

INTERNATIONAL **CRANES** AND SPECIALIZED TRANSPORT

Volume 25 ■ Number 8
MAY 2017

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MARKETPLACE

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I am pleased to report yet more positive news and interesting developments this month. The first expands on April's last-minute news, here, with our exclusive cover photo showing a 3,000 tonne lift in Brazil. The lift was undertaken by ALE, which used its 5,000 tonne capacity AL.SK350 super heavy lifter for what it claims as being the heaviest commercial lift ever achieved using a land-based crane. Energy sector work like this is covered in the feature on page 27.

The second is news of what I'd call a spectacular example of one of those ideas that, on the face of it at least, befits a label of 'it looks like such an obvious thing to do, I wonder why it hasn't been done before?' I love it when I see things that strike me like that and this is the first one in a while. It is Liebherr's new SX boom system to enhance capability on the company's 750 tonne capacity crawler and truck-mounted cranes. From a design idea point of view, I am particularly impressed with the way the two halves separate, shift and then interlock to take up less space for transport. See the news on page 7 for more details.

A couple of months ago I remarked on the large number of multiple crane orders being announced recently. Since then I am pleased to say that there has been another exceptional batch in the same vein, some of which I'll mention here: Maxikraft in Germany taking delivery of 15 new Grove all terrains from Manitowoc (via supply agent Werner); France's largest mobile crane rental company Mediaco ordering 25 new Demags, and Sarens Nass in the Middle East ordering 15; Boels Rental in the Netherlands ordering 20 new mini cranes from Jekko; Coastline in the USA ordering 24 units from Manitex; and Bigge ordering 27 cranes from Terex.

Most of those above were last month's orders but more are coming up, too, including: Herkules in Poland ordering 15 new ATs from Terex; Liebherr supplying 60 ship cranes for 15 vessels under construction by Daewoo in Korea; All Erection buying five Potain towers; and Integrated Logistics in the Middle East ordering 12 Demag ATs.

Presumably all these deals will help change the financial fortunes of the major manufacturers because the initial group of first quarter and 2016 financial results are, at best, mixed. Palfinger, Liebherr, and then Terex are all in the news this month, in that order of positivity. Expect more deals in next month's news, although the market looks likely to remain a similarly mixed bag.

ALEX DAHM

Editor



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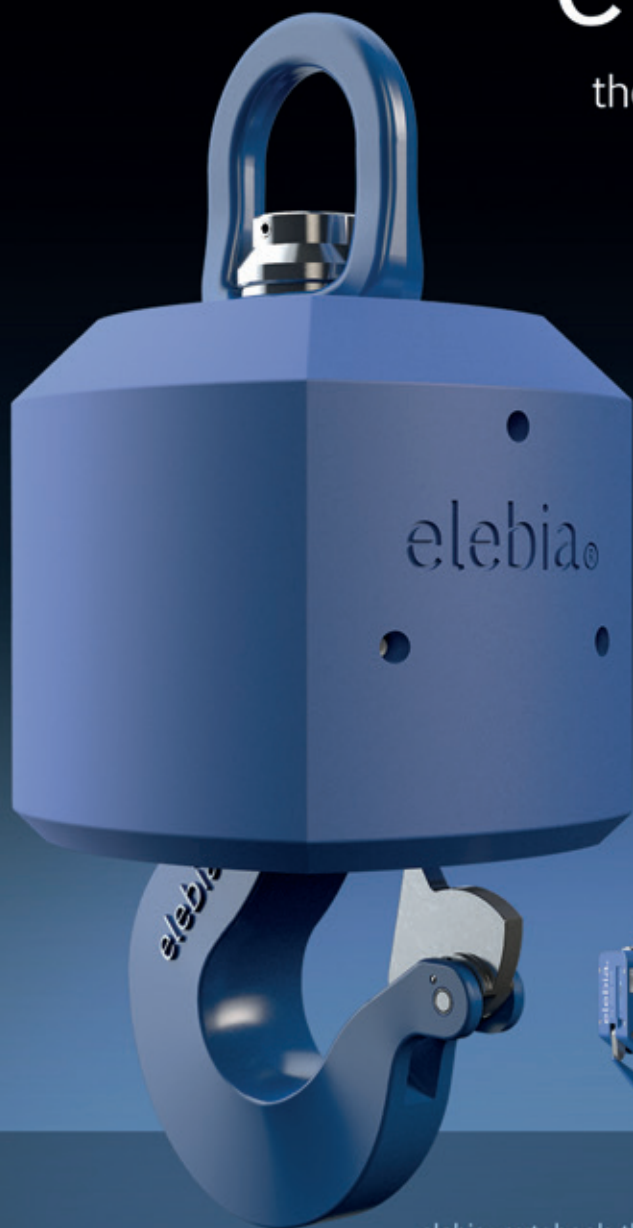


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IN THIS ISSUE

ON THE COVER



ALE claims this 3,000 tonne FPSO module as the heaviest commercial lift using a land-based crane. It was done in Brazil with the 5,000 tonne capacity AL5K350.

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International Cranes and Specialized Transport is a monthly publication with a worldwide circulation. The annual airmail subscription rate is £215, US\$345, £260. This issue of *International Cranes and Specialized Transport* is mailed on the 15th MAY 2017.

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International Cranes and Specialized Transport (USPS 017 158) is published monthly by KHL Group and distributed in the US by DSW, 75 Aberdeen Road, Emigsville, PA 17318-0437. Periodicals postage paid at Emigsville, PA.

Postmaster: Send address changes to *International Cranes and Specialized Transport*, c/o PO Box 437, Emigsville, PA 17318-0437.



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KHL Group 2017
ISSN: 1747-700X

Printed by: Warners Midlands PLC, UK

FEATURES



LOADER CRANES

15

Although the global market for articulating loader cranes is mixed, manufacturers remain positive, releasing a number of interesting new products. *ICST* reports.

OPERATOR ASSISTANCE DEVICES

19

There are many ways in which technology is helping make the crane operator's life easier, while increasing efficiency and safety in the process. *Christian Shelton* reports.



REGULARS

NEWS

6

BUSINESS NEWS

13

SPECIALIZED TRANSPORT NEWS

23

THE KNOWLEDGE

35

EQUIPMENT AND ACCESSORIES

47

BACK PAGE

49

MARKETPLACE

■ PRODUCTS, PARTS & ACCESSORIES

50

■ CRANES AND EQUIPMENT FOR SALE OR RENT

52

INDUSTRY FOCUS: ENERGY SECTOR

27

Wind power is making the headlines in the energy industry around the world, as *Christian Shelton* reports.



JOB PLANNING

33

A new approach to project planning is being promoted by *Felix Weinstein*, founder and manager of Felix Engineering in Israel. His approach takes things into a new dimension. *ICST* reports.

ESTA NEWS

43

Winners of the 2017 ESTA Awards of Excellence. *ICST* reports from Amsterdam, Netherlands



SC&RA COMMENT

39

Comment from *Joel Dandrea*, SC&RA chief executive officer.

SC&RA NEWS

40

The Association's imprint benefits its members around the world. *Mike Chalmers* reports.

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HIGHLIGHTS

■ Mexico-based crane and logistics company GSL has expanded its fleet with the addition of a new Demag AC 220-5 all terrain crane, manufactured by Terex Cranes. The five-axle 220 tonner has a 78 metre main boom and a 21 m extension for a 99 m maximum reach. It also has all-axle steering, independent rear-axle steering and a dynamic launch control, which Terex said helps position the crane in confined spaces.

■ German crane and excavator manufacturer Atlas has announced the opening of Atlas Maschinen Bulgaria (AMB), which it says will become the exclusive importer and distributor for Atlas Group products in the Bulgarian market. Atlas GmbH said it has been increasing its market share by expanding its dealer network in Eastern Europe and North and South America. AMB will focus exclusively on Atlas branded products with demo units, sales, rental, parts warehousing and full service support available.

Coast Crane acquired by Maxim Crane Works

US crane rental major, Maxim Crane Works, will acquire Coast Crane Company, an indirect wholly-owned subsidiary of Essex Rental Corp.

Seattle-based Coast is one of the largest providers of bare crane rental on the West Coast. Maxim said that its acquisition enhances its full-service, nationwide crane rental and lifting solutions platform and expands its operations in a fast-growing crane rental market.

As part of the stock purchase agreement, Maxim will acquire all of the issued and outstanding shares of Coast's parent company, CC Acquisition Holding Corp., for US\$72.5 million, subject to closing date working capital and other adjustments.

The sale has been approved by the Essex Board of Directors and is expected to close in the second quarter. A special meeting of Essex stockholders will be held to approve the sale.

Maxim will integrate Coast with its existing operating business. Maxim said customers will continue to receive the same high quality service they have come to expect and that through its coast-to-coast footprint, and its engineering, operated rentals, and heavy haul services, the Coast team and customers will gain access to one of the largest modern fleets of full service lifting solutions in the world.

Bryan Carlisle, Maxim CEO, said, "Coast Crane offers one of the most experienced teams of

crane professionals in the region. Its state-of-the-art fleet provides customers with a 'best in class' brand of products, parts, services and rental equipment. We are confident that the combination of Coast and Maxim will bring added value to our combined customer base, employees and the industry."

Nick Matthews, Coast Crane CEO, said, "We believe that this transaction delivers the best current return for our shareholders and provides a good opportunity for our employees to work for a company positioned for growth due to its experienced management team, future business prospects, and strong balance sheet."

ESTA, FEM AND VDMA START WIND ENERGY DISCUSSIONS

New best practice guidelines for the lifting and transportation of wind turbines are under discussion following a meeting between representatives of turbine manufacturers, subcontractors and crane and transport firms. It was just one of the subjects debated at the meeting organised in Denmark, by VDMA Power Systems, part of the German engineering federation. Members include turbine manufacturers.

The discussions involved both ESTA - the European Association for Abnormal Road Transport and Mobile Cranes - and the European Materials Handling Federation, FEM. Other subjects on the agenda included: working at height; taglines; working in darkness; and rescues from turbines in emergencies.

ESTA and FEM were invited to take part following the successful wind industry summit, run by the two organisations, with the support of the VDMA, in Hamburg, in February 2017.

Representing ESTA in Denmark was Sander Splinter, Crane Section president and Mammoet Europe managing director. Splinter commented, "Of course, the meeting was the first one ESTA has been involved in and is therefore only a first step. But it was both interesting and positive."

New 50 tonne Sennebogen crawler

A 50 tonne capacity lattice boom crawler crane is new from manufacturer Sennebogen in Germany. The 1100 E is the smallest lattice boom model in the range.

Its main boom length can be increased from 10.3 to 52.3 metres. Power is from either a Tier 4 final or Tier IIIa 129 kW Cummins diesel engine driving a

multiple circuit hydraulic system. Simultaneous crane motions are possible and the 120 kN winch has a maximum line speed of 125 m/min. For transport the basic machine weighs 30 tonnes. It is designed to have compact dimensions (a 3 m transport width) and there is a simple self assembly system so no assist crane is needed.



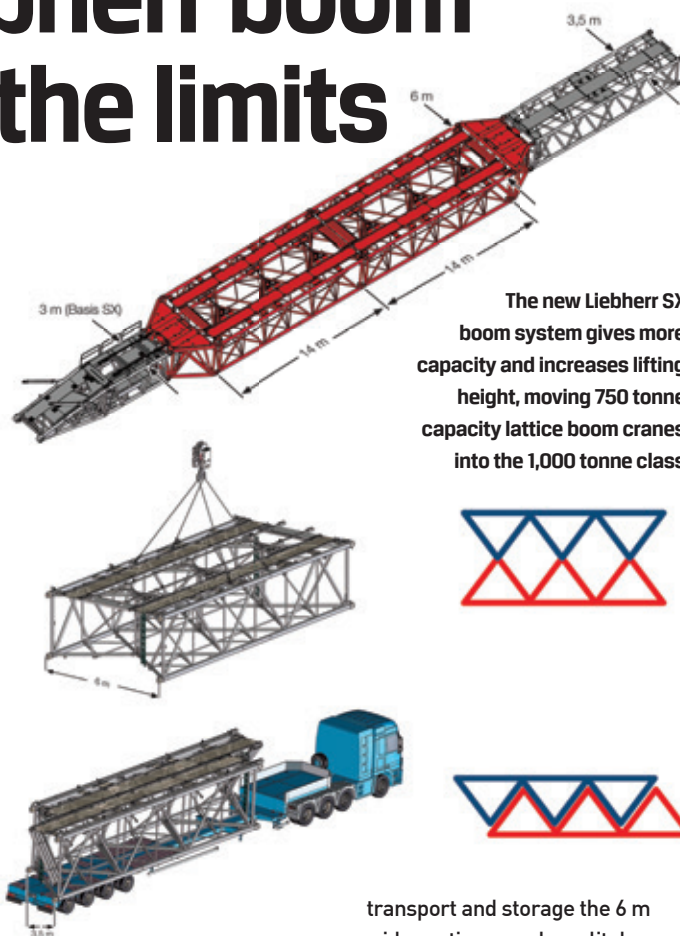
New Liebherr boom pushes the limits

Liebherr's new SX boom gives more capacity and increases lifting height for its 750 tonne capacity lattice boom crane models. According to Liebherr, this moves the LR 1750/2 crawler and LG 1750 truck crane into the 1,000 tonne class for wind turbine erection.

