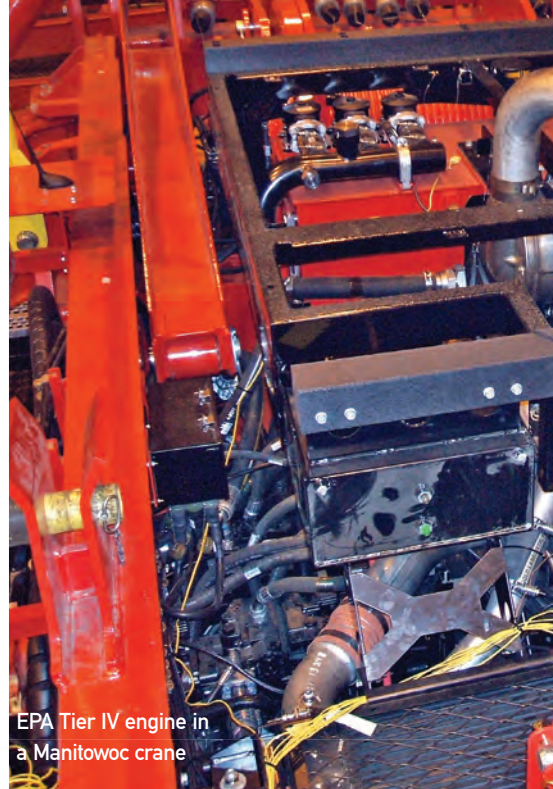
Rüdiger Zollondz, Terex Cranes product marketing director, adds, "Some customers will have trouble to operate cranes worldwide because EU Stage IV / EPA Tier 4 Final cranes only work where ultra low sulphur fuel is available. There is a grey area where you can put in fuel with more sulphur content – it is not simply black and white but, from a manufacturer's viewpoint, putting in high sulphur diesel into EU Stage IV / EPA Tier 4 Final engines ruins the emissions and ruins the engine's injection system."

Oil companies are already supplying ULSD to Europe, North America, Australia and other areas but it is not readily available everywhere. As a Link-Belt spokesperson points out, "The sulphur content level will eventually cause a problem when companies want to sell used equipment to countries that still utilise high sulphur content fuels."

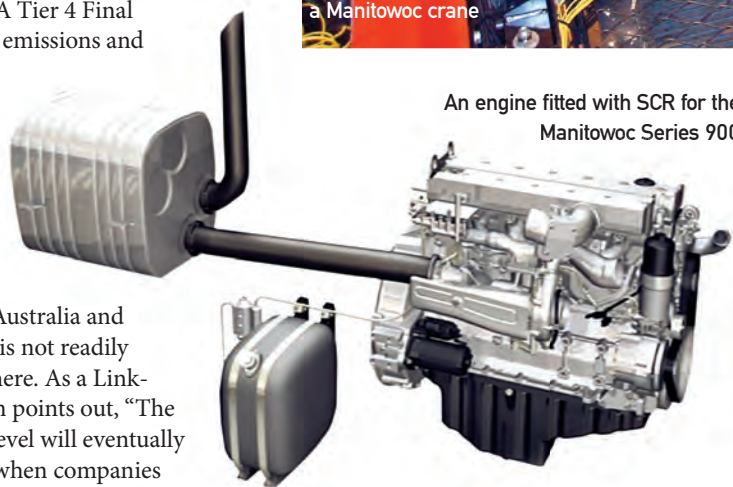
Zollondz explains further, "EPA Tier 2 and EPA Tier 3 engines are still being made by companies for markets where the regulation does not apply yet, such as Brazil and China but, by 2014, truck cranes with EPA Tier 2 and EPA Tier 3 engines will not be allowed to be brought to market in Europe."

"As a result, global lifting contractors may have a difficult job moving their cranes around the world because the regulations are dividing the world in two. In the EPA Tier 4 Final markets, cranes with older engines cannot operate due to the regulations and, in the non-EPA Tier 4 Final markets, new engines will find it difficult to operate if there is no availability of low sulphur fuel. For crane rental companies, the difficulty will begin in four years when their lease is over and they need to replace new models – they will find themselves with cranes that they cannot sell everywhere in the world," Zollondz continues.

Manitowoc is one example of a manufacturer still making cranes with EPA Tier 3 engines. , Andreas Cremer,



EPA Tier IV engine in a Manitowoc crane



An engine fitted with SCR for the Manitowoc Series 900

Manitowoc product manager for all terrain cranes, explains, "Many of our customers still want EPA Tier 3 engines to use them in markets where ultra low sulphur fuel is not available. So, we have repowered every machine to EPA Tier 4 Interim and then created 'retro' EPA Tier 3 versions."

Market split

An underlying problem is to be that nobody knows for sure all the places where you will be able to operate a crane with an EU Stage IV / EPA Tier 4 Final engine. As explained by a Liebherr representative, the global market is splitting. "On one side are the EU Stage IV / EPA Tier 4 Final countries with sharp emissions regulation, and on the other side are the countries with low emission standards and bad fuel quality. It will be a problem for crane users who operate globally to use their machines in different markets."

The impact will be felt throughout the used crane industry, for example, in the auction market. "In the used crane market, demand trends differ depending on geography. What we have seen in the last 12 months is that in certain regions, there has been a high demand for cranes of a certain



EMISSION LAWS

Transition period

While engine manufacturers will have EU Stage IV / EPA Tier 4 Final engines ready for delivery in 2014, the timings are causing problems for crane manufacturers. At, for example, Terex, "Issues have started because most engine suppliers are very late with offering EPA Tier 4 technology," Zollondz explains. "Their products will not be available until the second half of 2013, which is too late for an OEM to integrate it into their machinery and properly test it."

Kobelco is experiencing a similar situation, as it says that the engines it needs to meet the EU Stage IV / EPA Tier 4 Final regulations are still under development at engine manufacturer Hino.

At Manitowoc, the repowering of the Grove GMK series of all terrain cranes has taken longer than expected. "A major reason for this is that the engine manufacturers themselves have experienced delays in producing the new technology. And when it arrives it often needs adjustments before it is ready for market," says Andreas Cremer.

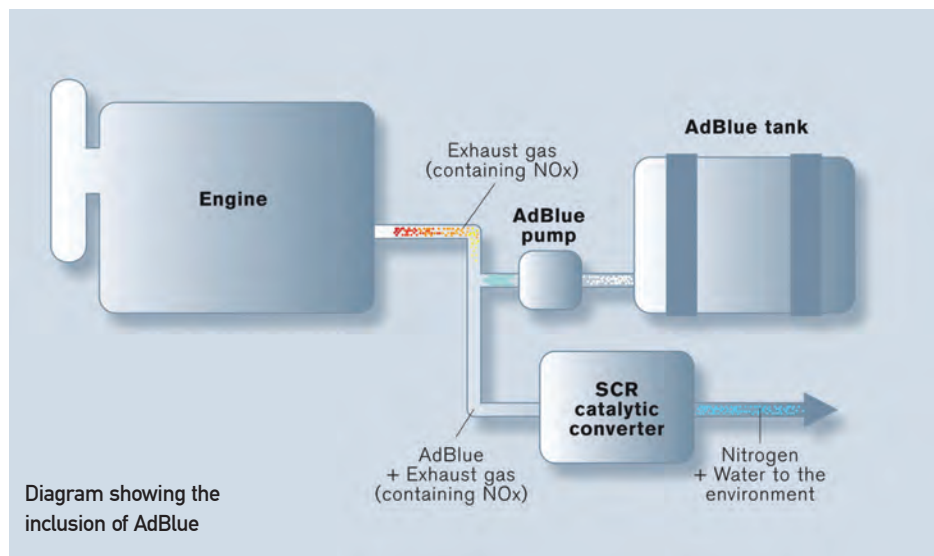
Liebherr says it will be ready with its models powered by EU Stage IV / EPA Tier 4 Final engines for delivery in 2014. Existing models will be changed with new engines and exhaust after-treatment systems according to legal requirements.

Link-Belt says that its telescopic rough terrains and telescopic crawlers will continue to use the Cummins off-highway offering, while the lattice crawler cranes will have Isuzu power.

Jerry Maloney at Manitowoc comments, "We're now beginning the next stage to ensure all our serial production crawler cranes meet the requirements of EPA Tier 4 Final. Cummins is providing the engines for our crawler cranes and they are utilising SCR, EGR, and DPF technology in different combinations by engine family for after treatment." >

age. This is being driven by the different types of fuel used by vehicles of different ages. With new emission standards in Europe, buyers need equipment that uses cleaner fuel. However, in places like Africa, India and Russia, they don't have the same emission standards, and use fuels with less stringent requirements. This is driving demand for older cranes manufactured in Europe," explains online auctioneer IronPlanet, (See the auctions feature in the March issue of IC on page 67 for more on auctions).

In a bid to address the issue, downgrade kits may be available making it possible to operate cranes in non-regulated countries on higher sulphur diesel. It could involve remapping the engine's performance characteristics in the electronic management system, removing the DPF filter and disabling the AdBlue or urea injection system. A downgrade kit will not work, however, where the engine architecture has had to be changed.



