INTERNATIONAL CRANES AND SPECIALIZED TRANSPORT

Volume 25 ■ Number 4
JANUARY 2017
www.craneworld.com
A KHL Group publication

S&RA
OFFICIAL MAGAZINE

REPAIR AND REFURBISHMENT ■ INTERVIEW: STEVE FILIPOV ■ CONEXPO PREVIEW

KOBELCO

KOBELCO CRANES

STRENGTH THROUGH EXPERIENCE

Since 1930

KOBELCO G-Series

- EU Stage 4 compliant Power Plant
- Up to 25% reduction in fuel consumption thanks to G-mode, 3 new Energy Saving Systems from KOBELCO: G-Engine, G-Winch and Auto-Idle-Stop
- Ergonomic, luxurious, spacious cab with Joysticks
- High precision in positioning loads
- Unrivalled smooth operating comfort
- Dual pump flow for clamshell, bucket or material handling*
- Wide, large-capacity winches improve spooling and extend wire rope life
- Large, colour monitor with pictograms provides outstanding visibility and immediate comprehension of essential operating data
- Fast assembly and disassembly
- Innovative, low weight upper frame and body within 3m transport width
- Tractor-type crawlers*
- Over-swing preventative device*
- Machine inclination sensor*
- Counterweight detect system*
- Efficient transport
- Low maintenance
- Excellent reliability
- Worldwide service

* optional items

CONEXPO-CON/AGG 2017

Gold lot

KOBELCO CONSTRUCTION MACHINERY CO., LTD.
TOKYO, JAPAN
Tel: +81-(0)3-5789-2121
intlsales_cr@kobelconet.com

KOBELCO CRANES MIDDLE EAST FZE
Sharjah, U.A.E.
Tel: +971-(0)6-557-8114
okagaki.yukinori@kobelco.com

KOBELCO CRANES NORTH AMERICA INC
Houston, Texas, U.S.A.
Tel: +1-(0)713-856-5755
jack_fendrick@kobelconet.com

KOBELCO CRANES SOUTH EAST ASIA PTE. Ltd
Singapore
Tel: +65-(0)6268-1308
hirakawa.takemichi@kobelco.com

KOBELCO CRANES (SHANGHAI) CO., LTD.
Shanghai, CHINA
Tel: +86-(0)21-5382-0120
john.wei@kobelco.com

KOBELCO CRANES EUROPE Ltd.
FOR EUROPE, AFRICA, RUSSIA, CIS
Tel: +31-(0)36-549-5510
jos_verhulst@kobelconet.com

KOBELCO CRANES INDIA PVT Ltd
Tel: +91-(0)11-40151900
miyashita@kobelconet.com

KOBELCO CRANES EUROPE Ltd.
FOR U.K., IRELAND AND SOUTH AFRICA
Tel: +44-(0)1342-301122
mark.evans@kobelco.com

www.kobelco-cranes.com

INTERNATIONAL CRANES AND SPECIALIZED TRANSPORT
VOLUME 25 ■ NUMBER 4 ■ JANUARY 2017

Chosen as the official magazine of the SC&RA (Specialized Carriers & Rigging Association)

European partner:

Approved media partner for:

EDITOR'S VIEW

Welcome to 2017. I write this during that first week of the year when I find myself mistakenly writing, typing or saying 2016 instead of 2017. I hope it is not just me. Everyone makes mistakes. Most if not all of the things in the news that are going on in the world at the moment are likely to concern mistakes of one sort or another. Identifying mistakes, often by somebody admitting to them, is usually a major first step towards helping to learn from them and to reduce the chances of recurrence.

Of course, one or more minor errors leading ultimately to what is often somewhat amusingly referred to as "deferred success" in, for example, sporting or academic activities, rarely has major direct negative impact on human life. When it comes to crane accidents, however, most are similarly a result of human error but the consequences are far more severe.