Turbines with a hub height of 165 metres and component weights up to 120 tonnes can be erected using the new system. This capability was previously the preserve of 1,000 tonne class cranes, the manufacturer said.

Instead of a 3 m wide boom the SX is 3.5 metres wide, above the base section, and the sections have been made lighter. They increase lateral stability to cope with lifting heavier loads. In addition, a boom and fixed jib up to 165 metres long can be raised.

Outwardly most noticeable, however, is an extension to the SX boom in the form of a 6 m wide section to further increase lifting capacity. Two 14 m long by 6 m wide sections form the SX2 while with three of them it is designated SX3. For



The new Liebherr SX boom system gives more capacity and increases lifting height, moving 750 tonne capacity lattice boom cranes into the 1,000 tonne class

transport and storage the 6 m wide sections can be split down their length, according to their open triangulated structure, before being offset longitudinally and then meshed together like gear teeth (see the diagram). In this way the width for transport is reduced to 3.5 m. Bolting together and separating the two halves can be done quickly, the manufacturer said.

HIGHLIGHT



UK logistics and lifting specialist Commhoist has a new Liebherr LTM 1040-2.1 wheeled mobile telescopic crane, with two LTM 1060-3.1 mobile cranes and an LTM 1130-5.1 mobile to follow later in 2017. Once this has happened, Commhoist will have a total of 59 Liebherr cranes. All the new cranes will have a full specification, including fly jibs and the VarioBase system. In the UK the LTM 1060-3.1 can travel with all 12.8 tonnes of counterweight and a double fly jib and remain within STGO regulations.

The SX is interchangeable between the LG 1750 and LR 1750/2. A new fixed jib designed to make the most of the extra capacity is also available. It includes a runner and a new hook block which, in conjunction with the head sheaves, are designed to prevent the hook block from twisting.

The new SX system has been tested and is available to order.

Suez Shipyard Company in Egypt has purchased a pair of new Manitowoc Grove all terrain cranes. The GMK5130-2 and GMK4080-1 were acquired through Orascom Trading, Manitowoc dealer for Egypt. The facility now has seven mobile cranes. According to Manitowoc, the Egyptian shipbuilder is one of the most celebrated in the region, with its facilities boasting the largest floating dock in the Middle East, as well as its oldest graving dock. Manitowoc said the new cranes will boost Suez Shipyard's in-house fleet and reduce its reliance on rental cranes. The 130 tonne capacity GMK5130-2 will be used around the floating dock for general

maintenance duties. Its Twin-Lock boom extends from 12.9 to 60 m in six sections and its maximum tip height is 92 m when working with jib extensions.

The 80 tonne capacity GMK4080-1 will be used to support general maintenance duties and lifting tasks around the yard's workshops.

Waleed Raouf at Manitowoc says he was delighted to deliver the first Grove cranes to such a prestigious Middle Eastern industrial facility.



DOUBLE DIGIT RISE AT PALFINGER IN Q1

Sales at Palfinger in the first quarter of 2017 increased 13.5 percent, to €361.9 million (US\$ 396 million). Earnings before interest, taxes and amortisation (EBITDA) was also up, by 18.7 percent, to €50.9 million (\$ 55.7 million).

The Austria-based crane, access, and materials handling equipment manufacturer attributed the growth largely to expansion in the EMEA and CIS regions. Positive contributors included acquiring its Spanish distribution company and establishing Palfinger Iberica in 2016, plus the acquisition of Danish distribution partner Palfinger Danmark.

Herbert Ortner, Palfinger CEO, said, "Thanks to our strategic positioning, we are continuing to grow. In the first three months, we already achieved our aim of a two-digit EBIT margin. Besides our focus on restructuring, priorities in 2017 include our initiatives regarding customer orientation, digitalisation and the further optimisation of processes."

Palfinger forecasts an increase in revenue for 2017.

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WORLD CRANE AND TRANSPORT SUMMIT

KHL is pleased to announce that Hendrik Sarens, director at leading international lifting and heavy transport company Sarens, will be keynote speaker at the 2017 World Crane and Transport Summit. The two-day event will be held in Amsterdam, Netherlands, on 7 and 8 November. Check regularly at: www.khl.com/wcts for updates on the WCTS programme.

LIFT & MOVE USA

The second Lift & Move USA event in 2017 saw 500 attendees at Lifting Gear Hire in Chicago witness, among other things, a lift of the Batmobile. It was an opportunity to learn more about the crane, rigging and specialized transport industry and the career opportunities therein. L&M is organised by the SC&RA, NCCCO, KHL Group, and the SC&R Foundation. Lift & Move USA's next event will be hosted by Buchanan Hauling supported by Talbert manufacturing and Conexis Indiana, on 14 September, in Indianapolis.

For further details see: www.liftandmoveUSA.com

Liebherr Group sales down 2.5%

For the year 2016 Liebherr Group posted total sales of €9.009 billion (US\$ 9.790 billion), down 2.5 percent on 2015 which was a record year. It was the group's third-highest turnover and was achieved in what Liebherr described as a difficult market environment.

Sales in the construction machinery and mining equipment segments, which include mobile and tower cranes, were €5.4 billion (\$5.9 billion), down €224 million (\$243 million) or 4 percent on the previous 12 months. In the segment that includes maritime

cranes sales remained the same as the previous year at €3.609 billion (\$3.923 billion).

Geographically, sales were up in Western Europe, notably in Germany, France and the Netherlands. Russia and Poland, plus other parts of Eastern Europe saw growth while the Middle East retained its 2015 level. A slight fall was reported for the USA, as it was in Africa, Australia and the Far East.

For 2017, the company forecasts an increase in turnover and to further increase its workforce, as it did in 2016.

HIGHLIGHTS

■ Sparrows Group has secured a three-year contract to deliver fixed crane maintenance and lifting and rigging services for the INPEX-operated Ichthys liquefied natural gas project in Australia. The contract encompasses maintenance, servicing and inspection of lifting equipment and cranes, the supply of lifting equipment, spare parts and materials, and technical and engineering support.

■ Mammoet, is extending its presence with the opening of a branch office in Grande Prairie, Alberta, Canada, and one in Krefeld, North Rhine-Westphalia, Germany. Mammoet said the move is part of its global strategy to have a local presence in regions with a strong industrial base.

Bigge signs 27-unit order with Terex

US crane rental major and Terex dealer, Bigge Crane and Rigging, has made a substantial equipment investment with a 27 unit order for Terex Cranes. It includes eight rough terrain cranes, two boom trucks, nine truck cranes, two all terrains, and six tower cranes.

The new Terex and Demag

models will be added to Bigge's sales inventory and massive rental fleet. Headquartered in San Leandro, California with locations throughout the United States, Bigge is in its 101st year of operation and has one of North America's largest equipment fleets.

Weston Settlemier, Bigge president and CEO, said, "We are proud to be able to offer our customers Terex and Demag quality crane products. We've worked with the team at Terex Cranes for decades, and they have always been committed to developing quality equipment with innovative features and

providing outstanding service. Their recently implemented manufacturing centralisation strategy that consolidated US production at its updated Oklahoma City facility is just one of the many reasons we trust Terex Cranes to always deliver the best-in-quality."

The order was initially only for 21 cranes. After the show week progressed, however, the Bigge team made its way back to the Terex booth to add five CTT 721 and one CTL 430 tower cranes.

Prior to this large order, Bigge had already purchased more than 500 Terex cranes in its 101-year history.

TADANO STRENGTHENS IN THAILAND



Japanese crane manufacturer Tadano has agreed a joint venture with Italthai Industrial Co., Ltd. (ITI) its distributor in Thailand, to increase sales and market share.

The company is focusing on sales of truck loader cranes

and has designated Thailand as a key area for expansion. Tadano Thailand Co., Ltd., which manufactures truck loader cranes, and Tadano Thai Parts and Service Co., Ltd., a sales and service company, were established in 2012 and 2013, respectively.

The name Tadano Thai Parts and Service Co Ltd will be changed to Tadano Italthai Co Ltd. There are nearly 500 employees and annual sales are forecast at JPY 810 million (US\$ 7.3 million) in 2018. In the new joint-venture company Tadano holds 49%, ITI 48% and MHC Consulting (Thailand), the remaining 3%.



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First quarter loss for Terex Corp

Sales at Terex Corporation for the first quarter of 2017 were US\$ 1,006.9 million, down 9.6 per cent on the \$1,114.3 million in the first quarter of 2016.

A loss from continuing operations of (\$60.3 million) on sales of \$1.0 billion was reported. In Q1 2016, the reported loss from continuing operations was (\$22.0 million) on sales of \$1.1 billion. The loss from operations in the first quarter was (\$6.3) million, down from an income of \$11.3 million in Q1 2016.

First quarter 2017 net sales in Terex Cranes were \$263.9 million, down 16.45 % from the \$307.3 million in Q1 2016. The loss from operations was (\$32.8 million, approaching double the (\$16.6 million) loss a year earlier. Figures from sales of port and industrial cranes in the corporation's Materials Handling and Port Solutions

segment are no longer included following completion of its sale to Konecranes in January.

John Garrison, Terex president and CEO, commented, "We are encouraged by our start to 2017. Our Material Processing (MP) segment had an excellent first quarter, growing sales and operating margin. Our Cranes segment results were consistent with our expectation that volumes would be down in the first half of 2017. In Aerial Work Platforms (AWP) sales were down as expected, and operating margins compressed on lower sales and the strength of the US dollar."

On the corporation's financial position, Garrison said, "We significantly improved our capital structure, reducing our debt by approximately \$600

million, improving interest rates, and extending our maturities. We expect interest savings of approximately \$35 million on an annualised basis."

Looking ahead Garrison said, "we see positive momentum in our backlog, which grew year-over-year for the first time in eight quarters."

UK WIND FARM CONTRACT FOR SCHMIDBAUER

German heavy load specialist, the Schmidbauer Group, has been awarded a contract for handling the heavy load logistics for the Walney Extension offshore wind farm in the UK. The contract was awarded by Dutch contractor Van Oord Offshore Wind Projects.

Schmidbauer will unload, store and transport 'transition pieces' weighing up to 600 tonnes and monopiles up to 1,030 tonnes at a harbour in Belfast, Northern Ireland, where the component parts for up to 87 wind turbines are kept. For the lifting work

Schmidbauer has in place Liebherr LR 11350 (1,350 tonnes capacity) and LR 1350 (350 tonne capacity) crawler cranes. The company is primarily using 56 lines of self propelled modular transporter to move the 8.40 metre diameter, 80 m long monopiles around the port.



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LIEBHERR

**Manufacturers
from China
suffered share
price losses
between weeks
14 and 17, as JOE
MALONE reports**

Chinese blues

The most notable theme from weeks 14 to 17 was the decrease in Chinese manufacturers' share prices. Liugong, Sany, XCMG and Zoomlion all saw prices fall. The biggest decrease was to XCMG's share price, which fell 9.83 % in week 15 – the first fall since week 4. However, there was a slight recovery towards the end of the period.

Liugong's share price decreased 7.85 % between weeks 14 and 17. It is the first time the company's share price has fallen since November last year.

Zoomlion's price fell 7.80 % over the four week period. Despite this, the company recently announced

a joint venture with Belarus state-run automotive manufacturer association, Minsk Automobile Plant (MAZ), to start manufacturing special-purpose vehicles. MAZ will build the chassis while Chinese equipment manufacturer Zoomlion will provide the mounted equipment.

Sany Heavy Industry saw the smallest decrease of the Chinese manufactures between weeks 14 and 17 – a fall of 3.17 %. A small decrease was also experienced in the preceding period – weeks 9 to 14 – but it had risen month-on-month since June 2016.

There were, however, some rises in the *IC* Share Index over the four weeks. Konecranes saw its share price increase 13.98 %.

The company recently reported a year-on-year increase of 48.9 % to its first quarter revenues, to €683 million, compared to €458.6 million recorded the same period a year ago. Its earnings before interest, taxes and amortisation (EBITA) for the first quarter was €30.6 million, compared to €15.8 million a year ago.