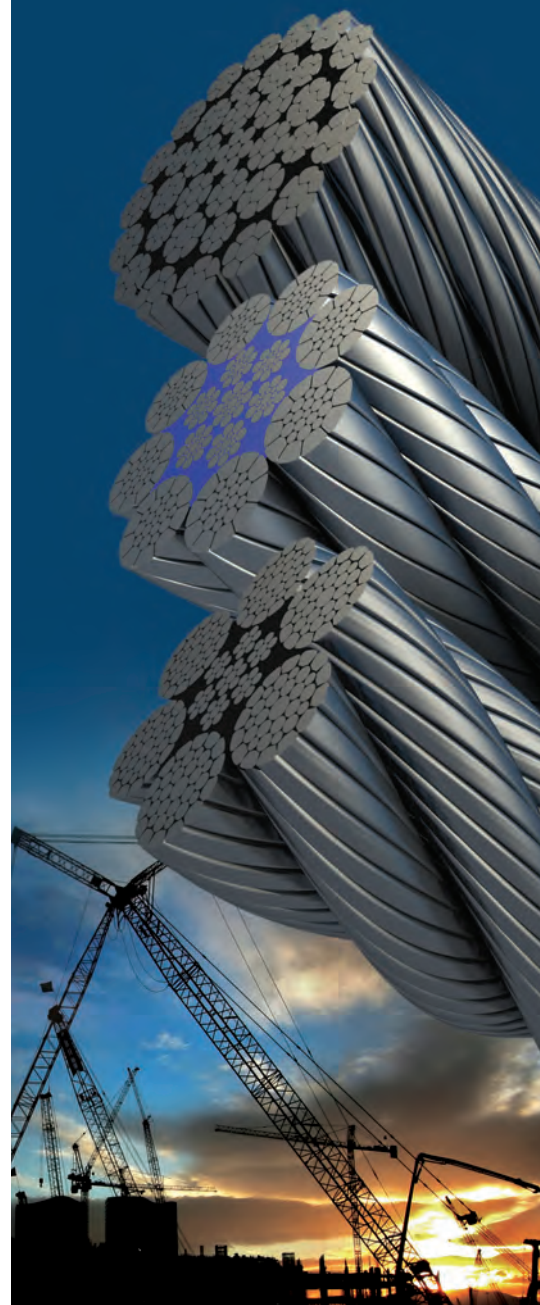
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Cremer says, "There are lots of design challenges ahead with the move to EPA Tier 4 Final and it continues to require a lot of our engineering hours. We will come up with individual solutions as we need to. When the work is finalised, by 2016, some of our cranes will look completely different."

Technical challenge

An issue in the transition to meet the Stage 4 requirements is the added and altered bulk of the new engines. Engine manufacturers are at varying stages in the lifecycle of their current engine architecture. Some are nearing the end and will find it difficult or impossible to meet the next stage of emissions legislation by just adding external components. The entire architecture will need to change.

There is a trend towards using engines with fewer cylinders. Where previously a V8 was used the new replacement will be an inline six. Implications are significant for the design and packaging of such a change. The proportions of the two engine configurations are very different. The engine bay is a big headache when incorporating EU Stage IV / EPA Tier 4 Final engines into the existing model range designs.

As Link-Belt points out, the new emission devices add weight and present a problem to package them in the already restricted space available. However, the manufacturer says it has incorporated these devices without sacrificing the transport weights, serviceability, and accessibility.

The industry needs to catch up with impending engine exhaust emissions legislation but crane manufacturers are being held back in their product development by a lack of suitable engine

For its rough terrain cranes, Link-Belt has widened the engine hood to house the new equipment while still providing six points of access to the operator's cab.

Cremer at Manitowoc continues, "Re-designing the cranes for the new emissions standards has been the hardest part. Fitting the exhaust systems into the cranes, accommodating the additional weight, making room for the new pipes, finding a spot for the DEF tank and so on, has all proved a real challenge for our engineers."

That additional weight, in the engine, exhaust and other additional components could add as much as 500 kg to a 100 tonne capacity two-engine all terrain. It is a big problem on small all terrains but less of a problem on crawlers.

In some cases manufacturers have to redesign carrier frames, engine hoods, covers, electrical systems and hydraulic systems, says Mike Herbert, Manitowoc director product planning and marketing, North America. It is little surprise that as much as 50% of a crane manufacturer's engineering resources are engaged in repowering its cranes.

Eric Etchart, Manitowoc Cranes president, says, "I look forward to the time when we are done with the repowering, when all the machines have EPA Tier 4 engines, because that will free up a lot of resources that we can allocate to more product development."

Added cost

Another issue is the level of servicing and maintenance of the after treatment the new engines will require. Factors include maintenance of the DPF and the cost of the diesel exhaust fluid (DEF) necessary for it to function. "An SCR system requires DEF so the cranes will have an additional tank that needs to be filled at every other fuel fill," explains Maloney.

"Operators and technicians need to make sure that the DEF tank is kept full on these engines otherwise the power torque level goes down. This has been a learning process for our customers, but most companies

that are operating SCR engines are now used to the new set-up," says Cremer.

As a Link-Belt spokesperson suggests, however, although there is no doubt that these emission devices will create some additional servicing, it is not going to affect the daily, weekly, or even monthly servicing intervals. "For the EU Stage IV or EPA Tier 4 Final engines, filling the DEF tank will become similar to the normal fuelling process, but will be on less frequent intervals," the company says.

Adding urea has been routine for on-road truckers for some time but it is a relatively new thing for the crane sector. According to web site www.FindAdBlue.com, there are more than 10,000 AdBlue supply points throughout Europe. In the UK, for example, there are 210 AdBlue pump locations, including Esso, Jet and BP.

Although the supply of DEF is slowly being made easier, the servicing of the DEF filter is still an added requirement. According to Link-Belt, the DEF filter will need to be serviced every 4,500 hours.

Power change

On a positive note, Mike Herbert points out that, "In many cases for the RT cranes, fuel consumption has been reduced and / or power output has increased so, in this regard, new engine technology should offer crane users some tangible benefits."

Engine manufacturers introducing units with new architecture say that they expect better fuel consumption and a 2 or 3 db noise reduction.

Concerns regarding cost have been a common one, however, as a Link-Belt representative explains, "The cost per gallon of diesel fuel went up considerably when ULSD fuel first hit the market [and] when EPA Tier 4 Final is implemented there will be the added cost of the DEF" In the UK, the cost per litre of DEF at the time of writing in early March was around £0.35 (US\$ 0.50).

Manufacturers the world over are trying to implement the changes to meet emissions regulations without drastically affecting the customers. Even so, by the

end of 2013 the crane industry will be hit hard. Further ahead will be Tier 5 but hopefully not earlier than 2019. ■



The exhaust after treatment package for the Perkins 1204F-E44TA engine

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The IC50 was the world's first ranking of the industry's largest crane operating companies and has grown in popularity each year. A number of entries have already been received this year, so, if your company has not yet taken part, this is a chance to ensure it takes its position in the listing.

The IC50 figure is obtained by adding together the maximum load moment rating, in tonne-metres, of all mobile and crawler cranes in your fleet as of 1 May 2013. A separate form is available over the page for those taking part in the IC Tower Index listing of tower cranes. Again, the figures you supply should be the total combined load moment rating, in tonne-metres, of all the tower cranes in your fleet, as at 1 May 2013.

Copies of the IC50 and IC Tower Index forms are on the following two pages and also at www.khl.com

If you have any questions regarding the forms or require help with representing tonne-metres, please contact the editor, Alex Dahm, by telephone on +44 (0)1892 786206 or by e-mail at alex.dahm@khl.com

■ WE URGE YOU TO COMPLETE AND RETURN THE FORMS BEFORE 2 MAY 2013

EDITOR'S IC50 NOTES

1. All IC Index and IC Tower Index figures should be given as a maximum load moment rating in tonne-metres.
2. Tower cranes are not included in the IC Index for crawler and wheeled mobile cranes. Please ensure that there are no figures for this equipment in your calculations – if you have tower cranes please complete the IC Tower Index section of the entry form.
3. Alternative lifting equipment is no longer included in the IC Index. Please ensure that there are no figures for this equipment in your calculations.
4. Figures in the IC Index for crawler and wheeled mobile cranes should include an allowance for any super lift attachments that you own.
5. The IC Index should include all cranes that are in your fleet as at 1 May this year. Do not include cranes that you have ordered but that have not yet been delivered.
6. To help illustrate the IC50 editorial in the magazine you could include some photographs, perhaps showing your cranes in action that will be considered for publication.
7. Please return all fully completed forms by 2 May 2013.

IC50 2013

Please read the form and the notes on page 62 carefully. If you have any questions, please do not hesitate to contact the team at *International Cranes and Specialized Transport* magazine.

The listing must only include cranes that you will actually have in your fleet at 1 May 2013. Please do not include cranes for which you have placed orders but not yet taken delivery.

IC50 MOBILE CRANES

Company name

Number of wheeled mobile cranes

Number of crawler cranes

Make and model of largest crane

Lifting capacity of largest crane in metric tonnes

IC Index * tonne-metres

Full address of company HQ

Number of depots

Number of employees

Scope of operation ☐ local ☐ national ☐ continental ☐ worldwide

Name of senior contact

Job title of senior contact

e-mail address

Company web site

☐ I confirm that the information shown above is correct.

Signed:

Name (please print)

Date:



* IMPORTANT:

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Åkerströms' new joystick transmitter will be launched at the Hannover Messe in April 2013

Controlling safety



Radio remote controls for the lifting industry include the latest developments in safety technology.

LAURA HATTON speaks to manufacturers to find out more

Throughout the radio remote control industry, safety is more than just a requirement. As manufacturer Ikusi's philosophy states, safety is an unavoidable necessity.

The most up to date safety standards in radio remote control (RRC) systems is ISO 13849-1. The new safety standard replaces EN 954-1 and uses the performance level as a measure of the reliability of a safety function.

"For the new safety standard, five performance levels are established, from 'a' to 'e', where 'a' is low danger and 'e' is high danger," says Mónica Lorenzo, Ikusi R&D department remote control units. "This standard is applied to each of the safety functions on the machine, such as energy dissipation and isolation function and the emergency stop function.

"The remote control is part of the complete system that performs the emergency stop safety function," Lorenzo adds, "therefore, when calculating the machine's performance level for this safety function we must take into account the performance level of the remote control's emergency stop."

A spokesperson from remote control manufacturer Autec, explains the point further, "This translates in specific design choices as hardware redundancy

and diversity, diagnostics of dangerous failure, choice of components with high reliability, rigorous software development and painstaking tests. Redundancy, diversity, high reliability components, diagnostic measures, extensive tests: all of these measures add up to offer to the user higher safety and reliability of safe RRCs, thus reducing risks of hazards and the probability of litigation."