Two stories in *ICST* magazine's News this month point to human error as being the cause of a pair of high profile lattice boom crawler crane collapses last year where many people were killed and there was masses of damage to property. In both cases the findings are reported as saying that the cranes were not operated as per the manufacturer's instructions. Apparently the information about correct use of the equipment was all there in a manual. Had it been read, understood and followed, the chances are much higher that both incidents would have been avoided.

That is easier said than done. People are hugely busy these days and have so many things to deal with, to make decisions on and act upon. Time, as always, is a pressure said to be working against us, internally and from outside sources. Many people are trained how to do a huge number of things and most of us probably know a lot more than we think we do (althought there are, of course, exceptions to every rule). I, for one, would like to try and train myself to, or get into a habit of, giving more time to certain things that can get brushed aside in a wave of feeling unable to stop and think.

Anyway, we can't hang around, it's time to move on and look ahead once again, I hope that this year is a positive one for you.

ALEX DAHM
Editor

Correspondence is welcome and should be sent to:
The Editor, *International Cranes and Specialized Transport*,
Southfields, Southview Road, Wadhurst, East Sussex TN5 6TP, UK

KHL CONTACTS

UNITED KINGDOM
KHL Group
Southfields, Southview Road,
Wadhurst, East Sussex TN5 6TP, UK.
Tel: +44 (0)1892 784088
Fax: +44 (0)1892 784086
www.khl.com/ic

USA OFFICE
KHL Group Americas LLC
3726 E. Ember Glow Way,
Phoenix, AZ 85050, USA.
Tel: +1 480 6590578
e-mail: americas@khl.com

SOUTH AMERICA OFFICE
KHL Group Américas LLC
Manquehue Norte 151,
of 1108. Las Condes, Santiago, Chile.
Tel: +56 2 28850321
e-mail: cristian.peters@khl.com

CHINA OFFICE
Beijing Representative Office,
Room 768, Poly Plaza, No.14,
South Dong Zhi Men Street, Dong Cheng
District, Beijing 100027, P.R. China.
Tel: +86 10 6553 6676
e-mail: cathy.yao@khl.com

UK/GERMANY/SPAIN/AUSTRIA/ SWITZERLAND/NORDIC NATIONS
Mike Posener, sales manager
Tel: +353 (0)86 0431219
e-mail: mike.posener@khl.com

THE NETHERLANDS
Arthur Schavemaker
Tel: +31 (0)547 275005
e-mail: arthur@kenter.nl

FRANCE/BELGIUM/LUXEMBOURG
Hamilton Pearman
Tel: +33 (0)1 45930858
e-mail: hpearman@wanadoo.fr

ITALY
Fabio Potestà
Tel: +39 010 5704948
e-mail: info@mediapointsrl.it

KOREA
CH Park
Tel: +82 (0)2 7301234
e-mail: mci@unitel.co.kr

TURKEY
Emre Apa
Tel: +90 532 2343616
e-mail: emre.apa@apayayincilik.com.tr

CHINA
Cathy Yao
Tel: +86 (0)10 65536676
e-mail: cathy.yao@khl.com

JAPAN
Michihiro Kawahara
Tel: +81 (0)3 32123671
e-mail: kawahara@rayden.jp

USA/CANADA
Matt Burk
Tel: +1 312 4963314
e-mail: matt.burk@khl.com

Bev O'Dell
Tel: +1 816 8861858
e-mail: bev.odell@khl.com

MARKETPLACE
Julia Bossie
Tel: +44 (0)1892 786204
e-mail: julia.bossie@khl.com

KHL CRANES

e-NEWSLETTER
www.worldcraneweek.com

WEBSITES
www.khl.com/cranes
www.khlcranemarket.com

EVENTS
www.khl.com/events
www.khl-group.com/events/esta
www.khl.com/itc
www.khl-wcts.com
www.khl.com/catap

MEMBER OF

Experience the Progress.