On the up

Terex was the next highest, with a share price increase of 7.38 % over the four week period. Despite the rise, sales at Terex for the first quarter of 2017 were US\$ 1,006.9 million – down 9.6 % on the \$1,114.3 million in the first quarter of 2016. A loss from continuing operations (of \$60.3 million) on sales of \$1.0 billion was also reported. A year earlier, in Q1 2016, the reported loss from continuing operations was (\$22.0 million) on sales of \$1.1 billion.

Hitachi Construction Machinery saw its share price rise 5.75 % between weeks 14 and 17. The company has recently announced it is to buy compressor manufacturer Sullair from Accudyne Industries for US\$1.245 billion, adding portable compressors to its portfolio, as well as a stronger presence in North America. Sullair will become part of Hitachi's industrial products business unit.

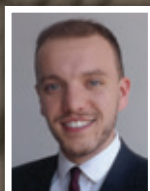
Overall, it proved to be a month of rises and falls in almost equal measure. This was summed up by a shift of only -0.41 % in the *IC* Share Index. ■

APRIL *IC* SHARE INDEX

STOCK	CURRENCY	PRICE AT START	PRICE AT END	PRICE CHANGE	% CHANGE	PRICE 12 MTHS AGO	12 MTH % CHANGE
<i>IC</i> Share Index*		53.28	53.06	-0.22	-0.41	46.66	13.70
Legacy <i>IC</i> Share Index**		314.41	330.36	15.94	5.07	253.38	30.38
Dow Jones Industrial Average		20656	21007	351	1.70	16514	27.21
FTSE 100		7350	7302	-48	-0.66	5993	21.84
Nikkei 225		18798	19896	1098	5.84	17698	12.42
Hitachi Construction Machinery	YEN	2715	2871	156	5.75	1758	63.31
Konecranes	€	34.04	38.80	4.76	13.98	21.10	83.89
Kobe Steel	YEN	1000	990	-10	-1.00	123	704.88
Liugong	CNY	9.05	8.34	-0.71	-7.85	7.50	11.20
Manitowoc Cranes	US\$	5.92	6.02	0.10	1.69	14.20	-57.61
Palfinger	€	37.35	37.10	-0.25	-0.67	25.35	46.35
Sany Heavy Industry	CNY	7.26	7.03	-0.23	-3.17	6.00	17.17
Tadano	YEN	1389	1438	49	3.53	1281	12.26
Terex	US\$	32.52	34.92	2.40	7.38	17.27	102.20
XCMG	CNY	4.17	3.76	-0.41	-9.83	3.73	0.80
Yongmao Holding	SGD	0.69	0.69	0.00	0.00	0.15	360.00
Zoomlion	CNY	4.87	4.49	-0.38	-7.80	5.04	-10.91

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

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



ABOUT THE AUTHOR
JOE MALONE is editor of
ICST sister publication
International Rental News

EXCHANGE RATES – VALUE OF US\$

CURRENCY	VALUE AT START	VALUE AT END	VALUE CHANGE	% CHANGE	VALUE 12 MTHS AGO	12 MTH % CHANGE
CNY	6.908	6.903	-0.0043	-0.06	6.06	13.90
€	0.9447	0.9127	-0.0320	-3.39	0.7376	23.73
Yen	111.28	112.64	1.37	1.23	102.51	9.89
UKE	0.8062	0.7707	-0.0355	-4.40	0.6119	25.95

Period: Weeks 14-17



*Arvid Bergli with his HIAB
in Lofoten, Norway*

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The X-HiPro 232 is one of Hiab's flagship products in the 20 tonne-metre range – a sector the company says is growing

Although the global market for articulating loader cranes is mixed, manufacturers remain positive, releasing a number of interesting new products. *ICST* reports



Extended reach

The versatility and mobility of hydraulic loader (or articulating) cranes is central to their popularity. They can perform different kinds of jobs a day, they need little time to be ready for operation, and they can be equipped with a range of attachments, including grabs, pallet forks, winches and various manipulators. The manoeuvrability of loader cranes means they increasingly find application in city centres, where space is restricted and other sites where space is at a premium. Thanks to these attributes, loader cranes are universally popular yet the current economic climate means that manufacturers are experiencing fluctuations in demand around the world.

Global markets

German loader crane manufacturer Atlas reports that its domestic market remains one of its biggest, where it is well supported by a good dealer network. The company says that, due to a positive economic situation, it does not foresee this changing over the next

12 months. The company also reports having a good market share in Canada, another place it believes will remain stable over the next 12 months thanks to the large demand for its V-boom crane models. It says that these cranes are often used for drywall handling and foundation construction and have won a loyal following in Canada.

Atlas expects the USA to become one of its busiest markets. An importer has been appointed based in Tiffin, Ohio, and this generated much interest at the ConExpo trade show earlier in the year, Atlas says. Finally, Atlas says that, despite not yet having fully recovered from the recent economic crisis, Spain is a market it relies upon. It says that its dealer there is particularly experienced in serving the recycling industry with hooklifts and cranes for waste collection and it expects its market share to increase further.

Austrian hydraulic lifting, loading and handling solutions manufacturer Palfinger also says that Germany has been the biggest market for its loader cranes. It recently sold four new units to German heavy lifting and transportation specialist Schmidbauer – three from its PK 92002 SH series and one from the PK 65002 SH series. The new

loader cranes will expand the fleet at four of Schmidbauer's 20-plus locations, namely: Nuremberg; Oberndorf; Munich; and at Fricke-Schmidbauer in Braunschweig.

Palfinger also says it is also seeing improvements in the south of Europe, especially in Spain, and in Italy, which it says is catching up slowly. Palfinger reports it is also doing well in Russia where the local market is well served by two companies providing Palfinger products. China, although potentially one of Palfinger's biggest markets in Asia, isn't fulfilling the high expectations it had for this area, the company reports. And although the UK is in the top ten of Palfinger's largest markets, the company says it is showing weakness since the Brexit decision.

Having said that, Scottish haulier Galt Transport has just acquired four new Scania R-series trucks, all of which have Palfinger cranes. The cranes were supplied and fitted by Scottish lifting and access equipment supplier Outreach. The new trucks comprise: two Scania R490s with Palfinger PK 78000-D cranes; and two rigid R450s. The two 8x2 rigid vehicles have Palfinger PK65002-E cranes with a hoist attachment. They have the capacity to lift 3.2 tonnes to a radius of 16.6 m. A fly jib can be added, which can lift up to 0.8 tonnes to a radius of 28 m. The fly jib also makes this weight and reach achievable at a distance of 12 m from crane centre with the ability to lower the load straight down to ground level using the hoist. As such, the haulier says they are now the longest

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Atlas loader cranes being transported to ConExpo. Atlas expects the US to become one of its busiest markets and it has recently appointed an importer based in Ohio



German heavy lifting and transportation specialist Schmidbauer's new Palfinger loader cranes

reaching lorry-mounted cranes in its fleet.

Andrew Galt, operations director, comments, "These new eight wheelers combine durability with payload capacity. The fly jib not only gives the vehicle a greater working radius but also gives the crane further articulation. The hoist will also allow items to be lowered straight down." The units also have an additional stabiliser installed at the front of the vehicle, giving greater support to the crane when operating over the front of the cab when the fly jib is in operation.

New products

New from Cormach in Italy is the 6000 E series. Models are available with up to eight extensions plus a jib with up to four extensions on that. The provisional lifting chart for the 60000 E4 A.S.C. Plus with four hydraulic extensions shows a capacity of 4,070 kg at 11.39 m horizontal outreach. At the other end of the scale, the 60000 E8F64 A.S.C. Plus lifts 980 kg at 20.59 metres outreach to the end of the main boom. Also, from the provisional chart, capacity at the full 30.43 m reach to the end of the fully extended boom and its four-section jib is 460 kg. The jib has a reverse angle capability of up to 10 degrees. On the 60000 E8 A.S.C. Plus, with eight extensions, the provisional chart shows that it will lift 1,640 kg with the boom horizontal at the full extension of 20.21 m. Vertical reach is close to 24 m.

Swedish loader crane manufacturer Hiab reports that the market for 20 tonne-metre class articulating loader cranes is growing. As a result, the company says it has produced 24 new or updated models for this sector and developed new technology including Crane Tip Control (CTC) and Hiab Frameworks.

CTC is designed to minimise the complexity of co-ordinating the crane for the operator, says Hiab. The crane operator controls the behaviour of the crane tip instead of each crane function (slewing, first boom, second boom, extensions). In effect the crane is controlled using only three levers – slewing, horizontal movement and vertical movement. The operator can activate or deactivate the feature themselves by pressing a button on the hand controller. The crane then switches between CTC and normal crane mode. "CTC makes the crane operation easier and more efficient," says Marcus Röst, manager of control systems at Hiab. "The operators can benefit from the CTC feature by making the job safer, take on more advanced jobs and get more lifts done during the day."

Hiab Frameworks is a modular system that provides the customer with a ready-to-install subframe that matches their chosen



Cormach's new 60000 series has between four and eight extensions and a jib is available with up to four extensions as on this 60000 E6F134 A.S.C. Plus



Fassi is launching two new loader cranes in the US market: the F600SE.44 and the F120BCM.1

truck. The patented installation package offers a standardised solution for heavy crane sub-frames and is complete with pump, tanks and auxiliary stabilisers. "With Hiab Frameworks the installation time can be reduced up to 75 percent," adds Marcel Boxem, director of heavy loader cranes at Hiab. "This means that the crane is ready for use much faster, which is a great benefit for installers, bodybuilders and our end customers." The new installation package is a completely bolted system where stress calculations have been made beforehand. "Basically anyone could install the crane safely and fast," Boxem continues. At present Hiab Frameworks is available for several Hiab heavy-range crane models and for truck brands Volvo, Renault, Scania and DAF.

Italian loader crane manufacturer Fassi has two new models which it says it is in the process of launching in the US market. First is the F600SE.44, that Fassi claims will be the tallest wallboard crane in the USA. It has extensions on the main boom, in addition to those on the secondary arm, enabling it to have a maximum load moment rating of up to 392.26 kNm and a hydraulic outreach of up to 30.48 m.

To minimise the crane's overall dimensions, the jacks on the telescopic extensions are positioned inside of each arm. It is controlled via an FX901 control system which has a 7" (178 mm) touchscreen colour display that allows the operator to view detailed information about the crane's

operation, including stabilisation conditions. It also features digital RCH / RCS remote control and the new V7 radio control units as standard, while Automatic Dynamic Control (ADC)

verifies all the crane's functions

and maximises the speed of movement in accordance with the load. The F600SE.44 is also integrated with Fassi's own patented Internet of Cranes (IoC) system, which manages all available information about the unit's operation in real time, enabling the crane's operator (or service centre) to remotely manage its operation and efficiency.

Second from Fassi is the F120BCM.1 corner mounted crane (which is also available in .22 and .23 versions) which can be used as auxiliary equipment on medium or light-duty vehicles involved in maintenance work in the utilities sector. According to Fassi, the F120BCM.1 has a completely de-centralised column in relation to the base, which frees up space on the chassis, consequently speeding up ascent and descent times during operation. A link between the articulated main and secondary booms maintains a constant lifting moment and ensures better crane performances, in terms of both dynamic lifting and static capacity, says Fassi. The crane is made from high strength steel and has fewer welds for greater strength. It also has the Fassi Multi Power Extension System (MPES) for fast extension and retraction of the telescopic booms. Fassi's FX200 electronic control system can also be specified, enabling the operator to be informed about the load condition of the crane and block in case it is overloaded. The system is available with an analogue radio. A lifting moment limiting device version (called 'W') can be supplied for countries with very cold climates.

A large yellow and blue Demag crane is shown in the process of lifting a long, heavy steel beam at a construction site. The crane's boom extends high into the air, and the beam is suspended by cables. The background shows the skeletal structure of a building under construction, with scaffolding and other structural elements visible. The sky is clear and blue. The crane has 'DEMAG' written on its side, and there are red and white striped safety markings on the lower part of the chassis.

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SENNEBOGEN

Extrasensory perfection

There are many ways in which technology is helping make the crane operator's life easier, while increasing efficiency and safety in the process. **CHRISTIAN SHELTON reports**

We perhaps take our senses for granted. Our sense of sight, sound and touch have evolved over hundreds of thousands of years, placing us at the top of Darwin's tree of life. They helped our prehistoric ancestors avoid danger while migrating out across the plains of Africa, and today they help crane operators safely navigate the urban jungle as they work. Yet, as we will discover, thanks to modern technology an operator's senses can be enhanced, evolution accelerated if you like, assisting them to work more efficiently and in greater safety than ever before.