Keeping in line

In response to the new standards, remote control manufacturers are developing updated products and models to meet the new requirements. In line with its safety philosophy, Ikusi is in the process of developing the performance level of the stop function in all of its remote controls.

It is developing the process with a leading German laboratory in this field (BGIA or the German Institute for Occupational Safety).

"With this certification Ikusi will maintain its commitment to ensure its remote controls comply with the highest safety standards and regulations of the multiple geographical areas in which it works, which allows it to operate in the most demanding environments and conditions," a company spokesperson says.

Autec is also taking into account the new safety standards and has included the mandatory stop function in its remote controls. "In some cases the UMFS (unintended movement from standstill) function may also be required," a spokesperson adds. Autec's Dynamic series has been certified for functional



The Dynamic Modular Light range from Autec



HBC's FSE 312 and FSE 308 receivers include frequency management



power lines. "This system ensures operators can safely operate. The 'basket' transmitter is used to control the machine during normal operations, and the 'observer' transmitter can intervene and take control in case of an emergency. Three-axis joysticks have also been implemented in the Autec Dynamic series, providing single-handed multi-axis control," the company adds.

safety by TÜV Süd, a technical service corporation. The Dynamic series includes the stop safety function, which complies with requirements of EN ISO 13849-1 Performance Level "e", Cat. 4 and EN IEC 62061 Safety Integrity Level 3. The UMFS

safety function provides PL "d", Cat. 3 / SIL2.

In other areas of safety, Autec has also developed a basket and observer system, which is a solution for elevated work platform control near live overhead

Manufacturer Åkerströms has also developed a line of products which meet the safety regulation EN 13849-1. "The latest safety technology that our remote controls meet is EN 13849-1 Cat 3 performance level d for safety stop function. Safety relays enable approved movements according to EN 13849-1 Cat 3, performance level d," An Åkerströms spokesperson said.

WORKING IN HARMONY



Olsbergs controller display

An integral part of a radio control system is the way that the signals from the receiver are translated into hydraulic movement. Company Olsbergs is introducing new hydraulic valves with unique control properties, the company says.

The new valves, the valve Q200 and valve Q300, include upgraded high performance load sensing and pressure compensated hydraulic valves in a monoblock design. They replace the valve PV91 and valve PV90 in Olsbergs control systems.

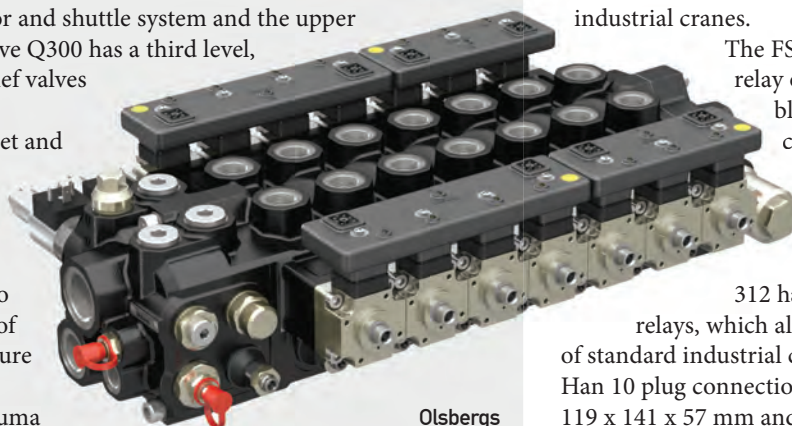
The valves have a unique positioner (actuator) which allows for mechanical

feedback of the valve spools. With the positioner the spool position in the valve is designed to be accurately controlled without affecting flow forces, which means in smooth and precise operation. The load-sensing technology, in combination with variable pumps, provides documented energy-efficient hydraulic systems, the company said.

The valves Q200 and Q300 operate up to a maximum pump pressure of 450 bar and at a maximum flow of 300 litres/min. The valve Q200 has two levels; the lower level houses the pressure compensator and shuttle system and the upper level houses the valve spools. The valve Q300 has a third level, the top level, which houses shock relief valves and anti-cavitation valves.

There are a number of adapted inlet and outlet sections that connect to different types of hydraulic systems and pumps. For example, one type of inlet section is designed to provide pressure compensated flow to e.g. an outrigger valve, and one type of outlet section has an integrated pressure reducer and filter unit.

The valves will be presented at Bauma 2013 in Munich.



Olsbergs Valve Q200

Ergonomic designs

New models from Åkerströms will be launched at the Hannover Messe technology show. "We are launching several new models this year, including both joystick and pushbutton transmitter models. The models include robust and ergonomic designs, new improved radio modules with new frequency ranges and large readable LCD displays with self-healing scratch shields," a company spokesperson adds.

At the receiving end, receivers from manufacturer HBC-radiomatic meet safety requirements in several ways. The receivers are in a plastic housing to protection class IP 65 and have an E-Stop circuit. HBC-radiomatic has released two new plug and play receivers, the FSE 308 and the FSE 312 for the wireless control of chain hoists and standard industrial cranes.

The FSE 308 has eight relay outputs for the black and white control commands for the wireless control of standard chain hoists. The FSE

312 has four additional relays, which allows for the control of standard industrial cranes. Both have a Han 10 plug connection. The FSE 308 is 119 x 141 x 57 mm and weighs 550 grams. The FSE 312 measures 150 x 141 x 64 mm and weighs 680 grammes.

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Wireless

With a range of new products entering the market with the updated safety regulations, the battle for ongoing air space becomes even more intense. This issue is another area that manufacturers are striving to overcome.

To meet this demand, Magnetek, a manufacturer of digital power and motion control systems, introduced its new range of CAN-2 receiver. It makes it possible to add a wireless control to any CAN-bus controlled machinery, the company says. To meet safety standards, the CAN-2 has two redundant machine stop outputs. It

also has two CAN-bus ports and offers the choice of 400 MHz, 900 MHz, or 2.4 GHz RF channels.

"The CAN-2 is a flexible receiver option that can be easily integrated into CAN-based products or products with any CAN-based protocol including J1939, CANOpen, ICP and others," said Eugene Novak, Magnetek radio controls product manager. "The small compact design is rugged enough to handle outdoor environments, and the quick response allows for precise control, without the latency found in other radio control systems." Efficiency and range is another area in the remote control market that is an important issue. Issues such as these tend to be implemented into



The CAN-2 receiver from Magnetek

the design of remote controls, as Åkerströms explains, "We offer adapted radio modules for different applications and for issues such as the ongoing battle for air space we have a wide range of frequencies."

For other companies, meeting these concerns has been included in the controls' designs

for some years. "Our products have been implementing automatic and dynamic spectrum-access techniques for some years now, thereby significantly improving the radio performances," a spokesperson from Autec says.

As an example, the Autec FJR transmitter, includes a control system that constantly scans the frequency band and automatically 'moves' to a free frequency. A frequency management system is also incorporated in HBC's FSE 308 and FSE 312. "Both products come with a frequency management system enabling the receivers to work without conflicting with other frequencies," a company spokesperson said.



The FJR transmitter from Autec



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WHERE

Tivoli Hotel,
São Paulo, Brazil

WHEN

4 June 2013

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Top speakers to Brazil

VISITOR INFO

WHAT

INTERNATIONAL CRANES AND TRANSPORT LATIN AMERICA

Full day conference and networking evening event for senior executives and managers from around the world with an interest in the Brazilian and Latin American crane and heavy haulage industry.

WHERE

Tivoli Hotel,
São Paulo, Brazil

WHEN

4 June 2013

A series of top international speakers from the global crane and heavy transport sectors have confirmed their presence at the second International Cranes and Transport Latin America conference, which takes place in Sao Paolo, Brazil, on 4 June.

Despite the global economic crisis Brazil has remained a strong and growing construction market. The football World Cup in 2014 and the Olympics in 2016 alone are requiring huge investment. In addition, the government is under pressure to improve the country's infrastructure. Major longer-term projects for airports, power generation, manufacturing, oilfield and port development are planned. The authorities are also softening their traditional opposition to private finance for such projects.

This year's CATLA conference will place particular emphasis on project delivery. It will be held at the five-star

The market in Brazil is drawing top speakers to the 2013 Cranes and Transport Latin America conference.

Project delivery and safety dominate agenda in Sao Paolo. GRAHAM ANDERSON reports

Tivoli Hotel, one day before Brazil's 2013 Construction Expo opens and it will bring together senior executives and managers from around the world with an interest in the Brazilian and Latin American crane and heavy haulage industry.

It has the support of the leading industry groups in Brazil – Sobratema and Sindipesa.

Among those leading the line-up will be Terry Emmert, president of Emmert International and a leader in the US heavy haulage and rigging industry. Emmert will present one of his company's recent major projects.

Headquartered near Portland, Oregon, Emmert International was founded in 1964 and has spent nearly 50 years providing hauling and rigging services to customers worldwide. The company also designs, engineers, and manufactures the hauling and rigging equipment used to perform many of its most complex heavy transportation and specialized rigging projects. Examples of Emmert's work include relocating Howard Hughes' Spruce Goose aircraft and The Hubbell Telescope.

Emmert also specialises in transporting equipment for the power, chemical and marine industries. Its clients include

Asea Brown Boveri, Brown & Root and utility companies.

Alongside Terry Emmert will be senior directors from two other major companies. David Rodrigues, commercial director at Makro Engenharia from Brazil and Javier Martinez, Spain and Latin America executive director at ALE, a UK-headquartered international heavy lifting and transport specialist. Both will also be presenting examples of major projects.

With the programme

They join a programme that will include presentations on*:

- The global construction economy, with a special focus on Brazil
- Critical issues facing the region's crane and heavy transport sectors
- New guidelines for the safe erection of wind turbines
- Latest approaches to operator certification
- How to improve co-operation between manufacturers and end users

The conference will be chaired by Helen Joyce, Brazil correspondent of *The Economist*, the respected international weekly news magazine. Joyce will also give





SPEAKERS

LATIN AMERICA AND BRAZIL: THE POLITICAL AND ECONOMIC PROSPECTS FOR THE CONSTRUCTION INDUSTRY

HELEN JOYCE, Brazil bureau chief, *The Economist*.