Visit us at:

Conexpo 2017

March 07-11, Las Vegas, Nevada, USA

Outdoor Stand:
Gold Lot, G4637
Components Stand:
South Hall 4, S84230

The Safe Alternative: New Liebherr Rough Terrain Cranes

LRT 1090-2.1: 47 m / 154 ft full power boom
LRT 1100-2.1: 50 m / 164 ft pinned boom

Safe & Strong
- High lifting capacities with a maximum of safety due to VarioBase®
- Globally uniform load charts conform to ANSI, EN and further standards
- Safe access points and flat deck

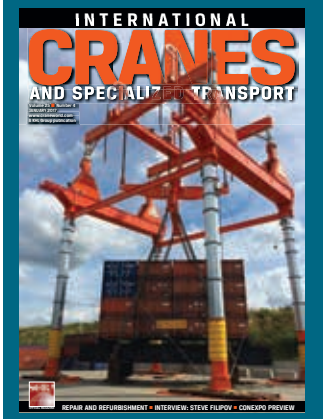
Comfortable
- Simple and easy to operate
- Operator friendly extra wide and tiltable crane cabin
- Sales and service directly from the manufacturer

Liebherr-Werk Ehingen GmbH
P.O. Box 1361
89582 Ehingen/Do., Germany
Phone: +49 7391 502 0
E-mail: info.lwe@liebherr.com
www.facebook.com/LiebherrConstruction
www.liebherr.com

LIEBHERR

IN THIS ISSUE

ON THE COVER



A first look at the new Enerpac heavy lifting gantry system with load rotation capability. It is designed for turbine installation in power plants. See the full story on page 40.

SUBSCRIPTIONS

To subscribe to *International Cranes and Specialized Transport* or any of the magazines in the KHL portfolio: *American Cranes & Transport*; *Cranes and Project Transport Turkey*; *International Construction*; *Demolition & Recycling International*; *Construction Europe*; *International Rental News*; *Access International*; *Access, Lift & Handlers*; *International Construction Turkey*, go to: www.khl.com/subscriptions or call +44 (0)1892 784088 for details.

International Cranes and Specialized Transport is a monthly publication with a worldwide circulation. The annual airmail subscription rate is £215, US$345, E260. This issue of *International Cranes and Specialized Transport* is mailed on the 17th JANUARY 2017.

Material published in *International Cranes and Specialized Transport* is protected under international copyright law and may not be reproduced without prior permission from the publisher.

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.

BPA WORLDWIDE

BPA Worldwide is the global industry resource for verified audience data and media knowledge. BPA Worldwide business media audits provide assurance, insight and advantage to business-to-business media owners and media buyers.

PUBLISHED BY

khl

© Copyright KHL Group 2017

ISSN: 1747-700X

Printed by: Warners Midlands PLC, UK

FEATURES

REPAIR AND REFURBISHMENT 16
When considering the repair and refurbishment of a crane or buying new, it comes down to much more than just the price. *Katherine Weir* reports.

CONEXPO PREVIEW 21
Now is the time to start planning your trip to Las Vegas for the 2017 ConExpo Con/Agg construction industry trade show in March. *IC* presents a preliminary preview.

INTERVIEW: STEVE FILIPOV 23
A few days after his return to the job of Terex Cranes president, *Steve Filipov* talked to *Alex Dahm* about his initial take on turning around the business.

SITE REPORT 27
A large fleet, mainly crawler cranes, is working to commission one of India's complex refinery expansion projects in Kochi, Southern India. *Partha Pratim Basistha* reports.

SC&RA EVENT PREVIEW 37
Regulatory issues, harmonisation strategies and litigation mitigation are key sessions at the 2017 Specialized Carriers and Rigging Association's Specialized Transportation Symposium in February. *IC* reports.

ENERPAC NEWS SPECIAL 40
Installation of turbines and similar heavy components in power plant construction is a major challenge. A new heavy lift gantry from Enerpac that can also rotate the load is designed to make the job easier, safer and quicker. *Alex Dahm* reports.