"Anything that makes the operator's job safer and easier is worth it," says Kris Houg, a crane operator at US contractor the Boldt Company. "That's why I specifically requested using a camera for this job." The job Houg is referring to was a power plant renovation in Minnesota, where he was operating a 550 US ton (500 tonne) capacity Demag CC 2500-1 lattice boom crawler crane with 551 feet (168 metres) of boom. Access to the power plant was through the roof, which was 22 storeys high. A typical lift involved taking material from the ground, lifting it up and in through the roof, and then down four storeys.

When operating the crane, Houg was in constant radio communication with the ground crew who helped guide him in. Thanks, however, to the use of a wireless camera mounted on the hook, Houg had a better view than anyone else on the job site. "My team can signal that I need to swing right but when I'm looking straight down using the camera view I can know with even greater accuracy where I need to be," Houg says.

The camera Houg requested was the HoistCam system made by US company Netarus LLC. The HoistCam range also includes boom tip cameras and winch cameras to give the crane operator a 360-degree view.

Houg's sentiments are echoed by UK company BlokCam which produces a wireless camera system (also called BlokCam), that it says can be quickly and easily deployed to the hook block or boom tip of a crane. The sound and view from below the camera is wirelessly transmitted to a screen in the cab, allowing the operator to see and hear the load and surroundings, giving an unobstructed, live, audio-visual feed of the critical areas that working in the blind would never allow. According to Ben Windass, co-owner and joint managing director at BlokCam, "Tower crane manufacturers, rental companies and contractors are increasingly embracing crane camera technology to enhance safety and efficiency on their job sites." Indeed, a recent retweet on the company's Twitter feed (twitter.com/BlokCam) from Aaron Bauer, a crane operator from Massachusetts, USA, proclaims, "First pick of the morning in the blind with my brand new BlokCam... I love this crane camera."

The development of wireless technology, however, has not only brought innovations in terms of cameras; other areas with operator assistance applications are benefitting, too. For example, Canadian crane safety equipment manufacturer Cranesmart



Cranesmart produces a range of wireless operator assistance devices to help improve safety and efficiency



The BlokCam monitor inside the crane's cab gives the operator an unobstructed view

Systems produces a wide range of operator assistance devices that use wireless, radio communication technology. These include: its Anti-2-Bloc branded sensor, designed to help prevent collisions between a travelling block and the tip of the crane boom; load cells, load pins and line riders; angle indicators; level indicators; and windspeed indicators.

Cranesmart says these systems help provide and maintain a much safer working environment, as well as meeting jobsite regulations worldwide, by making critical operational data readily available to the operator and offering function lockouts.

Function lockouts

A function lockout provides the ability to stop machine operations to avoid dangerous situations more quickly than the combination of a warning system and operator reaction, Cranesmart says. It adds that, when properly designed, safety systems that override functions should never impede an operator's ability to do the job unless an accident is imminent. The company also says interlocking safety systems also aid less experienced operators who may not choose the correct action to avoid a dangerous situation or who could damage equipment.

Cranesmart's systems use both visual and audible alarms to indicate potential dangers. The company has also developed a new colour touchscreen display panel which it claims makes information easier to navigate and see in all lighting conditions. Users will also be able to swap out components on the fly so that if any system component fails, a spare unit can be integrated by scanning its ID number through the display panel. Once

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Trimble's GS820 display and receiver can monitor up to 32 sensors and the operator can view up to 20 data fields

the panel receives information from the newly transmitting component, operation will resume. The new LMI 4 system also allows a supervisor to configure the lifting restrictions imposed on operators, as well as download data logs via a USB port, says Cranesmart.

"Technology has improved drastically over the past few years and operators are becoming accustomed to using touchscreen devices like cell phones and smart tablets," says Dean Raboud, a spokesperson for Cranesmart. "This has trended toward a greater acceptance of operator aids and safety systems in the industry. Colour touchscreens allow for a simpler user interface and the systems are becoming much easier to use."

Integrated solutions

This is something that positioning technology specialist Trimble is in agreement with. Trimble offers the lifting industry wireless RCL and LMI (rated capacity and load moment indicator) systems, including a range of sensors and displays designed to improve safety. "The industry is definitely moving towards integrated solutions," says Anne-Marie S. Latvatalo, marketing co-ordinator at Trimble's Lifting Solutions division. "As machines become more advanced, the control devices and HMIs (human-machine interface displays) have to evolve as well. The operator needs as much visibility as possible and adding more displays can clutter their view of the work. Additionally, aesthetics are playing a bigger role than ever before."

Trimble's systems are also wireless and the company says they offer a long communication range between the sensor and display - typically around 4,300 feet (1,300 m). "Using our systems operators can monitor several kinds of load data at once, load management can be optimised, and data can be logged," says Latvatalo. In addition, the systems' data logging functions can track machine usage and provide information about a crane's operation leading up to an accident, if one were to occur.

Trimble's systems also have visual and

audible alarms that can alert the operator in case of events such as dangerously high wind speed, a two-block situation, or an over-capacity lift. If the crane has solenoid valves, Trimble systems can trip lockouts when limits are exceeded to shut down crane movement.

Trimble points out that the technology is an assistance device only and that caution must always be used when operating a crane. This is echoed by McKee Communications, a USA-based company that has been providing communications systems to the crane industry since 1985. "An anti-collision system is an operator aid only and is not a substitute for an experienced operator," says company president, Peter McKee. "In practice, the system is often overridden or disconnected in order to complete the task at hand. Therefore the anti-collision system should be an alarm only, rather than stopping a function. Ideally, the alarm would be both visual and audible with an 'acknowledge' button to silence or extend the alarm to 20 to 30 second intervals. The 'acknowledge' feature is necessary because the crane may need to be in a certain position for an extended length of time."



Experienced operators are key, even when using anti-collision systems, says McKee Communications

The need for an alarm-only 'acknowledge' feature also applies to wind alarms, McKee says. For example, a crane may be holding a load in position which cannot be cut loose until the load is secured and so interrupting the swing function could create a hazard.

"In practice, in the absence of an alarm-only feature with an acknowledge button, operators have bypassed the anti-collision system using a plug provided by the manufacturer and only removing the plug during inspections. The absence of these features needs to be addressed in order for the anti-collision systems to contribute to safety improvements," says McKee.

McKee Communications stresses that anti-collision systems do not eliminate the need for experienced operators. It claims that on multiple crane projects, nothing is as crucial to job site safety as a clear and dedicated communication system between experienced crane operators. When working close to power lines, a dedicated spotter is also required and a clearly marked line should indicate the closest approach distance. "Keeping the hoist line and block out of the danger zone does not guarantee safety," says McKee. "For example, the load under the hook block may be an oversized load that provides a large enough area to be caught by the wind, adding 20 to 30 feet to the hazard area. Good judgment by the operator and his signalman, in addition to a secure communication system with sufficient tag-lines to control the load, is crucial in preventing a disaster."

According to McKee Communications, in recent years, government safety departments throughout the USA have required a hard-line communication system be installed even if an anti-collision system is being used. "Anti-collision systems are not fail-safe, neither are radios. Even if the radios are on a secure channel and fully charged, they are not hands-free. By the time the operator has located the radio and pushed the talk switch, and providing the radio is not already in use by another user, a collision could be inevitable," warns McKee. By installing a dedicated hard line between the cranes and a foot-operated, hands-free switch, McKee says, the operator can sound the warning immediately which could mean the difference between an accident happening or not.

So, although devices are being called upon more than ever before to assist operators and prevent accidents, it seems no one technology can yet replace a ground crew. "Systems always include a disclaimer placing the ultimate responsibility for safety with the operator," points out McKee. With this in mind, any extra assistance the operator can receive is going to be welcome.

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ALE completes 13,977 tonne loadout

International heavy lift and transport specialist ALE has completed the ballasting and load-out on the second of two jackets, weighing 13,977 tonnes, for the Shah Deniz 2 project in Baku, Azerbaijan. ALE completed the first one, weighing 12,369 tonnes, in July 2016.

Jacket constructor BOS Shelf contracted ALE for the load-out ballasting of the jackets for the production and riser (PR) and the living quarters and utilities (QU) modules. ALE has been contracted by different clients to work on the Shah Deniz 2 project. Work included lifting using the Mega Jack system, weighing, and strand jack skidding. Load-out work included ballasting and mooring for two topsides. Offshore floatovers of the topsides were done for a different client.

Matthew Hodgson, ALE project engineer, commented, "Our scope of work is extremely complex, using multiple services, techniques and equipment at every stage. For the load-out specifically, we utilised our offshore expertise to design and fabricate bespoke piping in order to adapt the ballast system to



existing ballast piping on-board the barge. We are now preparing for the next phase, which will involve the load-out and floatover operations of the topsides."

TRANSFORMER TRANSPORTATION BY LASO

Portuguese transport specialist Laso has completed a challenge to move two transformers from Portuguese energy company EFACEC's factory to the Port of Leixões in Porto, Portugal - a journey of approximately 16 km.

The first transformer weighed 405 tonnes and measured 11.3 x 3.92 x 5.47 metres. The second weighed 386 tonnes and measured 7.75 x 4.63 x 5.75 m. The total load combination weighed 710 tonnes and measured 90 x 6.20 x 5.90 m.

Planning this transportation job, Laso said, took approximately 18 months. The job itself involved three tractors, 12 support vehicles, 30 Laso employees and about 10 police officers. The distance between the factory and port was covered in 12 hours.



New high capacity semi-lowloader

German heavy and oversized cargo transport equipment provider Goldhofer Aktiengesellschaft has added to its STZ-VP range of semi-lowloaders with the STZ-VP (285).

The company said the semi-lowloader gets its name from the new 285 mm tyres it wears, which means it can carry heavier loads. According to Goldhofer, the STZ-VP (285) is the highest load carrying capacity lowloader semitrailer it produces.

The semi-lowloader is available in configurations with between three and ten axles and a choice of decks (vessel bridge, crawler deck or flatbed). According to Goldhofer the semi-lowloader has an axle load of 16 tonnes and a flatbed deck profile of just 200 mm.

The STZ series comprises a combination of extremely wide excavator recesses and relatively short bogies, explained Goldhofer. The company has also used its pendular axle technology, which it claimed means the geometry of the axle suspension has been precisely calculated to ensure free oscillation of the wheelsets. This is said to optimise load distribution to all the tyres and helps the semi-lowloader remain level, even on uneven terrain. A steering angle of up to 65 degrees is designed to ensure good manoeuvrability. Goldhofer added that the axle suspension is available with a choice of tapered roller or compact bearings to meet customers' requirements in terms of mileage and maintenance intervals.

Goldhofer said that with the STZ-VP (285),

The STZ-VP (285) is the latest addition to Goldhofer Aktiengesellschaft's STZ series of lowloader semitrailers



the STZ family now has a version that can handle much heavier loads thanks to the bigger tyres and a maximum fifth-wheel load of 52 tonnes. Its excavator recess reduces overall load height. The use of the gooseneck with or without a front bogie and the option to combine the front bogies with the MPA-K family and the rear bogies with the THP family, make this lowloader a versatile all-rounder, said Goldhofer.

DRIVERS RIDE BICYCLES IN SAFETY INITIATIVE

UK building materials supplier, Travis Perkins, has invested £750,000 (US\$ 938,000) in its Safe Urban Driving course to ensure all its drivers are rigorously trained. The training is being completed by all 4,000 of the company's drivers in the UK.

Travis Perkins says it designed the Safe Urban Driving course in conjunction with UK government body Transport for London (TfL). The course is intended to give its drivers a different perspective of the road, focusing on vulnerable road users including pedestrians, cyclists, and motorcyclists. As part of the training all drivers must complete a practical cycling element which sees them cycle on public highways.



Mercedes-Benz electric truck to hit the road

Mercedes-Benz Trucks has announced its intention to bring what it describes as the world's first small series, all-electric, heavy-duty truck to market in 2017. This follows positive reaction to the idea at last year's International Commercial Vehicle Show.

Named the Urban eTruck, the vehicle has a 25 tonne gross vehicle weight and a range of up to 200 km. With zero emissions at point of use, little noise, and a payload of 12.8 tonnes, Mercedes-Benz claimed the truck offers an impressive economical and environmentally-friendly concept. Initially, a low two-figure number of units will go to customers in Germany, with more to follow destined for elsewhere in Europe.

The vehicles will be handed over to the customers to use for a period of 12 months, during which they will be supported by Mercedes-Benz Trucks' road testing department. Stefan Buchner, head of Mercedes-Benz Trucks worldwide, commented: "We are currently talking to around 20 potential customers from the



Urban eTrucks will be trialled for 12 months

disposal, foodstuffs and logistics sectors. With the small series we are now rapidly taking the next step towards a series product. By 2020 we want to be on the market with the series generation."