PROJECT ANALYSIS 1

TERRY EMMERT, president, Emmert International, USA

PROJECT ANALYSIS 2

JAVIER MARTINEZ, director for Spain and the Americas, ALE.

PROJECT ANALYSIS 3

DAVID RODRIGUES, commercial director, Makro Engenharia de Movimento.

CRITICAL ISSUES FACING BRAZIL'S CRANE AND HEAVY TRANSPORT SECTOR

JOÃO BATISTA DOMINICI, executive vice-president, Sindipesa.

CERTIFICATION, TRAINING AND STANDARDS: BUILDING A SAFE INDUSTRY - THE US EXPERIENCE

JOEL OLIVA, program manager, National Commission for the Certification Of Crane Operators.

THE SAFE ERECTION OF WIND TURBINES - NEW GUIDELINES FROM THE EUROPEAN FEDERATION OF MATERIALS HANDLING

VINCENT STENGER, product safety manager, Terex.

LASHING OF SPECIAL LOADS - PRINCIPLES, METHODS, MISTAKES AND PLANNING

RUBEM PENTEADO DE MELO, technical director, Transtech Ivesur, Brazil.

CONSIDERING SAFETY WHEN USING LIFTING EQUIPMENT - SPREADER BEAMS AND LIFTING BEAMS

SARAH SPIVEY, managing director, Modulift.

Plus speakers from Manitowoc, XCMG, Zoomlion, and more to be confirmed.

the opening address.

Some of the lustre has recently gone from Brazil's economic performance, despite the country's position as one of the fast-developing BRICs (Brazil Russia India China). But the picture is far from gloom and doom. Following six consecutive quarters of below-trend growth, Brazil's economy now seems to be slowly recovering. In the fourth quarter of 2012, seasonally adjusted output expanded by 0.6% compared to the previous quarter and by 1.4% compared to same quarter a year earlier.

Infrastructure essentials

Many economists and business leaders, however, believe that improved infrastructure is essential if Brazil is to build on its recent economic progress – and it is a problem that is difficult for the government to resolve. The point was emphasised in a report from international accountancy firm KPMG in which it wrote of the “dilemma the government faces between the need to enhance the quality and efficiency of governmental expenditure, the strong requirement for continued public investment, especially in the country's infrastructure, the need to ease interest rates and inflation, as well as to reverse the appreciation of the Brazilian currency.”

KPMG added, “The requirement for infrastructure investment is pressing, especially in the country's transport sector.

“Brazil's vast size and massive geographical challenges lead to major regional differences and under-development of key assets such as the rail network. The continually growing economy is running up against transportation constraints.”

The government is responding. Global Insight has forecast an infrastructure spend in excess of US\$ 140 billion by 2020.

A recent report from Global

Construction Perspectives and Oxford Economics forecast that construction output would grow by an average of 3% a year from 2015 to 2020. While this represents a slowdown compared with the rapid expansion of recent years, it is still a far stronger performance than in most parts of the world.

Growth brings its own problems, however, and the issues facing Brazil's crane and heavy haulage industry will form the basis of another keynote presentation at the conference, from João Batista Dominici, executive vice-president at Sindipesa – the Sindicato Nacional das Empresas de Transporte e Movimentação de Cargas Pesadas e Excepcionais. He will consider not just the need for infrastructure investment but also the regulatory environment along with issues around training and safety.

A civil engineering graduate and a specialist in transportation, João Batista Dominici has been with Sindipesa for 15 years specialising in management, regulatory and legislative affairs, development, communications and marketing. Previously, he spent 14 years heading up the department responsible for control and inspection of heavy transport in São Paulo, the largest city in Brazil.

Sindipesa's members are some of the biggest and most important companies involved with heavy transport and cranes in Brazil.

Last year's CATLA conference attracted 215 delegates from 84 firms and 12 countries. Commenting on the event, Sarah Spivey, managing director at UK-based rigging and equipment specialist Modulift, said, “It was a wonderful opportunity to explore the growing Latin American market and meet some key players in the industry. We learnt a lot.”

Details of the programme, plus booking information, are at: www.khl.com/catla

* Programme may change. ■



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The new Potain MCT178 combines elements built at Manitowoc factories in Portugal and China



Manitowoc has introduced a new Potain flat top tower crane at its facility in Porto, Portugal. *IC* finds out more

New Potain flat top

During an event at its facility in Porto, Portugal, Manitowoc introduced a new Potain flat top tower crane designed for emerging markets.

The Potain MCT 178, which has been built at the Porto facility, has an 8 tonne capacity and uses an L-type mast. The L-type mast is available in 1.6 or 2 metre wide sections and offers a maximum free standing height of almost 67.6 m, the company said. Both size masts can be used in the same mast configuration, the company added.

Further features of the MCT 178 include a capacity of 1.5 tonnes at a maximum jib length of 60 m. When fitted with a 45 m jib, the crane can lift 4 tonne loads at more than 40 m radius.

The new crane is based on the MDT 178 and has been designed for easier transport. The counterjib is a single monoblock design and the ballast support can be easily folded, Manitowoc explained.

The upper works, including the counterjib, a 60 m jib and the 50 LVF hoist winch, can be transported on three trucks. The cab itself is permanently attached to

the tower head but, because it is mounted on hinges, it can rotate for a more space-saving setup in transport. The cabin, tower heads and hoist can be lifted in one piece by a larger mobile crane, Manitowoc added.

Assembling the jib at ground level has also been made easier thanks to a stepped pin and centre pin design, the company added. Other features include a Potain Smart View cab and service points positioned to allow safe and easy access along the jib. All mechanisms have variable frequency drives.

The crane is designed for markets in Africa, Turkey, Russia and surrounding CIS countries.

Speaking at the launch, Jean-Claude Doucene, Manitowoc commercial director for Russia and CIS countries, said, "We developed a cost-effective crane that combines Potain's well-known quality with the latest technology.

"Our customers want cranes that make their life easier and can be erected faster. We listened to their needs to develop this crane, which is the latest in a long line of successful cranes. By having part of the crane built at our factory in Baltar, Portugal, and other parts of the crane built in Zhangjiagang, China, we created a cost-effective crane that best utilises our manufacturing capabilities."

Target markets for the new Potain MCT178 include Africa, Turkey, Russia and surrounding CIS countries



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WHERE

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WHEN

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COMMENT

Joel M Dandrea

Celebrating 65 years



Since its foundation in December 1948, SC&RA has grown to include more than 1,300 members in 46 countries – evolving into one of the most highly respected associations in the world. In 65 years we've grown in both participation and stature, and we're pleased to report that we currently have 210 international members – a number that's continually increasing.

It was during a time of tremendous growth and innovation in post-war America that the heavy haulers, machinery movers and erectors section of the Local Cartage National Conference (LCNC) was formed. As the forerunner of the association we now know as the SC&RA, the heavy haulers, machinery movers and erectors section of the LCNC comprised eight founding members – five of which are still in business.

At the Annual Conference this year, to acknowledge these companies for having the foresight and commitment to build the foundation for our great organisation, SC&RA has the distinguished honour of presenting longevity awards to Dawes Rigging & Crane Rental, Dobson Industrial, Hastings Truck Company, Southwestern Industrial Contractors & Riggers, and Wilhelm Trucking & Rigging. While these founding members weren't necessarily focused on international expansion in those early days, the scope and mission of SC&RA has continually evolved and the Association is proud to be engaged in a number of international efforts.

Toward that end, following the success of its November 2012 meeting in China, on 17 April, at Bauma, SC&RA will participate in a meeting of the International Crane Stakeholders Alliance, a coalition of international industry partners, to discuss technical and regulatory issues pertaining to the crane industry. The Alliance was formed in 2011 to facilitate information sharing and dialogue between both industry and manufacturer organisations, including, but not limited to, developing and publishing consensus positions on industry issues and harmonisation of

international standards. Other members of the Alliance include the European Association of Abnormal Road Transport and Mobile Cranes (ESTA), the Crane Industry Council of Australia (CICA), the Fédération Européenne de la Manutention (FEM) and the Association of Equipment Manufacturers (AEM). Preliminary topics to be addressed by the group include: B30.5 stability limits in load charts; the current status of ISO DIS 16715 hand signals; FEM 5.016 *Guideline – Safety Issues in Wind Turbine Installation*; crane inspections and much more.

In addition, the prestigious rigging and hauling Job of the Year awards continue to be a high-water mark for the Association, with extremely strong international participation this year. We've received a record number of entries on both the transportation and crane and rigging side from seven countries: the United Kingdom, Argentina, Mexico, Italy, Canada, South Africa and the United States.

In April, to help commemorate SC&RA's 65 years of excellence, KHL will release its second SC&RA coffee table book, entitled: *Monumental – Five Decades of SC&RA's Job of the Year Awards*. The book details the various projects and companies that have contributed to the competition every year since the mid-1960s. Showcasing stunning pictures that help tell the stories of some of the most complicated and awe-inspiring lifts and moves to ever take place, *Monumental* is as much a "thank you" to our industry as it is a tribute.

As we look toward the second quarter of 2013, we're excited to do so with a strong first quarter behind us. As the world's construction markets continue to grow and expand, SC&RA is excited to help facilitate ongoing communication and resources through its growing international membership. By using the expertise and community that has grown out of those early companies' pledge to establish firm footing for the heavy crane, rigging and oversized specialized transportation industry, we've enjoyed 65 years of excellence as an international association. ■



WHO'S WHO

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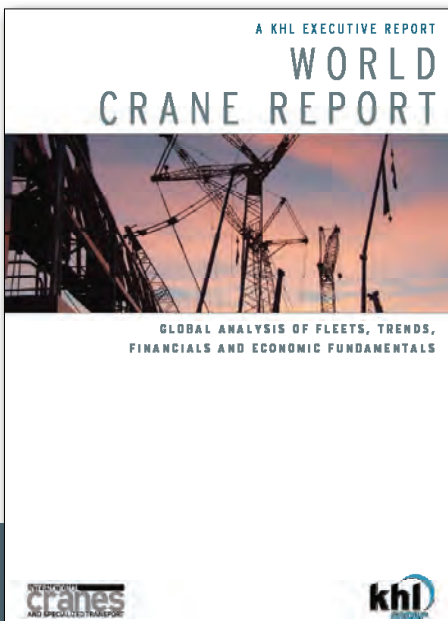
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The 2013 SC&RA Specialized Transportation Symposium saw a record crowd in attendance from 27 February to 1 March 2013, in Orlando, Florida, USA.