CRANE RENTAL CONFIDENCE SURVEY 47
The annual *IC* crane rental confidence survey aims to provide a clear picture of the global crane rental market as well as gauging what the future may bring. *IC* reports.

REGULARS

NEWS 6

BUSINESS 13

SPECIALIZED TRANSPORT NEWS 33

THE KNOWLEDGE 43

EQUIPMENT AND ACCESSORIES 55

BACK PAGE 56

MARKETPLACE
- PRODUCTS, PARTS & ACCESSORIES 58
- SAFETY, TRAINING & INDUSTRY SERVICES
- SPECIALIZED TRANSPORT
- CRANES AND EQUIPMENT FOR SALE OR RENT 61

SC&RA

SC&RA COMMENT 51
Comment from *Joel Dandrea*, SC&RA executive vice president.

SC&RA NEWS 52
Of the many operational differences specialized transportation companies share around the world, those involving pilot cars rank near the top. *Mike Chalmers* reports

KHL TEAM

EDITOR
Alex Dahm
e-mail: alex.dahm@khl.com
Tel: +44 (0)1892 786206
GROUP EDITORS
Lindsey Anderson, Steve Ducker
Sandy Guthrie, Mike Hayes
Cristián Peters, D.Ann Shiffler
Euan Youdale
SC&RA CORRESPONDENT
Tim Hillegonds
WORLDWIDE CONTRIBUTORS
Graham Brent, USA
Marco van Daal, Aruba
Heinz-Gert Kessel, Germany
Richard Krabbendam, Netherlands
Tim Maughan, Japan
Brent Stacey, Australia
David Weston, UK
Terry White, USA

PRODUCTION & CIRCULATION DIRECTOR
Saara Rootes
e-mail: saara.rootes@khl.com
PRINT & DIGITAL PRODUCTION MANAGER
Ross Dickson
e-mail: ross.dickson@khl.com
Tel: +44 (0)1892 786245
PRODUCTION ASSISTANT
Anita Bhakta
e-mail: anita.bhakta@khl.com
Tel: +44 (0)1892 786246
DESIGN MANAGER
Jeff Gilbert
EVENTS DESIGN MANAGER
Gary Brinklow
PRINT & DIGITAL DESIGNER
Mitch Logue

VP GLOBAL SALES
Trevor Pease
e-mail: trevor.pease@khl.com
SALES MANAGER
Mike Posener
e-mail: mike.posener@khl.com
Tel: +353 (0)86 043 1219
MARKETPLACE SALES
Julia Bossie
e-mail: julia.bossie@khl.com
Tel: +44 (0)1892 786204
BUSINESS DEVELOPMENT DIRECTOR
Peter Watkinson
COMMERCIAL DIRECTOR
Paul Baker
FINANCE MANAGER
Alison Filtness
e-mail: alison.filtness@khl.com
Tel: +44 (0)1892 786212

CREDIT CONTROL
Josephine Harewood
e-mail: josephine harewood@khl.com
Tel: +44 (0)1892 786250
CIRCULATION & DATA MANAGER
Helen Knight
e-mail: helen.knight@khl.com
Tel: +44 (0)1892 786244
OFFICE MANAGER
Clare Grant
Direct tel: +44 (0)1892 786201
e-mail: clare.grant@khl.com
EDITORIAL DIRECTOR
Paul Marsden
PUBLISHER
James King

HIGHLIGHTS

■ Completion has been announced of the sale of the Materials Handling and port Solutions division of Terex Corporation to Konecranes. The MHPS division includes Gottwald port cranes and Demag industrial cranes. Finland-based Konecranes already builds port and industrial cranes. The sale was for US$ 595 million plus €200 million in cash and 19.6 million class B shares that represent a 25 per cent holding in Konecranes, Terex said.