The company forecasts a rise in demand and a lowering in cost of batteries. "Daimler Trucks is expecting the costs for the batteries of an all-electric truck to have fallen by a factor of 2.5 between 1997 and 2025 – from €500 / kWh to €200 /kWh," the company stated. "At the same time the energy density of the available batteries in this period will rise by the same factor, from 80 Wh/kg to 200 Wh/kg." ■



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Winds of change

Wind power is making the headlines in the energy industry around the world.

CHRISTIAN SHELTON reports

Reading back through the last few issues of *ICST* and our online news (www.khl.com) it quickly becomes apparent that the global energy sector as a whole remains busy. This is particularly true for wind power where contract wins and job site reports abound. In this feature we will look at some recent key projects that have caught our attention.

Starting with the UK offshore wind farm sector, German heavy load specialist, the Schmidbauer Group, has been awarded a contract for handling the heavy load logistics for the Walney Extension offshore wind farm in the UK. The contract was awarded by Dutch company Van Oord Offshore Wind Projects b.v. – an international contractor specializing in dredging, marine engineering and offshore projects (oil, gas and wind). Schmidbauer says it will unload, store and transport transition pieces weighing up to 600 tonnes and monopiles up to 1,030 tonnes at a harbour in Belfast, where parts for up to 87 wind turbines are kept. The company is primarily using Liebherr LR 11350 (1,350 tonnes capacity) and LR 1350 (350 tonne

Schmidbauer handles the heavy load logistics for the Walney Extension Wind Farm in Belfast



capacity) crawler cranes, as well as 56 lines of self propelled modular transporter (SPMT) to move the 8.40 metre diameter, 80 m long monopiles around the port.

The company says that although the majority of its customers are small to medium-sized German clients, its percentage of international clients is continually rising. It claims that the Walney Extension wind farm will have an operational capacity of approx. 650 megawatts produced

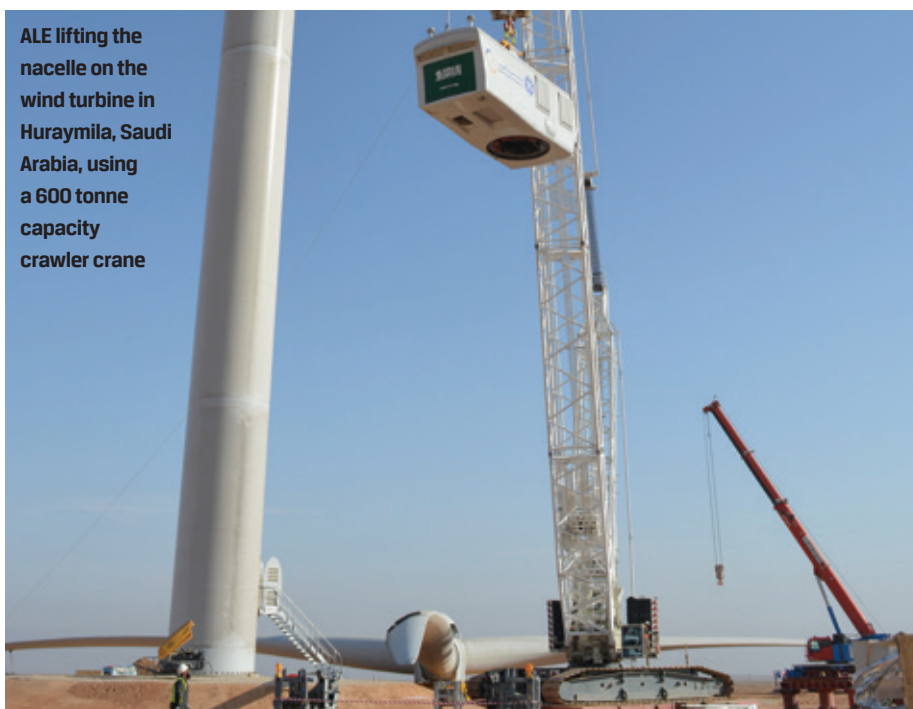
from within 145 km². This means that once operating as planned in 2018, the wind farm could produce enough energy for approximately 460,000 households.

On the water

Heavy lift and transport specialist ALE has also been busy in the UK offshore wind farm sector. The company says that over the last nine months it has performed almost 400 transport operations and executed more than 300 lifts for multiple offshore wind contracts in the UK alone. The projects ALE is working on include: the Dudgeon offshore wind farm; the Race Bank wind farm; and the Galloper wind farm. According to ALE these three projects will power more than 1.2 million UK homes.

ALE's involvement includes the handling and pre-assembly of imported towers, nacelles and blades. With some rotor blades as long as 75 m and nacelles as heavy as 360 tonnes, ALE says it is adopting a Ro-Ro process, (where possible) instead of lifting, to provide a safer and more cost-effective method. Dave Smith, ALE projects operational manager, says, "ALE has invested heavily in state-of-the-art equipment, training and personnel specifically for these projects. We achieved several key milestones throughout all three projects so far and will continue to progress in our operations. Securing these contracts is a real indicator of ALE's increasing presence in the developing

ALE lifting the nacelle on the wind turbine in Huraymila, Saudi Arabia, using a 600 tonne capacity crawler crane



GHHL using a Liebherr LR 1750 crawler crane to erect a wind turbine in Turaif, Saudi Arabia

renewable offshore industry and ALE's commitment to servicing this market."

Further afield, ALE has installed what it claims as the first-ever wind turbine in Saudi Arabia. Work on the turnkey project started in January 2017. ALE was contracted to transport, erect and install a 2.75 megawatt wind turbine where the nacelle is 86 m up and the highest point of a blade is 147 m above ground. The wind farm is in Huraymila, around 80 km north of Riyadh.

Components arrived on a vessel at the Jubail Industrial Port. From there ALE transported them more than 600 km to Huraymila on conventional trailers and a blade trailer. A particular challenge was the 60 m length of the blades. According to Andrew Spink, general manager at ALE in Saudi Arabia: "The transport ran very smoothly throughout the project, with the blade trailer convoy typically averaging 250 km per day. Nevertheless, we faced several challenges during this project, while working to a tight schedule. One of these challenges involved protecting the load by the use of escort vehicles 24 hours a day."

ALE attributes its success in the wind energy sector to a number of factors. First, it has set up a dedicated wind division, as Carlos Moreno, commercial manager, wind energy installation, explains, "We decided to create a dedicated wind division over a year ago, as we saw the value of centralising our approach to this market. Many clients have centralised procurement departments and centralised their projects department, which award projects for the entire world. By offering a global team that can gather competence and training for all major manufacturers, they can travel globally to projects so clients have the assurance and certainty that no matter where their projects are they will have the same competent personnel running their projects and they deal with the same people."

Second, related to this, are the advantages that using just one company to transport, erect and install a wind turbine can bring. "The main advantage is that our clients only have one point of contact. With just the one company to co-ordinate all of the activities, it ensures a more efficient and effective process from start to finish," Spink says.

"ALE is currently promoting itself as a global turnkey provider, not just in Saudi Arabia, but worldwide," adds Moreno. "Our global turnkey capability, in addition to our local footprint in many emerging countries, is currently perceived by clients as a fundamental and very interesting service. We



are working with many of them in their future projects."

"Wind farms are by far one of the busiest renewables sectors for ALE as all the components are oversized," concludes Spink. "On solar energy projects the majority of the components are small and arrive containerised and do not require special transport. However, in the solar power production process there is still a requirement for heavy components like gas turbines, gas turbine generators, steam turbines, steam turbine generators. For example, ALE has been contracted for the transportation scope at the Waad Al Shamal combined cycle power plant, located in north east Saudi Arabia. It is situated over 1,100 km from the main port of arrival in Jubail. ALE has transported 10 of these large items, weighing up to 350 tonnes, and has supported the small associated cargo on over 300 additional truck loads."

Winds of change

Staying in Saudi Arabia, heavy haulage and heavy lift contractor Gulf Haulage Heavy Lift Company (GHHL) has also erected a wind turbine. The wind turbine, in Turaif in the north-east of the country, will generate power for a bulk plant facility operated by state oil company Saudi Aramco, which plans to generate 9.5 gigawatts of national renewable energy by the year 2030.

The wind turbine components, comprising three blades, the nacelle, and the tower sections, were transported by GHHL from the port of Jubail to Turaif, a distance of 1,250 km. This was achieved in under six days. The wind turbine weighed in at a total of 410 tonnes, and was erected using a 750 tonne capacity

Liebherr LR 1750 crawler crane. After the tower segments had been assembled, the 83 tonne nacelle was installed at a height of 84 metres. Including the installation of the blades, the erection of the entire wind turbine took two days. High wind speeds in the region made the planning process more difficult, says Liebherr, since there were only short time frames available for the erection of the components.

In Australia, the wind farm sector is strong, too, according to heavy lift and transportation specialist Mammoet. It says it has recently installed 75 turbines on the Ararat Wind Farm. The company says that the 240 MW Ararat Wind Farm in south-west Victoria will be the third largest wind farm in Australia and it has attracted almost half a billion dollars of direct international investment into Victoria. Mammoet says that 61 of the 75 turbines have been already commissioned and are already contributing to Victoria's supply of renewable energy and showcasing the potential of the renewables industry in Australia. The Ararat Wind Farm will be a world class project playing a key part in Australia's renewable energy future.

Manufacturer Terex Cranes also reports that the main driver for it in the energy sector is wind power. As such, it says there is demand for its crawler cranes and large all terrain cranes (700 tonnes and above, for the main lifts). It reports demand too for smaller cranes (130 to 200 tonnes) to assist the main cranes or later on for maintenance.

One reason Terex cites as to why its clients choose its products for lifting jobs in the energy sector is the level of control its cranes can offer. "The loads that our cranes carry under the hook are unique, extremely

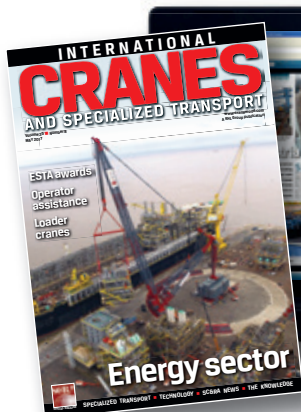




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expensive, irreplaceable items upon which the whole project depends and, therefore, they must be handled smoothly, with precision, but also within tight schedules," says Erwann Maillot, a spokesperson for Terex. "However, our cranes are designed to help customers carry out these lifts with millimetre precision. We can also provide refinery packages with auto engine shutdown, air intake shutoff and electric emergency stop devices. In addition, we offer optional hot and cold weather packages for cranes working in extreme weather conditions."

Terex claims that such a high level of control is made possible by its engineering of structural designs, crane kinematics and software programming. It says its IC-1 and IC-1 Plus control systems are instrumental in providing the operator with real-time, accurate lift information and crane operation data.

The 'Lifting Solutions Division' of USA-based positioning products manufacturer Trimble reports that it is very active in the global energy sector, working with many of the larger service companies in the oil and gas industry, as well as in the energy and utilities industry.

For example, Trimble worked closely with Terex Utilities to develop a load alert system for its insulated aerial devices to support safe work practices used in overhead electric utility applications. According to Trimble, the solution required understanding the application work requirements and developing custom software to observe multiple loads simultaneously. The system captures overload events, by severity, and through a telematics provider alerts

appropriate safety and maintenance personnel so appropriate action can be taken. In this system Trimble says it modified the software to monitor the bucket load of an operator, their tools, the jib load and radii and other inputs. The technology in play is Trimble's proprietary radio, which allows for communication in and around high voltage power lines where a wired system cannot be deployed due to interference and machine design requirements.

Trimble also says its CSA and ATEX certified products are the most in demand in the energy sector. The company points out that due to the specific requirements of the certifications, not all companies can supply to the energy industry, whereas it can offer full wireless RCI systems and components for use in hazardous areas, including display and sensor options.

High capacity

Wind turbine manufacturer Siemens Wind Power is so busy in the wind power sector that it has commissioned its first specialized transport vessel, the *Rotra Vente*, designed to provide cost-effective transport of the large nacelles of wind turbines. The 141-metre-long vessel can carry multiple eight megawatt nacelles per trip and will connect Siemens' manufacturing site in Cuxhaven, Germany (which is currently under construction), with installation harbours in the North and Baltic Seas.

Designed from a base of an existing hull of a container ship the vessel was rebuilt for its new purpose at Holland Shipyard in Hardinxveld-Giessendam in the Netherlands. Part of its new equipment is a large bow door that allows ro-ro access to the restructured



Mammoet installing the last of 75 rotors at the Ararat Wind Farm in Australia

cargo deck. The deck is covered by a telescopic roof to protect the nacelles from seawater spray.