Record attendance for STS 2013

The 418 attendees, including many from other countries, enjoyed a productive lineup of committee and state meetings, featured speakers and educational sessions. The exhibit centre highlighted the latest industry products, ideas and technologies, while also providing a perfect setting for friends

Stefano Tondelli, right, Cometto Industries North America director, interacts with members of the record-setting crowd at this year's Symposium

to reconnect and new business to thrive. Among a notable list of recognitions, the prestigious 2012 Hauling Jobs of the Year garnered collective enthusiasm.



Robert Moore, chief legal counsel for NBIS, identified key elements necessary in today's environment to help companies transport cargo through the maze of regulatory environments safely, legally and profitably

"Harmonisation" was a headline across numerous committee meetings and educational sessions this year, as speakers and fellow industry professionals examined ways to synchronise equipment and permit regulations for transporting essential cargo for manufacturing, construction and energy needs across US state lines.

Representatives of the state transportation departments in America, in an effort to generate industry input, have created a comprehensive matrix to evaluate the differences in each state's requirements. In much the same way that countries in Europe and around the world encounter various regional permitting requirements, industry officials are looking to lengthen and standardise the period of time a permit is valid in a particular region. The Northeastern States subcommittee on highway

SCR FOUNDATION SCHOLARSHIP

Additional scholarship and grant recipients highlighted 2012 for SC&R Foundation

The SC&R Foundation completed 2012 by providing six additional scholarships and grant awards, bringing the tally for the year to 16 winners, at a grand total of US\$31,000. Five grants and 11 scholarships were provided in all, with the intent of assisting recipients with tuition and expenses while pursuing degrees and technical certificates aligned with opportunities in the specialized transportation, crane and rigging industries.

Of the six new recipients, the four scholarship winners at US universities were: Caleb Brack (pursuing engineering at The Citadel in Charleston, South Carolina), Joseph Sadden (pursuing a Master's of Science degree at New York University), Collin Smith (pursuing civil engineering at the University of Missouri) and Joshua Thompson (pursuing business management and accounting at the University of Wisconsin-Manitowoc).

The two grant winners were: Erika Davis (pursuing accounting and technology at Valencia Community College in Orlando, Florida) and Conner Van Dyke (pursuing a degree in diesel technology at Lake Area Technical Institute, in Watertown, South Dakota).

The SC&R Foundation is accepting applications for the 2013-14 Grants and Scholarships Program. To be eligible, an applicant must be an employee of an SC&RA member company, or a spouse, child or grandchild of an employee of an SC&RA member company. The programme is designed to assist individuals in pursuit of a career in the specialized transport, crane and rigging industries. Scholarships are available to students pursuing an educational opportunity at a two- or four-year college or university degree programme. Grants are available to students taking vocational courses, advanced certificate programmes or continuing education classes.

The mission of the Specialized Carriers & Rigging Foundation is to advance research and education while furthering other charitable, educational and scientific purposes for the industries served by the SC&RA. Since 1986 more than 113 scholarships and grants, totalling \$306,000, have been awarded by the SC&R Foundation, as well as over \$265,000 toward research projects and reports.

Speaker Robert Stevenson addressed the crowd at the 2013 Symposium. Speakers and industry professionals alike emphasised harmonisation, addressing such components as safety management, permit regulations and transporting of goods



transport (NASTO) has been reactivated after nine years and has established operating guidelines for the group with harmonisation as a primary goal.

Douglas Ball, SC&RA vice president, said, "We are grateful for the commitment of these state officials to work with the industry and each other to find common solutions to common issues. Together we are positioned to make unprecedented progress toward improving safety while expediting the transportation of over-dimensional cargo throughout the country."

Presenter Greg Cohen, American Highway Users Alliance president and CEO, indicated a need to increase transportation funding, adding that gasoline and diesel taxes were last raised 20 years ago. Cohen stated that to make the US Transportation Trust Fund solvent, gas and diesel taxes will have to be raised five to eight cents per gallon, unless a different use-based revenue method is adopted, such as miles driven or higher taxes on tyres.

Jeff Davis, Fleet Safety Services president and chief safety officer, focused his presentation on protecting a company's revenue base. He emphasised the importance of training drivers so

With 35 companies holding court in the exhibit hall, attendees examined and discussed trends and cutting-edge ideas. The 2013 Symposium brought together an impressive international audience

that they're in compliance with law enforcement. Although Davis did not endorse specific electronic log equipment, he noted that companies which had done so saw their CSA scores drop significantly.

The 2013 Exhibit Hall featured 35 companies, presenting some of the most advanced strategies and products available. The SC&RA Symposium once again offered a blend of networking opportunities and educational forums. The higher attendance and quality of exhibitors at this year's event reinforces the steps SC&RA is making to inform, educate and empower the industry in the transportation of over-dimensional loads.

Safety presentation

Pete Trimble, corporate safety & claims director at Keen Transport in the USA gave a memorable presentation at the 2013 SC&RA Annual Specialized Transportation Symposium, titled *Safety programs require focus and planning*.

The session began with an emphasis on having the right people in the right place, top to bottom, underlining the importance of group comprehension

With a record-setting attendance of more than 400, audiences for the education sessions, featured speakers and committee meetings were well represented by industry professionals from around the world. Among an array of industry focal points, state regulations, business leadership and safety programmes were consistent threads



– where everyone not only has to understand that safety is a top priority, but they have to believe it. It starts in the hiring phase, he added, where safety should be a firm topic of the interview process, with both parties expressing their thoughts. Pete also stressed the value of written criteria for each position, as well as legitimate background investigations on potential employees.

For companies unsure of what a proper background check entails, Pete expounded mentioned key headlines that shouldn't be passed over during the hiring process: PSP reports, pre-employment screening programmes, CSA violations, credit reports and previous employment verifications. He also highlighted the extreme importance of not reducing your qualification requirements simply because you need an employee.

Assigning responsibilities was another key area of focus that Pete touched on. In all areas of safety management, he suggested a mission statement within that statement with wording about the company's view on safety and how you want your employees to view safety.



Pete Trimble, Keen Transport corporate safety and claims director, emphasised accountability from the top down. His session reinforced the value of consistent safety management and communication



INTERNATIONAL CRANE STAKEHOLDERS ASSEMBLY

The SC&RA will participate in the International Crane Stakeholders Assembly meeting in Germany this month.

On the heels of a successful November 2012 meeting in China, the SC&RA will participate in the International Crane Stakeholders Assembly meeting on 17 April in Germany. The gathering includes a coalition of industry partners, with an aim to discuss technical and regulatory issues pertinent to the crane industry.

Additional members include the Association of Equipment Manufacturers (AEM), the European Association of Abnormal Road Transport and Mobile Cranes (ESTA), the Crane Industry Council of Australia (CICA) and the Fédération Européenne de la Manutention (FEM).

Since its inception in 2011 the Assembly has brought together international crane and rigging companies with manufacturers with the intent of discussing common interests and concerns. As industrialised countries steadily move toward one another, the need for open dialogue and harmonisation of international standards becomes paramount. The International Crane Stakeholders Assembly is positioned to address this ongoing issue by connecting industry professionals and organisations around the world, and establishing working relationships for years to come.



Employees should be made aware of such policies early and often, from orientation throughout an individual's career with the company. It can be beneficial to have a member of top management provide these directives.

Trimble showcased departmental responsibility in relation to overall safety management. Department heads are integral to the safety management process because they are in regular touch with their employees. As such, their contact with employees regarding safety should be included not just in orientation but in consistent messages delivered every day in the workplace and beyond. Department heads should be thorough in their delivery, with detailed accounts of how such rules relate to the department. Areas of coverage should include (but aren't limited to):

paperwork and bill of lading, permits, escorts, hours of service, trailer operations and maintenance shops. Pete also accentuated the need for company officials to focus on safety in the additional areas of satellite systems, cargo securement, customer service, highway safety, fuel purchasing and payroll.

Another topic of emphasis was making sure the individual doing HOS training understands the regulations involved, FMCSA's interpretations of the regulations as well as using the correct reference material was also emphasised. For example, if when training on how to correctly complete HOS logs, if a company still uses paper, then training with the company's logbook is key. Likewise, if using E-logs, use those materials instead of paper.

It is important to understand your operations and determine what works best for your organisation in terms of employee recognition and/or discipline:

Enjoying a break in the action are Susanne Schlegal, Scheuerle president, Germany; Marisa and Don Anderson, Don Anderson Haulage, Ontario, Canada; Bernd Schwengsbier, Scheuerle, Germany; and Jason Shye, Precision Enterprises, Cocoa, Florida

point systems, award systems, written employee warnings or termination. You can work with your insurance carrier, or TPA (third party claims administrator) to get examples of systems other carriers are using for this purpose.

In closing, Trimble stressed the value of consistent safety management with employees and its potential for reducing accidents on the road and in the yard. Drivers, mechanics and yard workers should be reminded of safety concerns on a daily basis. Trimble's final piece of advice to the group was to always end conversations with drivers, mechanics, riggers, crane operators and any other employees on a positive note. He recommended saying phrases like, "Have a safe trip; Have a good ride; Have a safe lift; Have a safe day".



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Record Awards

A record 73 entries for the 2013 ESTA Awards of Excellence made the job of drawing up a shortlist of those companies in the running for an award all the more difficult. IC here reveals that list

The winners of the 2013 ESTA Awards will be announced during the spectacular Awards of Excellence and dinner event on 18 April in Munich, Germany.