Since the roof can be opened, *Rotra Vente*'s cargo can also be loaded via cranes at harbours without a ro-ro ramp. It can also transport up to nine wind tower sections per trip or three to four rotor blade sets, says Siemens. A sister ship – a transporter for towers and blades – is already under construction. According to Siemens, this vessel will accommodate up to 12 wind turbine rotor blades.

"With our new ro-ro transport vessel *Rotra Vente*, we are stepping into a new era of cost efficient offshore wind logistics," says Michael Hannibal, CEO offshore at Siemens Wind Power. "When our new factories in Hull, England, and Cuxhaven, Germany, become fully operational, and both ro-ro vessels are in service as interconnection of our manufacturing and installation network, we expect savings of 15-20 percent in logistics costs compared to current transport procedures. This is another important contributor reducing the cost of electricity from offshore wind."

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Next-level planning

A new approach to project planning is being promoted by FELIX WEINSTEIN, founder and manager of Felix Engineering in Israel.

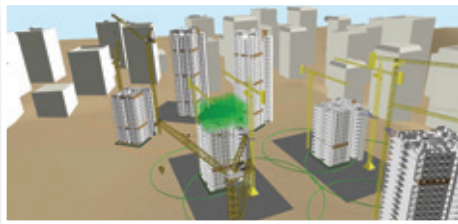
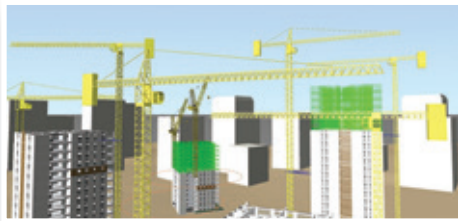
His approach takes things into a new dimension.

ICST reports

According to Felix Engineering CEO, Felix Weinstein, his company has developed a project planning tool that will maximise efficiency on site, particularly when using tower cranes.

Weinstein identifies a number of challenges facing project managers when they are planning how best to use their tower cranes. These include: deciding on the best locations to put the cranes; planning the anchoring system properly; finding the right height at which to connect cranes and buildings; and synchronizing work between cranes to meet safety requirements.

Felix Engineering's solution to help project managers overcome these challenges is a planning management system that it claims takes into account all engineering equipment requirements on the job site at every stage of the build. Felix Engineering is calling this a '4D' system and it utilises Building Information Modelling (BIM) technology. "The system combines unique engineering solutions with a 3D virtual environment, thereby maximising tower crane work efficiency on site while taking into account the limitations imposed by environmental restrictions and safety standards," explains



On-screen 3D verification that cranes won't hit each other is just one element of the system

Weinstein. "The system allows an interactive view of the construction site environment combined with the progress of both the building and the tower cranes while also using a project schedule that can be rendered through several project management programs such as Microsoft Project and Oracle Primavera."

Maximise output

This means that the 4D-BIM technology combines 3D modelling of the job site, enabling viewing of the project from all directions, with a Gantt chart that illustrates a project's schedule. By doing this, Weinstein says users can "maximise their output, save surplus expenses, and avoid problems with safety regulations".

"Managers are currently using 2D AutoCAD software to design their projects," Weinstein laments. "The information this can produce is very limited and the 2D design does not allow observation of all the parameters that are required to decide on and locate the optimal place for the tower crane."

This is why Felix Engineering opted to use a 3D design of the construction site that



The 4D-BIM technology combined with 3D modelling will maximise output, save surplus expenses, and avoid problems with safety regulations, according to Weinstein

incorporates Gantt performance and even budget flow all on one scale. "Being able to look around the virtual job site makes decision making easier and stops a project from being stopped during a critical stage," says Weinstein. "From the viewpoint of the city engineer, it enables verification that the tower cranes do not overlap with adjacent public areas, buildings and power lines."

Having a well-designed job site with the tower cranes located in the right area is clearly a complicated but important job. "These are the most important ingredients for successfully completing a project on time and within budget," stresses Weinstein. As such, any tool that successfully helps the site manager achieve this will surely be welcome.

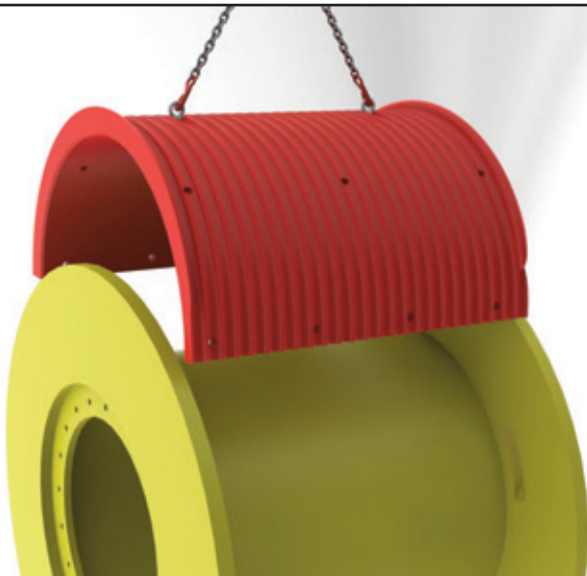
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A video of the 4D BIM system can be seen at: <https://goo.gl/cFpb6a>

ABOUT FELIX ENGINEERING

Felix Engineering was established in 1991 by Felix Weinstein and is located in Israel. The company provides engineering and consultation services for cranes and lifting equipment and, in particular, specialises in optimising the use of tower cranes on job sites.

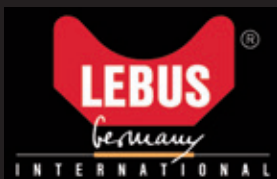


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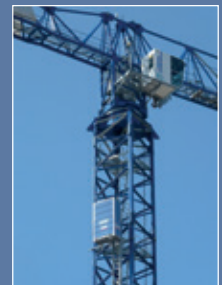


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Outside the box

Necessity is the mother of invention. MARCO VAN DAAL says that sometimes it is good for a company to stretch its capabilities and work outside its comfort zone

At some point many heavy lift and heavy transport companies are faced with a situation where their 'off the shelf' transport and lifting means are inadequate and prevent completion of a job or project. At those junctures you may have to venture outside your zone of comfort. It may involve having to come up with a 'smart' solution or a piece of custom 'assist equipment' that does not yet exist in your fleet.

Such assist equipment may include spreader bars and lift beams, turntables, supporting (steel) structures, skidding systems and lift adapters, to name just a few. Design, engineering, manufacturing, testing and certification capabilities you may not have available in-house.

What makes those situations challenging is that these are often unplanned and therefore have an (extremely) short lead time to resolve. These short lead times may at times put you in a tempting situation where taking a short cut is hard to resist, just to comply with ever more demanding schedules - a scenario that can make even the most seasoned individuals a bit nervous at times.

When our industry was in its infancy, which was not so long ago, there were few (if any) sources where this type of 'assist equipment' was readily available or where it could be designed and built. Nowadays, some of the assist equipment is designed and built by specialized companies that serve the heavy lift and transport industry. But still, if the



An unexpected need to unload this 700 tonne refinery vessel from a ship required a pair of beams that had to be made quickly

available assist equipment (from specialized companies or from friendly competitors) is unsuitable for your specific project needs, you are left to your own devices and you may indeed have to think outside the box.

This article highlights two projects where thinking outside the box was essential to coming up with the right tools to complete the project in a satisfactory fashion.

Dubai/Qatar, LNG plant

This is not a recent project but the challenges were equally demanding. We (Mammoet) were awarded the transport of all heavy cargo from the Qatar port in Ras Laffan to the project side, a route of less than 5 km (3 miles). The heaviest component was a sulfinol absorber column weighing 700 tonnes. The transport of this refinery vessel was originally planned to take place on a dolly configuration of two double 12 axle line transporters with turntables. The vessel was to be received from the ship's cranes in a tandem lift and delivered directly underneath the awaiting cranes without going to a lay-down area or temporary storage facility. A main crane and a tail crane, not supplied by Mammoet, would lift and upright the vessel as it had to be installed vertically. As the project progressed and the ETA of the ship neared, two things happened. First, the ship that carried this vessel arrived around two weeks earlier than expected. Its ports of



Above: Vertical webs added to further stiffen the box beam



Left: a flange was added to the top of the existing box beam

call prior to Ras Laffan were consolidated, saving time for the ship. Second, the ground preparation for the setup of the main crane was delayed due to unexpected rainfall in Qatar - a very unusual occurrence in the Middle East. These two factors combined to result in the fact that the vessel could not be delivered under the crane hook but had to go into a storage facility for a period of time.

NOTE: The early arrival of the ship did not have a major impact on Mammoet's mobilisation of transport equipment as this was already on site for the project. It did impact the existing schedule of configuration changes but that was minor.

Having to offload the vessel meant that two offload beams were needed with a length of 9 metres (29.5 feet) that could support 400

ABOUT THE AUTHOR



MARCO VAN DAAL has been in the heavy lift and transport industry since 1993. He started at Mammoet and later with Fagioli from Italy, both leading companies in the industry. His 20-year-plus experience extends to five continents and more than 55 countries. His book *The Art of Heavy Transport*, is available at: www.khl-infostore.com/books. Van Daal has a passion for sharing knowledge and holds training seminars around the world.

tonnes over the centre 5.5 m (18.0 feet). The vessel weight was 700 tonnes but the saddles were not equally spaced around the centre of gravity (CoG) so that the head saddle carried approx. 400 tonnes and the skirt saddle carried approximately 300 tonnes. Such offload beams were not available in Mammoet's fleet in Dubai or Qatar. Both its yards in Singapore and The Netherlands had beams of the required capacity available but they could not get them transported over in time, taking into account shipping time and custom clearance. The only alternative left was to fabricate a set of offload beams.

Mammoet decided to use an existing set of box beams that could be reinforced to the required capacity. That meant adding a top and bottom flange plate and additional stiffeners in the web. The work amounted almost to building brand-new offload beams but the major benefit of this method was that it is much easier to add steel to something that is already aligned and perfectly square.

The steel grade of the existing box beams was determined; the steel that was added was matched in terms of grade. Dubai was in a construction boom and steel plate in various thicknesses and grades was available from various suppliers.

Once the additional steel was delivered it took a total of two weeks with two shifts (a day shift and a night shift each working 12 hours) to complete all the welding. One of the concerns Mammoet had was that the amount of heat that was put in the beam would cause warping of the steel. This did not happen. The finished reinforced offload beams remained perfectly straight.

During the fabrication, the export papers to Qatar were being prepared. In those days, export of goods from one country to another was a major undertaking in terms of time and potential delays at border crossings.

On the skid track



Left: Hydraulic cylinder for turning the turntable with its load;
Above: the engine on the turntable
Right: The turntable ring in fabrication



When the beams were completed they were transported without even being painted. The steel was still too hot from the welding to apply paint. Painting was carried out in Qatar and Mammoet's client never even knew that The beams under the vessel did not exist a few days ago. The transport and offloading was carried out without a glitch.

Aruba, power plant

For the construction of a new power plant in Aruba, ATCO (Aruba Transport Company) and CHLTA (Caribbean Heavy Lift & Transport) were awarded the general and heavy cargo transport. The heavy transport included the rough setting of the gensets on their plinth. Over the years the term 'rough setting' has changed in meaning. It used to indeed be a rough setting whereby the final setting and alignment was carried out by others. More and more the rough setting is almost equivalent to the final setting. This project was no different: the rough setting was with a tolerance of 1 mm (3/64 inch).

When the contract was awarded the scope of work called for a transport and skidding operation with the rough setting carried out using hydraulic jacks. The skidding operation was to be carried out from the transporter deck directly onto the finished floor and the respective plinths. This method was identical to the first power plant that was built a few years prior.

The difference, however, was that the engine hall construction was ahead of schedule and it was decided close the end of the building so that construction and installation of other equipment would not have to be delayed. The installation method could no longer be used, and an alternative method had to be used - namely skidding all the gensets into the engine hall via a cavity that was left in the wall, just large enough to allow the gensets to pass. This in itself was not too much of a challenge; the bigger challenge was that each genset had to be rotated 90 degrees to align with the cavity in the wall. A turntable or turning device to achieve this, we did not possess. We decided to build one. Not just one for this project but one of sufficient capacity that would benefit us for many years to come. Since the gensets weighed 250 tonnes, our initial target capacity was 300 to 350 tonnes. We also wanted to make sure that it was strong enough to still handle the full load even when placed over a trench or when supported by timbers. With this in mind the top and bottom portions were designed as a box with internal stiffener plates to avoid bending and to minimise flexing.

Since the jacking, skidding and turning operation was all part of the same project we made sure that all three operations could be carried out with the same power pack. The turntable needed to be hydraulically driven with an automatic reset of the hydraulic cylinder after each stroke. This was a lot easier said than done and it required lots of adjustments but the end result was very good.

Last but not least, as we operated from an island, the turn table had to fit in an open top container for easy mobilisation to other [overseas] projects.