The shortlist of nominated entries for the annual ESTA Awards of Excellence was drawn up by the European Association of Abnormal Road Transport and Mobile Cranes. ESTA is a pan-European association for national trade associations representing mobile crane rental, heavy haulage and abnormal load transport companies.

The annual ESTA Awards of Excellence

is the most prestigious European event for all ESTA members, affiliated companies, end users and manufacturers working in heavy haulage, transport and the lifting industry. Cranes covered include wheeled mobiles, crawlers, knuckle boom loader cranes, other truck cranes and truck mounted access platforms.

A record showing of 73 entries this year was received for the following 11 categories:

- Safety award
- Transport job under 120 tonnes
- Transport job above 120 tonnes
- Lifting job, telescopic crane under 120 tonnes
- Lifting job, telescopic crane above 120 tonnes
- Lifting job; lattice boom crane
- Combined techniques, lifting and transport
- SPMT (self propelled modular transporter)
- Innovation or Development of the year, end user
- Innovation or Development of the year, manufacturer
- Gino Koster Award (Personality of the Year).

To be eligible for entry, companies need to be a member of an ESTA national association in Europe. Affiliate members of ESTA are also eligible for the Innovation Award. The Innovation Award has two categories: manufacturers and end users. Company entries shortlisted for the 2013 awards appear in the panel, left.



ESTA AWARDS 2013 SHORTLIST

CRANES, TELESCOPIC, LIFTING CAPACITY LESS THAN 120 TONNES

- TP Kranar AB, Sweden
- BMS, Denmark
- Koninklijke Saan, Netherlands

CRANES, TELESCOPIC, LIFTING CAPACITY MORE THAN 120 TONNES

- Breuer & Wasel, Germany
- BMS, Denmark
- Sarens, Belgium
- Mammoet Germany, Germany

CRANES, LATTICE BOOM

- Nordic Crane Stangeland, Norway
- Aertssen Kranen, Belgium
- Sarens, Belgium
- Sarens Nederland, Netherlands

TRANSPORT

A. TRAILER AND LOAD UNDER 120 TONNES GROSS WEIGHT

- FTX Logistics, United Kingdom
- G Vlastuin Transport, Netherlands
- Wagenborg Nedlift, Netherlands
- Kübler Spedition, Germany

B. TRAILER AND LOAD OVER 120 TONNES GROSS WEIGHT

- ALE, United Kingdom
- Fagioli, Italy
- Ville Silvasti, Finland
- Hareket, Turkey

COMBINED TECHNIQUES

- ALE, United Kingdom
- Sarens, Belgium

- Mammoet Europe, Netherlands
- Sarens Nederland, Netherlands

SAFETY

- ALE, United Kingdom
- Fagioli, Italy
- Aertssen Kranen, Belgium

INNOVATION, END USER

- Wagenborg Nedlift, Netherlands
- ALE, United Kingdom
- Fagioli, Italy
- August Alborn, Germany

INNOVATION, MANUFACTURER

- Liebherr-Werk Ehingen, Germany
- Manitowoc, Germany
- Goldhofer, Germany
- Terex Cranes, Germany

A winner from the nominations in each category will be announced at the ESTA 2013 dinner and awards party on Thursday 18 April 2013 at the Westin Grand Hotel in Munich, Germany. This event punctuates the Bauma exhibition of construction equipment and services held every three years.

SPMT

- ALE, United Kingdom
- Fagioli, Italy
- Roll-iT, Belgium
- Mammoet Germany, Germany

■ For more information visit:

[www.khl-group.com/
events/esta](http://www.khl-group.com/events/esta) and
www.esta-eu.org/awards

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Auto-reverse in adjustment

Knott-Avonride, manufacturer of brake and trailer technology, has announced the arrival of an automatic adjustment system for auto-reverse brakes.

The system can "self adjust" and provides smooth braking as well as equal and consistent wear of all brake shoe linings, the company said. Features of

the new brakes include an "end to jerky movements", less wear and tear on towing vehicles and faster braking response, the company added.

The system is available as a retrofit kit on the Knott 200 x 50 brake.

■ For more information visit www.knottuk.com



Phil Holman, Knott-Avonride joint managing director, with the company's latest innovation

WEIGHING IN

Pfreundt, Südlohn, Germany, manufacturer of mobile weighing systems, will present several new prototypes at Bauma 2013, Munich.

First is the new wheel loader weighing system scheduled for launch in 2014. Features include self assembly and a touch screen interface. The weighing system connects to the Pfreundt web portal, which offers customers a master data management system, the company said.

The portal includes remote diagnosis and communication with a number of systems. The portal can also transfer delivery receipts and invoices. ■ For more information visit www.pfreundt.de

Rud Power Point Star for safety

Rud Chains has announced the Power Point Star, a new pink hook that pivots in any direction. It allows all common sling types to be quickly and safely attached without having to use additional equipment, for example, shackles, the company said.

The new hook can be turned in a 90 degree position from the bolt centre line and is a safety factor in lifting points. The design of the hook also means that lifting points and loads are not damaged, the company added. Rud Chains in Kent, UK, manufactures



round steel chain, lifting points and lashing systems. It is a subsidiary of Rieger & Dietz in Aalen, Germany and is ISO 9001 certified.

■ For more information visit www.rud.com

ELEBIA HOOKED

Elebia, a manufacturer of automatic crane hooks, has released a redesigned second generation of autohooks. The first generation was released in 2009 with the e5. The new product is now smaller, lighter, tougher and more efficient, the company said. The automatic hook allows the end user to hook and release loads without handling, due to the use of a magnet on its lower section. The hook system has been described as a safe method by the company.

■ For more information visit www.elebia.com



The second generation of Elebia auto-release hooks

Neptune automated under vehicle wash system

A new automated undercarriage wash system from Neptune is said to remove abrasive bitumen, silica sand, clay, and sludge accumulations from light trucks, SUVs, and other passenger vehicles in

approximately 20 minutes.

The washer system features an 800 psi wash pressure and has a closed loop to allow water to be recycled. Any dirt is transported outside the system by an automated

conveyor. Vehicles up to 28 feet (8.5 metres) long can use the system, which makes automatic adjustments depending on vehicle lengths.

Neptune Canada will demonstrate its second generation automated high-pressure undercarriage wash system in the Fort McMurray area, in spring 2013.

■ For more information visit www.NeptuneWash.com

The new automated undercarriage wash system from Neptune



Christian-Jacques Vernazza

13 March 1948 – 18 March 2013

Christian-Jacques Vernazza, who has died at 65, strived passionately for the crane and specialized transport industry while building his company Mediaco into a leading European player in the lifting industry. As a dynamic business leader he built up and diversified French company Mediaco's activities and worked hard to expand the family business set up in 1942.

The Group began operating across France and Argentina and became the largest crane rental company in France. Always on the look out for opportunities, in 1988 Christian-Jacques Vernazza diversified and launched a

business that reached the world number one position in grape seed oil and tartaric acid production.

He remained deeply attached to his home city of Marseille and made a point of keeping Mediaco's head office there, where Vernazza was well

known and admired. Posts held in addition to his work with Mediaco included, president of the European Association of Abnormal Road Transport and Mobile Cranes (ESTA), advisory member to the Bank of France in Marseille, and vice-chairman of UFL.

The Marseille Chamber of Commerce elected him entrepreneur of the year in 2012.

Vernazza's memory will be kept alive by his three children. Alexandre and Annabel already work in managerial positions in the group and Rodolphe, his younger son, presently studying, is also preparing to join the business.

Recent years saw Vernazza struggle with his health but he remained hardworking and enthusiastic.

IC received many messages from those in the crane and transport industry worldwide who knew him, many of them both as a colleague and as a friend. These tributes follow:



Christian-Jacques Vernazza in his element during the 2011 ESTA Awards of Excellence

■ "He possessed the charisma to put efforts in to real action, could speak words of wisdom and had the gift to unite people as if they were a true family."

TON KLIJN

General secretary, ESTA, Netherlands.

■ "CICA would like to join the global crane industry in recognising the significant role Christian-Jacques Vernazza played in our industry, in ESTA's development, in industry leadership, and in industry and international fellowship, including his important role as ESTA president. Our deepest sympathies to the Vernazza family."

ALAN MARSHALL

Chief executive officer, The Crane Industry Council of Australia.

■ "The CPA has been a member of ESTA for many years, and for most of that time Christian-Jacques has been the president. Christian was a lovely man and a great character. His entrepreneurial spirit was the

driving force of ESTA. He will be sadly missed by all who knew him".

COLIN WOOD

Chief executive, Construction Plant-hire Association, UK.

■ "Our industry has lost a passionate and charismatic leader who was driving manufacturers and users to constantly improve. As president of ESTA Christian-Jacques laid the foundation for a very close co-operation between ESTA, FEM and other associations worldwide. His vision was to create a platform for all stakeholders of our industry. This led to the first ICSA meeting last November in Shanghai, China where manufacturers and users from all around the globe were present. We will continue this work to realise his vision."

KLAUS MEISSNER

President FEM Mobile Cranes, Terex Cranes, Germany.

■ "Christian was a charismatic gentleman who possessed the rare talent and had a big enough personality to unite an industry. At the same time he connected with the grass roots of the industry and understood the complex problems. His drive and passion to reform the crane industry and create a choice of crane rental or contract lift terms on a pan-European basis, was his dream, and his determination to improve safety at all levels was enviable.

"On a personal note, Christian was a colleague and a friend. One of those rare people that you meet in life that leaves an impression in your mind and your heart. I will miss him."

DAVID COLLETT

Managing director, Collett Transport, UK.

■ "I was deeply saddened by the premature death of Christian-Jacques. I first met him at

the inaugural World Crane & Transport Summit in 2009 and was immediately impressed by his enthusiasm and passion for the crane industry. He had a vision for not only Europe but for the global crane world that resulted in the signing of the World Crane and Transport Alliance and the expansion of regular meetings amongst the major industry organisations. His passing is a huge loss."

JOHN GILLESPIE

Managing director, Gillespie Cranes and Access, Australia.

■ "I have known Christian for over 30 years. When we at Sarens were putting our first steps into the French market we always and everywhere were faced with the presence of Mediaco. We managed to get our position and Christian accepted us and became more of a friend than a competitor. Christian had great ambitions for the whole crane sector. As a charismatic leader he succeeded in getting ESTA accepted as a valuable and appreciated partner

in many associations and working groups around the world. His passing is a great loss to his family, his company, ESTA and the crane industry as a whole."

HENDRIK SARENS

Director, Sarens, Belgium.

■ "Christian Jacques Vernazza was a faithful partner for decades. He was a man with clear visions and he strived for his goals with passion. For this he was respected worldwide. One of Christian Jacques' most important visions was a united crane industry and he used his international networking to bring this idea forward. We will miss him."

CHRISTOPH KLEINER

Managing director sales, Liebherr-Werk Ehingen, Germany, on behalf of the Liebherr Mobile Crane Division.

■ "Christian-Jacques Vernazza was an exceptional leader who brought Mediaco to the highest levels of the market and elevated ESTA to the forefront of the industry. Christian always gave expert advice to customers, suppliers, as well as colleagues, on ways to improve lifting products and services. His energy, charisma and skill were exemplary to everyone who had the pleasure of working with him. Christian was also a great host and we will miss his unique and friendly meetings that he hosted in Marseille, a city he loved."

PHILIPPE COHET

Manitowoc Cranes executive vice president EMEA, France.

■ "I was very sorry to hear about Christian. It is a great sorrow indeed. Christian fulfilled several great roles in the crane industry. As a leader in his own company he formed the business his way as a partner and competitor. On the European and international crane platform, he supported exchange of thoughts and ideas between different companies and countries. He enjoyed moderating that exchange and put his stamp on it. In this way, his work will continue to have impact on the thinking and development of the

crane industry, something of which Christian would have been proud. I tender deepest sympathy and condolences to his family."

SATORU OYASHIKI

Vice president, Tadano Faun, Germany.

■ "On behalf of SC&RA our deepest condolences go out to the Vernazza family and all of Christian's friends and colleagues within ESTA and the industry. Over the years as we worked to broaden our scope, build productive international partnerships and establish the World Crane & Transport Alliance, Christian was an industry advocate who demonstrated the energy and commitment to explore ideas and advance initiatives to help foster safety, productivity and profitability."

JOEL DANDREA

Executive vice president, Specialized Carriers & Rigging Association, USA.

■ "I am deeply saddened by the loss of Christian-Jacques Vernazza, he was a vital person to the crane world, he relentlessly and passionately contributed to improving the industry. We will miss him. Our thoughts go out to his family."

RON DeFEO

Terex Corporation, USA.

■ "I was deeply saddened when I received the news about Christian-Jacques. His loss will be felt across the crane industry for many years to come. We had known each other for close to 20 years, he was a great Terex customer but, more importantly, a close friend. We had our good days, we had our bad days, but I will remember him as someone who was determined, successful and, more importantly, we shared the same passion about the crane industry. His overwhelming passion is what I will remember most about Christian. My deepest condolences go out to his family and friends during this difficult time."

STEVE FILIPOV

President, Terex Material Handling & Port Solutions.

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15 – 21 April 2013
Munich, Germany
www.bauma.de

ESTA AWARDS

18 April 2013
Munich, Germany
www.khl.com/esta

PLANTWORX 2013

14 – 16 May 2013
Stoneleigh Park, UK
www.coneq.org.uk

CRANES & TRANSPORT
LATIN AMERICA
CONFERENCE

4 June 2013
Sao Paulo, Brazil
www.khl.com/ctla

CTT MOSCOW 2013

4 – 8 June 2013
Moscow, Russia
www.ctt-moscow.com

CONSTRUCTION EXPO

5 – 8 June 2013
Sao Paulo, Brazil
www.constructionexpo.com.br

MATEXPO 2013

4 – 8 September 2013
Kortrijk, Belgium
www.matexpo.com

SC&RA CRANE & RIGGING
WORKSHOP

18 – 20 September 2013
Hilton at Lake Buena Vista,
Orlando, Florida, USA
www.scranet.org

BAUMA AFRICA

18 – 21 September 2013
Gallagher Convention Centre
(GCC), Johannesburg,
South Africa
www.messe-muenchen.de

BICES 2013

15 – 18 October 2013
Beijing, China
www.e-bices.org

WORLD CRANE AND
TRANSPORT SUMMIT

29 and 30 October 2013
Amsterdam, the Netherlands
www.khl.com/events

INTERNATIONAL TOWER
CRANES

4 and 5 November 2013
Berlin, Germany
www.khl.com/itc



Picture of the month

This issue's Picture of the Month is from *IC* reader Greg Sheehan, from Sheehan's Transport Assistance in New Zealand. It is a 1961 Ruston Bucyrus 22RB lattice boom crawler crane, serial No.25254, being recovered from a field. It was used in the central plateau area of New Zealand's North Island as a log loader. Despite lying disused for years, with a little help from new batteries and a copious quantity of ether quick start, it fired up. For loading, the transporter's winch rope helped it to climb the ramps and the steering clutches were out of adjustment so directional assistance was provided by a couple of nudges from an excavator.

PEOPLE NEWS



■ KENT
CLARKSON has
been appointed
to the position of
used equipment
(mobile cranes)

and workshop sales manager at Liebherr Great Britain for the UK and Ireland. Clarkson will be based at the company's head office in Biggleswade, England and will manage the sales of previously owned mobile cranes. He will also be responsible for developing sales for the Liebherr crane workshop in Biggleswade, where repair and refurbishment of Liebherr equipment takes place.



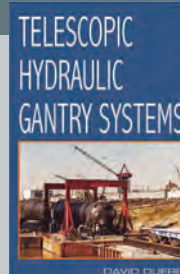
■ RYAN
CREAK has
joined Talbert
Manufacturing, a
manufacturer of
heavy-haul and

BOOK REVIEW

Telescopic Hydraulic Gantry Systems is a comprehensive new handbook that addresses planning, engineering and lifting with hydraulic telescoping gantry systems. The book also includes a detailed history of the development of gantry systems, which started in 1963.

Additional topics that Duerr covers range from the basic features and capabilities of gantries, lift planning and engineering, lifting operations and industry standards, safety and risk management.

Telescopic Hydraulic Gantry Systems is published by Levere Press, Inc. in the USA. It is available at www.amazon.com



Telescopic Hydraulic Gantry Systems by David Duerr

custom-built trailers in the USA, as area sales manager. Creak is responsible for the south-eastern USA and will support existing Talbert dealers in sales and customer development. He will also extend dealer coverage throughout the region. Prior to joining Talbert, Creak was with Manac Trailers in Pittsburgh.

■ CHRISTOPHER ANDERSON
has been appointed chief executive officer at Wheco Corporation in the USA. Anderson has 18 years of heavy equipment experience. Prior to joining Wheco he was an executive at crane rental major Maxim Crane Works.

■ Send picture of the month entries and all other back page-related information to *International Cranes and Specialized Transport*, KHL Group, Southfields, Southview Road, Wadhurst, East Sussex TN5 6TP, UK or by e-mail to alex.dahm@khl.com. Picture caption entries should include: the month and year taken, the place, type of crane, owner and project, plus any other relevant information.

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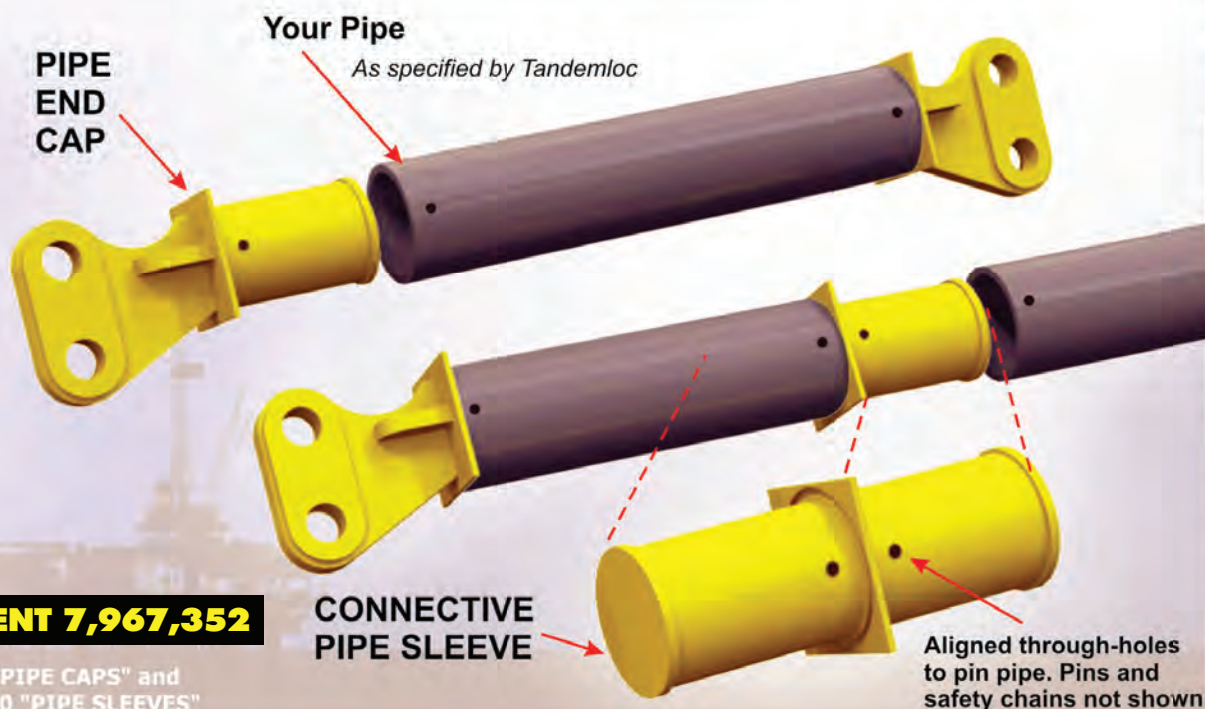
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40 t