NOTE: In case anybody is interested in the design of the turntable, please contact me at: marco@the-works-int.com



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Increasing productivity

In a recent piece for *Construction Dive*, Kim Slowey referenced a McKinsey & Company report that suggested the construction industry could increase productivity by upwards of 50 to 60 percent with regulatory reform, new contracting methods, design and engineering innovations, better procurement and supply chain practices, increased workforce training and offsite pre-fabrication methods.

Slowey also pointed to a World Economic Forum (WEF) study that came out last year – revealing construction’s “dismal productivity showing” when compared to other world industries. The WEF study found that “reducing construction costs by one percent through productivity gains could save the global industry approximately one hundred billion dollars each year.”

An additional McKinsey & Company report, *Reinventing Construction Through a Productivity Revolution*, explained how the global construction industry, which has a 1 percent productivity growth rate compared to the world’s 2.8 percent, has been slow to adopt the new technology and management techniques that could increase its value by up to US\$1.6 trillion. WEF experts spotlighted lean construction methods as a means to increasing productivity – going so far as to say that lean could “reduce costs by 15 percent and schedules by 30 percent.” In her piece, Slowey added that experts say the industry’s lack of productivity growth is also due largely to the leadership in the construction industry



and their aversion to collaboration – opting instead to emphasise individualism.

Both McKinsey and the WEF also agree that the industry’s fragmentation is holding back advancements in productivity, which could be helped along by the creation of global standards. With the construction industry employing around 7 percent of the world’s working-age population

within one of the world’s largest economic sectors (\$10 trillion is spent on construction-related goods and services annually), McKinsey explained that lean principles, along with certain automations, have had game-changing effects on other industries. “In retail, the mom-and-pop stores of half a century ago have been replaced by large-scale modern retailers with global supply chains and increasingly digitised distribution systems and customer-intelligence gathering,” the report explained. But by comparison, much of construction “has evolved at a glacial pace.”

Reasons given included extensive regulation and an industry highly dependent on public-sector demand, informality and, at times, corruption. In addition, “contracts have mismatches in risk allocations and rewards; often, inexperienced owners and buyers find it hard to navigate an opaque marketplace. The result is poor project management and execution, insufficient skills, inadequate design processes and underinvestment in skills development, R&D and innovation,” said the report.

Slowey emphasised that, unless the industry takes significant steps to modernise, it will be unable to meet the demands of an aggressive infrastructure programme or be able to address the shortage of housing (especially in the USA). Facing an industry in deadlock, an emerging consensus focuses on the need for movement from all players. “Parts of the industry could move toward a manufacturing-inspired mass-production system, in which the bulk of a construction project is built from prefabricated standardised components off-site in a factory,” said McKinsey.

And while some governments are attempting to be proactive and productivity-focused through regulation, *Construction Dive* postulated: “While construction is not amenable to the full-scale automation and management techniques that are employed in industries like manufacturing, productivity increases could be realised through regulatory reform, new contracting methods, design and engineering innovations, better procurement and supply chain practices and increased workforce training.”

Onsite, construction safety has been proven as an essential component of productivity success. Ultimately, the same is true for improving construction labour productivity. When leadership is committed to improving productivity, and reinforces it with best practices for planning and implementing projects, then it’s possible to achieve not only improvement, but sustainable growth. ■

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The ICSA meeting in Las Vegas, USA, during March's ConExpo show built on continued consensus. MIKE CHALMERS reports

Continued consensus

The annual meeting of the International Crane Stakeholders Assembly (ICSA) took place on 8 March at the Las Vegas Convention Center in Las Vegas, Nevada, USA, and was hosted by the Association of Equipment Manufacturers (AEM) and SC&RA (represented by Beth O'Quinn).

Formed in 2012 in response to the European announcement of EN13000:2010, this year marked the sixth meeting of the Assembly – bringing together industry users and manufacturers from around the world to address key issues impacting the crane and rigging industry.

ICSA provides a global platform through which international differences can be aired and discussed on a regular basis, and whose goal it is to promote a more harmonised industry. Its members include: the Association of Equipment Manufacturers (AEM); the European Federation of Materials Handling (FEM); the Crane Industry Council of Australia (CICA); the European Association of Abnormal Road Transport and Mobile Cranes (ESTA); and the SC&RA.

During the all-day meeting in March, users and manufacturers split up into two sets of morning sessions, and reconvened in the afternoon to review key items of importance to

the worldwide crane industry. These items included:

- ESTA's European Crane Operator Licence project
- CICA's operator competency programme – CrewSafe
- Cranes on floating barges
- A report on the FEM/ESTA 2017 Wind Summit
- Stability calculations for long boom systems and wind effects
- EN13000
- New York City safety bills that are currently under consideration
- Methods for calculating wire rope reeving system limits
- Erecting wind turbines: access roads and hard stands.

Representing CICA, Brandon Hitch said the meetings are vital to the global industry, and pointed to his home country as an example. "Certainly in Australia, we have adopted global standards, and the users (operators) in Australia are both national and international," he said. "The physics that governs crane design and safe crane operation is identical throughout the world, even if the water in



Australia circles the drain in the opposite direction from the northern hemisphere."

William 'Bernie' Bernhard, with co-host AEM, echoed Hitch in recognising ICSA as a unique committee that encourages stakeholders

and experts to share knowledge, experience and influence – specifically as it relates to matters of universal interest. "The key element, globally, is that everyone agrees that safety is our major concern, and we use ICSA as the path to improve safety every day," he emphasised. "We accomplish this by bringing together these individuals in the industry."

Bernhard is confident that the March meeting accomplished the mission. "Yes, it was informative and built on continued consensus within the industry," he said. "I left the meeting knowing that the expertise and knowledge shared would have a positive impact around the globe."

In agreement

Søren Jansen was also in attendance, representing ESTA, and agreed with Bernhard on the meeting's impact. "We had



some very interesting discussions regarding the European norm and the future possibility of it becoming a globally accepted norm," he noted. "This is particularly important for internationally operating crane rental companies as well as crane manufacturers."

Jansen pointed out that ICSA has already generated some notable results in just a handful of years. "Since we started only a few years back, three safety-related guidelines and papers have already been published."

Like Bernhard, Jansen also sees the gathering as another fundamental opportunity to focus on safety. "I've seen too many crane accidents during my 30-plus years in the mobile crane industry, so all discussions relative to further improving safety in our industry are on the very top of my agenda. Such discussions took place again this year regarding 'mobile cranes working on floating barges' and requirements to 'access roads and hard stands when erecting wind turbines.'"

Bernhard added that the once-yearly meeting is a perfect example of the consensus built at ICSA but, that perhaps even more

facetime would be beneficial. "Everyone agreed that once a year is not enough," he said. "However, to meet more than once a year, face to face, is challenging. Therefore, the 2017 ICSA members agreed on formulating a few ad hoc committees, meeting via web-ex within six months, and scheduling the next ICSA meeting sooner rather than later."

Ultimately, he believes that the role ICSA plays within the global crane industry is the result of manufacturers and crane users coming together to build a consensus position. "Nothing can be more influential than having the main parties, the experts, the stakeholders agreeing on improving safety in the industry around the world."

Ted Redmond, president at NCSG Crane & Heavy Haul Services Canada, also attended this year's meeting. As SC&RA Crane and Rigging Group Chair, he sees ICSA performing a critical role in providing the global industry with a path towards increased dialogue and co-operation. "[The meeting] allows the industry to become better aligned and more efficient, as well as providing a forum to speak with a common voice on key consensus issues."

Redmond particularly felt that the CICA initiative on operator competency spotlighted "an important programme, and is being implemented in a very detailed and thoughtful way." In addition, he thought the meeting made further progress on understanding how EN13000:2010 has actually been implemented in a way that still enables the operator to have significant control over their crane during operation while also preventing wilful overload of the crane.

"I thought this year's meeting allowed us to find more common ground on some



William Bernhard at AEM

important issues, as well as get an update on various initiatives being pursued by some of the regions," he explained. "The joint user and manufacturer portion of the meeting is my favourite aspect. Ultimately, I believe ICSA could become even more impactful by getting additional crane associations involved from some of the other smaller countries and regions. I also feel that by increasing the meeting frequency, and by continuing to build relationships among the members, we can further increase the effectiveness of ICSA."

Modern technology

Hitch is excited that steps are being discussed to meet more frequently via webinar.

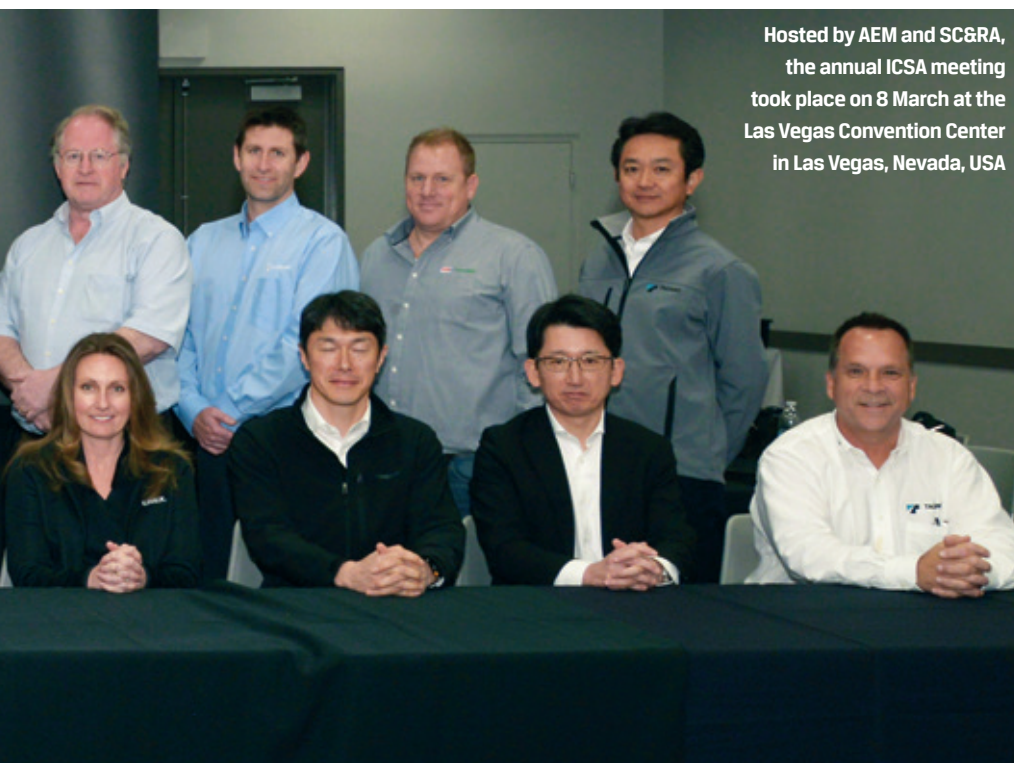
"This will certainly help with the overall management of projects the Assembly has agreed to." That said, he values the opportunity to meet with global industry leaders face to face. "The genuine approach within the Assembly may make for spirited conversation, but you always know where you stand. It's also a great networking opportunity for me. I think I'm the newest member of the group, and since we only meet once a year, having the ability to discuss topics outside of the face-to-face meeting over e-mail, teleconference or webinar is where the bulk of work gets done. But in a digital age, familiarity with the person you are 'talking' to is still important, and makes for a more honest conversation."

Jansen agrees. "For me, as a European, it has been an eye-opener to work with experts from around the world – trying to understand the world in which they operate, its problems and possibilities," he said. "And as time goes by, I am absolutely sure that the work done by all the experts from within ICSA will make our industry an even safer place to work."

The next ICSA meeting is scheduled for 9 November 2017, in conjunction with KHL's World Crane & Transport Summit, in Amsterdam, Netherlands. For more information, see: www.scranet.org



Søren Jansen, ESTA director



Hosted by AEM and SC&RA, the annual ICSA meeting took place on 8 March at the Las Vegas Convention Center in Las Vegas, Nevada, USA

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All the winners assembled on stage


6 April 2017
Amsterdam, The Netherlands

Euro stars

The eagerly anticipated ESTA Awards of Excellence winners for 2017 were revealed at the spectacular annual awards dinner on Thursday 6 April, in Amsterdam, Netherlands

A crowd of more than 350 top people from the crane and transport industry in Europe and further afield gathered in Amsterdam, Netherlands, for the 2017 dinner and awards ceremony. The event is organised by ESTA and *International Cranes and Specialized Transport* magazine. It is a celebration of the best in Europe's crane and specialized transport industry.

■ For more details on the event see: www.khl.com/esta

Sponsors for the evening were as follows: Gold sponsors were Liebherr and Tii Sales; Silver and Hospitality sponsor was Terex

COMBINED TECHNIQUES

WINNER: **Mammoet Europe**
Erik Kroes manager, operations, special devices at Mammoet



Demag; Silver sponsors were Goldhofer, Manitowoc, and Tadano; supporting sponsors were Faymonville and Kohler.

Every year, the awards rely on the hard work of an independent panel of judges. The overall juror co-ordinator was Wim Richie and the two judging panels were chaired by Peter van Dam and Cor van Unen.

Next year's awards will be held on 26 April in Paris, France, during the Intermat construction equipment exhibition at the Hilton Paris Charles de Gaulle Airport.

The 2017 award winners in each of the ten categories were as follows:

TRANSPORT A: TRAILER AND LOAD UNDER 120 TONNES GROSS WEIGHT

WINNER: **Mammoet Europe**
Michael Hansen, head of operations management at Mammoet Wind and presenter Lucy Alexander



CRANES, TELESCOPIC, LIFTING CAPACITY MORE THAN 120 TONNES

WINNER: **Nordic Crane Vest**
Erik Andersen, general manager, Nordic Crane Vest



SAFETY AWARD

WINNER: **Fagioli**
Natasja Sesink at BeOne Development, with Fabio Belli from Fagioli. The award was for an online training programme developed jointly by the two companies

»



INNOVATION, END USER

WINNER: **Fagioli**

Alessandra Fagioli, with Søren Jansen, ESTA director



INNOVATION, MANUFACTURER

WINNER: **Enerpac**

Jeroen Naalden, global director, Enerpac Integrated Solutions



CRANES, LATTICE BOOM

WINNER: **Sarens BV**

Luuk Kuijper, Netherlands country manager at Sarens BV



CRANES, TELESCOPIC, LIFTING CAPACITY UP TO 120 TONNES

WINNER: **Wagenborg Nedlift**

Managing director at Wagenborg Nedlift, Ton Klijn, centre, with Alex Dahm, editor of *International Cranes and Specialized Transport* magazine, and presenter Lucy Alexander



SPMT JOB OF THE YEAR

WINNER: **Sarens BV**

Stijn Sarens, managing director, Sarens Belgium



TRANSPORT B: TRAILER AND LOAD MORE THAN 120 TONNES GROSS WEIGHT

WINNER: **MTD**

Robert Skuratowicz at MTD Skuratowicz makes his way to the stage to receive his award



David Collett, ESTA president, closing the 2017 awards dinner

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SIMPLIFY
TRANSMISSION

A new machine designed to ensure the correct servicing of automatic transmissions has been launched by German motor oil and additive specialist Liqui Moly. It has also developed a range of motor oils, which it will launch into the UK market in June.

According to Liqui Moly, changing the fluid on an automatic transmission is a complicated matter. It is not, the company says, like motor oil where you can simply release the oil drain plug, as this would only allow a third of the oil to drain away. Liqui Moly claims replacing transmission fluid is a dynamic process where the filling quantity in the automatic transmission must remain the same throughout the entire process, otherwise the vehicle's electronic system reports an error.

Liqui Moly says its solution, the Gear Tronic, can assist mechanics with transmission oil servicing, including cleaning, flushing and refilling. It says its machine ensures that the lubricant is replaced completely. The process is monitored by two digital scales, to ensure that the quantity of new fluid added to the transmission is exactly equal to the quantity of old fluid taken out.

The company is also launching a range of motor oils in the UK. The company says its Molygen New Generation oils offer special wear protection, thanks to the inclusion of tungsten, among other substances.

■ For more information see: www.liqui-moly.com

Harness the power of fall protection

US company FallTech, a leading manufacturer of fall protection products, has re-engineered and updated its Journeyman FLEX work-duty harness. The new version is available in both aluminium and steel. Comfort has been enhanced by better padding, with an air mesh lining, for better air circulation and moisture wicking.

The aluminium model is easy to adjust using the CamLock torso adjusters which, FallTech says, enable quick, one-handed adjustment that locks in place throughout the day. The harness also has visual indicators on the



chest and legs that display green when properly fastened.

■ For more information see: www.falltech.com

Helping hoist from Geda

German construction hoist manufacturer Geda has developed an operator hoist system, called the Geda 2 PK, that it says can be easily installed on any type of crane from any manufacturer.

The system comprises a rack and pinion hoist with aluminium ladder segments that allow the hoist to be installed up to a standard height of 150 m. Geda claims its hoist provides a safe and quick transport system for crane operators, maintenance personnel, and even materials up



to 200 kg in weight at a speed of 24 metres per minute

According to Geda, once the hoist's base unit is assembled and anchored, aluminium ladder

sections can be installed through the open cabin roof. Using Geda's patented quick-release connections, the company claims the ladder can be easily assembled without any screws. Instead special rail anchoring provides tension-free attachment to the crane mast.

Geda says its overspeed safety brake guarantees safe transport and that electrical safety devices are in place to guard against faulty operation.

■ For more information see: www.geda.de

VACUUM LIFTING SYSTEM

The new CM 3 compact modular vacuum lifting system from global lifting specialist Vacuworx is designed to enable contractors to use larger compact equipment for a range of lifting applications weighing up to three tonnes.

According to Vacuworx, the CM 3 is a rugged, all-steel unit that can accommodate single or double pad configurations interchangeably, depending on the application. The system is operated by a hydraulically-driven vacuum pump using the auxiliary hydraulics from the host machine (minimum 10 GPM required with maximum 3,000 psi). With quick-connect hydraulic hoses and a universal mounting plate assembly, Vacuworx says the CM 3 can be attached in minutes. To ensure optimal performance with any equipment the unit features a factory preset flow control valve, Vacuworx says.

■ For more information see: www.vacuworx.com



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EVENTS DIARY

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www.khl.com/itc**ACRP (Associated Crane And Rigging Professionals) GENERAL ASSEMBLY****11 - 14 May 2017**Tulalip, Washington, USA
www.acrp.net**VERTIKAL DAYS****24 & 25 May 2017**Silverstone, UK
www.vertikaldays.net**PLANTWORX 2017****6 - 8 June 2017**Bruntingthorpe, UK
www.plantworx.co.uk**CRAC (Crane Rental Association of Canada) ANNUAL CONFERENCE****7 - 10 June 2017**New Brunswick, Canada
www.crac-canada.com**LIFT & MOVE USA****14 September 2017**Buchanan Hauling
Fort Wayne, Indiana, USA
www.liftandmoveusa.com**SC&RA CRANE & RIGGING WORKSHOP****20 - 23 September 2017**Kansas City, USA
www.scranet.org**BICES 2017 (The 14th Beijing International Construction Machinery Exhibition & Seminar)****20 - 23 September 2017**Beijing, China
www.e-bices.org**ICUEE 2017****3 - 5 October 2017**Kentucky, USA
www.icuee.com**GIS 2017 (Italian cranes & access and heavy transport show)****5 - 7 October 2017**Piacenza, Italy
www.gisexpo.it**AWRF FALL CONFERENCE (Associated Wire Rope Fabricators)****22 - 25 October 2017**Minnesota, USA
www.awrf.org**APEX ASIA 2017 / CEMAT ASIA 2017****31 October - 3 November 2017**Shanghai, China
www.apexasiashow.com
www.cemat-asia.com

PICTURE OF THE MONTH



This striking image is from US crane manufacturer Link-Belt. It illustrates the lighting package available for the HTC-86110 rough terrain crane but, to our eyes, it also looks like a scene from classic Hollywood sci-fi movie *Close Encounters of the Third Kind*. The crane has four high intensity work lights mounted as follows: on top of the operator's cab; on the right side of the superstructure facing forward; on the upper work platform; and on the left side of the superstructure facing out. Single and dual boom floodlights and others with remote controls are also available.

PEOPLE NEWS

■ Italian crane company Raimondi Cranes has appointed

MAURO MASETTI

as commercial director. The company said it is a key step in its strategic push into new markets around the world. Based in Italy, Masetti will lead the commercial division, pushing sales growth in current and new markets, building on a strategy that has seen the company expand rapidly into overseas locations, for example, North America, the Middle East and Australia in recent years.

A 20-year veteran in the heavy lifting machinery segment with a strong professional footprint across multiple European and North American markets, Raimondi stated that Masetti's diverse background in sales, client servicing and aftersales servicing is

strategically in line with its ambitious global expansion plans.

Masetti commented, "The demonstrated flexibility of Raimondi's engineering solutions, matched with high safety levels, and the exceptional model performance and longevity are some of the key facets of the brand that I look forward to sharing with new clientele." Masetti added that he is also looking forward to promote the company's luffing jib cranes - a sector that is growing globally.

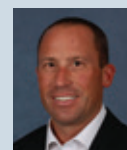
■ **BOB KRAUSE** and **TODD ELKINS** have been hired by Tadano America as regional business managers for the Midwest and South regions.

KRAUSE is regional business manager for the Midwest



region, and reports to Ken Butz, general manager of sales. Butz said, "Bob's experience in and knowledge of the crane industry and his years of experience in the Midwest brings immediate value to our business and customers."

Most recently, Krause was a sales representative at Hayden-Murphy Equipment. Before that he was a regional account manager at Manitowoc Cranes.



ELKINS is regional business manager for the South region and he also reports

to Butz. Butz said, "Todd is a seasoned crane industry professional whose knowledge and experience brings strong expertise to Tadano." Elkins was territory manager at H&E Equipment Service. Before that he was a regional business manager at Manitex Cranes.

■ Please 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, United Kingdom, 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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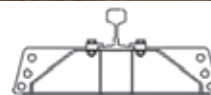


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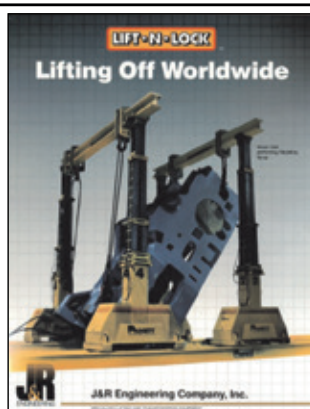
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DEMAG AC 120-1 Year 2006



LTM 1060-2 Year 2000



GMK 3055 Year 2005



LTM 1100-5.1 Year 2004



LIEBHERR

LTM 1035-3	Year 1989
LTM 1055-3.1	Year 2006
LTM 1070-4.1	Year 2004
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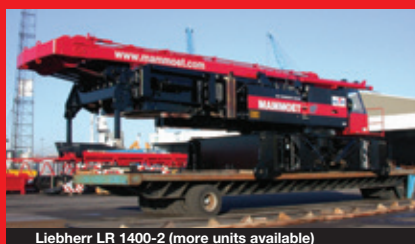
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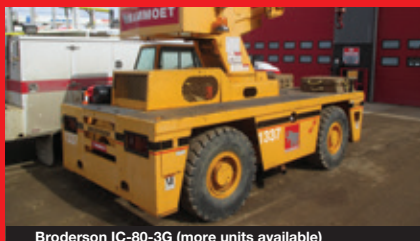
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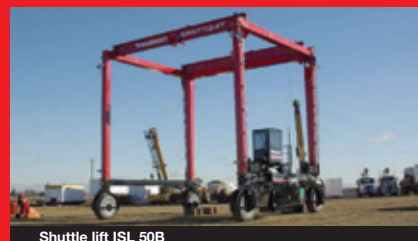
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Tadano Faun ATF 65G-4 (more units available)



Shuttle lift ISL 50B



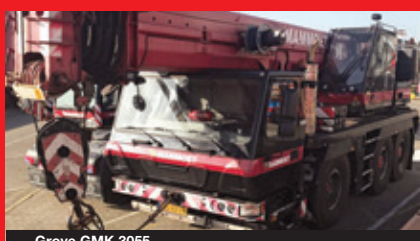
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Liebherr

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LTM1090 1990
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LTM1130-5.1 2013
LTM1200-5.1 2007
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Grove

GMK3055 2011
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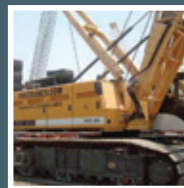
Grove GMK 6300L hydr. jib - 2012

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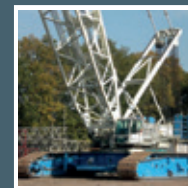
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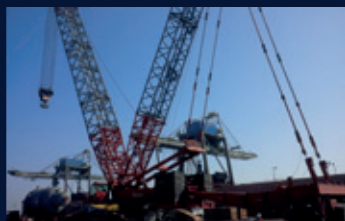
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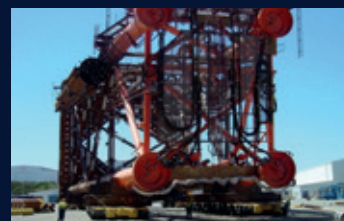
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