2 x Demag AC 40, 2004 & 2005

50 t



Faun HK 50, 2007

60 t



Tadano Faun ATF 60-4, 2002

80 t



Tadano Faun ATF 80-4, 2002

100 t



2 x Demag AC 100, 2000 & 2003

120 t



Liebherr LTM 1120, 1997

120 t



Demag AC 120, 2001

225 t



Liebherr LTM 1225, 1999 with superlift

Further Cranes/Coming soon

- 40 t, Actros DB 4143, Sennebogen HPC 40, 2002 • 50 t, Liebherr LTM 1050-1, 2000 • 50 t, PPM ATT 600, 2000 • 60 t, Liebherr LTM 1060-2, 2001
- 70 t, Liebherr LTM 1070, 1997 • 70 t, Demag AC 60, 2002 • 100 t, Demag AC 100/4L, 2008 • 500 t, Liebherr LTM 1500 SL, 1999

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30 t PPM ATT 335	1997	4x4x4	27,40m + 15,00m
33 t P&H S 35	1987	4x4x4	25,90m
40 t Demag AC 40	2000	6x4x6	31,20m + 13,00m
40 t Faun ATF 40G-2	2007	4x4x4	35,20m
45 t Faun ATF 45-3	2005	6x6x6	34,00m + 15,20m
50 t Faun ATF 50G-3	2008	6x6x6	40,00m + 16,00m
50 t Marchetti MG 50.3	1992	6x6x6	32,00m + 16,00m
55 t Liebherr LTC 1055-3.1	2005	6x6x6	36,00m + 7,80m
55 t Liebherr LTC 1055-3.1	2005	6x6x6	36,00m + 7,80m
55 t Krupp KMK 4055	1989	8x6x8	35,10m + 16,00m
55 t Grove GMK 3055	2005	6x6x6	43,00m + 15,00m
60 t Liebherr LTM 1060/2	2000	8x6x8	42,00m + 17,00m
60 t Liebherr LTM 1060/2	2004	8x6x8	42,00m + 17,00m
70 t Krupp KMK 4070	1995	8x6x8	38,10m + 16,00m
70 t Faun ATF 70-4	1996	8x6x8	40,50m + 16,00m
70 t Faun ATF 70-4	1997	8x6x8	40,50m + 16,00m
70 t Faun ATF 70-4	1999	8x8x8	40,50m + 16,00m
70 t Faun ATF 70-4	1998	8x8x8	40,50m + 16,00m
100 t Demag AC 100	2001	10x8x8	50,00m + 17,60m
130 t Demag AC 335	1990	10x8x8	50,00m + 17,00m
225 t Liebherr LTM 1225	2000	12x8x10	60,00m + 22,70m
400 t Demag AC 1200 SL	1992	14x6x12	54,00m + 78,00m

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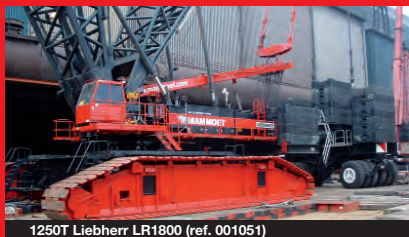
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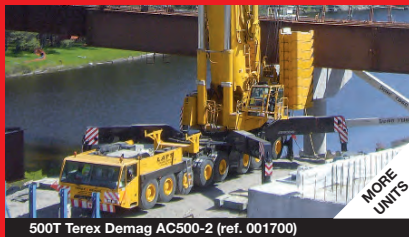
350T Liebherr LR1350-1 (ref. 000784)



300T Demag CC1400 (ref. 000687)



180T Sennebogen 5500 (Ref. 000729)



500T Terex Demag AC500-2 (ref. 001700)



450T Grove GMK7450 (ref. 001693)



350T Terex Demag AC350 (ref. 001720)



300T Liebherr LTM1300 (ref. 001719)



220T Grove GMK6220 (ref. 001697)



130T Grove GMK5130-1 (ref. 001209)



100T Terex Demag AC100 (ref. 001047)



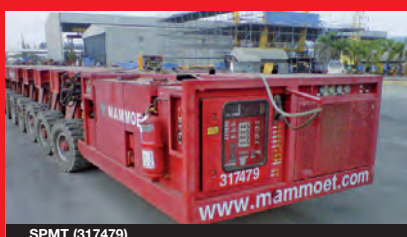
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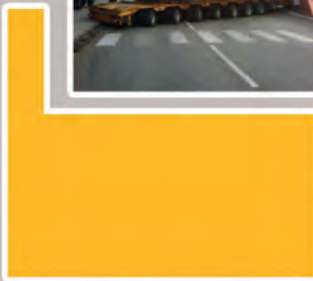
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FAUN	ATF70-4	1997	70 TON
DEMAG	AC250	2007	250 TON

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LIEBHERR	HS 853 HD	1995	80 TON
LIEBHERR	LR1160	2006	160 TON
SENNEBOGEN	5500	2004	180 TON
LIEBHERR	LR1300	2011	300 TON

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200 t	Terex-Demag AC200-1	2003
220 t	Liebherr LTM 1220-5.2	NEW!
220 t	Grove GMK 5220	NEW!
300 t	Grove GMK 6300L	NEW!
500 t	Liebherr LTM 1500-8.1	2012

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600 t	Terex-Demag CC2800-1	2009
750 t	Liebherr LR 1750	2001

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STOCKLIST

TELESCOPIC AT-CRANES

Capacity	Manufacturer	Type	Year	Drive/Steering	Boom/jib (m)	Delivery
400 t	Demag	AC 1200 SL	1992	14 x 6 x 12	58/19/54/78	direct
250 t	Liebherr	LTM 1250/1	2003	12 x 8 x 10	72 / 22 / 70	direct
250 t	Demag	AC 665 SL	1996	12 x 8 x 8	58 / 22 / 65	direct
225 t	Liebherr	LTM 1225	2000	12 x 8 x 10	60 / 22,7	direct
130 t	Demag	AC 335	1990	10 x 8 x 8	50 / 17	direct
120 t	Demag	AC 395	1995	10 x 8 x 8	60 / 17,6	direct
100 t	Demag	AC 100	2001	10 x 8 x 8	50 / 17,6	direct
70 t	Faun	ATF 70-4 (2x)	1999	8 x 8 x 8	40,5 / 16	direct
70 t	Faun	ATF 70-4 (2x)	1996	8 x 8 x 8	40,5 / 16	direct
70 t	Liebherr	LTM 1070/1	1995	8 x 8 x 8	40 / 15	direct
70 t	Krupp	KMK 4070	1995	8 x 8 x 8	38 / 16	direct
70 t	Krupp	70 GMT AT	1986	8 x 8 x 8	37 / 16	direct
70 t	Liebherr	LTM 1070	1986	8 x 8 x 8	35 / 10	direct
60 t	Liebherr	LTM 1060/2 (2x)	2000	8 x 8 x 8	42 / 17	direct
60 t	Krupp	KMK 4060	1990	8 x 8 x 8	35 / 16	direct
60 t	Grove	AT 865	1990	6 x 6 x 6	35 / 18,5	direct
55 t	Liebherr	LTC 1055-3.1 (2x)	2005	6 x 6 x 6	36 / 7,8	direct
55 t	Grove	GMK 3055	2005	6 x 6 x 6	43 / 15	direct
55 t	Grove	GMK 3055	2004	6 x 6 x 6	43 / 15	direct
55 t	Krupp	KMK 4055	1989	8 x 6 x 8	35,1 / 16	direct
45 t	Faun	ATF 45-3	2005	6 x 6 x 6	34 / 15,2	direct
40 t	Faun	ATF 40 G-2	2007	4 x 4 x 4	35,2	direct
40 t	Demag	AC 40-1 City	2000	6 x 4 x 6	31,2 / 13	direct
40 t	Liebherr	LTM 1040/1	1999	6 x 4 x 6	30 / 14,5	direct
40 t	Faun	RTF 40-3	1993	6 x 6 x 6	30 / 14,5	direct
40 t	Liebherr	LTM 1040-3	1992	6 x 4 x 6	30 / 14,5	direct
35 t	Grove	GMK 2035	2000	4 x 4 x 4	29 / 15	direct
35 t	Grove	GMK 2035	1998	4 x 4 x 4	29 / 15	direct
35 t	Liebherr	LTM 1035-2	1988	4 x 4 x 4	26 / 8	direct
30 t	Liebherr	LTM 1030/2	1998	4 x 4 x 4	30 / 14,5	direct
30 t	PPM	ATT 335	1997	4 x 4 x 4	27,4 / 15	direct
30 t	Luna	AT 30/27	1989	4 x 4 x 4	27 / 7	direct
30 t	Luna	AT 30/27	1989	4 x 4 x 4	27	direct
20 t	Krupp	KMK 2020	1994	4 x 4 x 4	20,5 / 3,8	direct
20 t	Grove	AT 422 E	1991	4 x 4 x 4	21,4 / 7,6	direct

TELESCOPIC TRUCK CRANES

35 t	Sennebogen	HPG 40	2002	6 x 4 x 2	30 / 7,5	direct
35 t	Faun	HK 35	1999	6 x 4 x 2	25,3 / 8	direct

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400 t Liebherr, LTM 1400.7-1, Y. 2005



200 t Liebherr, LTM 1200.5-1, Y. 2012



110 tm Liebherr, MK 110, Y. 2006



MAN 41.464 8x4/4, Y. 2002



220 t Tadano-Faun, ATF 220, Y. 2009



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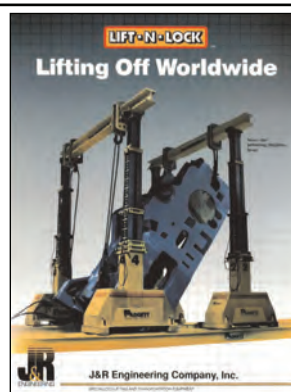
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