■ One of the biggest rental companies in the Middle East, Ejar Cranes and Equipment, has started operations in Saudi Arabia with various cranes, including many Tadano models. The company is adding 14 new Tadano cranes to its fleet – 10 units of 80 tonne capacity rough terrains plus two 110 tonne and two 130 tonne all terrains.

■ Magna Tyres Group has acquired OBO Tyres, the largest tyre retreader in the Netherlands. Founded in 1959, the company has specialized in producing retreaded tyres for the agricultural and OTR markets and offering additional tyre repair services. The company has exclusive distribution rights for the Magna agricultural, and MTP OTR tyres. The purchase enables Magna Tyres Group to offer customers a bigger product range and the possibility of additional cost-effective retreading options, lowering the total cost of Magna tyres.

Terex Cranes restructures European manufacturing

As part of a strategy to allow more new product development and to accommodate lower demand, Terex Cranes in Europe is restructuring its manufacturing, reducing capacity and cutting the workforce.

A fabrication, components and parts factory in Hungary is being sold. The three crane plants in and around Zweibrücken in Germany will be reduced to two - Dinglerstrasse and Wallerscheid will continue and the plant at Bierbach will be sold. The company said it will "make multimillion-dollar investments in both facilities to support ongoing manufacturing operations."

The Montceau les Mines crane factory in France will go with the sale of the Materials Handling and Port Solutions (MHPS) business to Konecranes. Production of four models of smaller all terrain cranes will be moved from there to other factories, Terex said.

These changes in Europe follow consolidation in 2016 of North American production into the existing Oklahoma City facility.

Steve Filipov, Terex Cranes president, said, "With the consolidation efforts started in 2016 and the announced changes in Hungary and Zweibrücken in 2017, the cranes business global headcount will be reduced by approximately 30 percent. While these decisions are difficult to make, they are necessary to build a stronger, more focused and efficient Terex Cranes that will continue to innovate and grow."

City blames operator for Tribeca crawler crane crash

Operator error was responsible for the 2016 collapse of a crawler crane in Tribeca, Manhattan, USA, according to the New York City Department of Buildings (DoB).

The DoB alleged that the operator, who has not been identified, failed properly to secure the 565 foot (172 metre) tall crawler crane the night before it collapsed. The operator is also said to have lowered the main boom at the wrong angle, causing the crane to topple overin strong winds.

The operator's licence has been suspended and the DoB has filed to revoke his licence permanently.

The crane collapsed along Worth Street in lower Manhattan just before 08.30 on 5 February 2016, killing 38-year-old David Wichs. Three other people were injured. Buildings commissioner Rick Chandler said, "The crane operator involved in this incident acted recklessly, with tragic results. The actions we're taking should send the message to everyone in the construction industry that safety must come first."

The crane, which was owned by Bay Crane and operated by Galasso Trucking and Rigging, was being used to replace generators and air conditioners on a roof.

The DoB is implementing 23 recommendations made by a technical working group in response to the collapse. These include requiring mobile cranes to have anemometers to record real-time wind readings, and to restrict mobile crane operations whenever winds exceed 30 miles an hour (48.6 km/h).

BIG LIEBHERR ORDER FROM ALL FAMILY

The All family of companies has ordered new cranes from Liebherr, including two 450 tonne capacity LTM 1450-8.1 wheeled mobiles. Liebherr will show the LTM 1450-8.1 at the Conexpo-Con/Agg show in Las Vegas, USA, between 7 and 11 March 2017.

With a 279 foot (85 metre) telescopic main boom and a range of lattice jibs, the crane is designed to accommodate many transport weight and machine axle configurations to make it one of the most road-friendly eight-axle ATs on the market, All said.

"This all terrain crane is unique, as it was designed for both ease of transport and minimal setup time, which increases efficiency before, during, and after the job," said Hutton Strader, business development specialist at All. "The new VarioBallast system also gives us the flexibility to have capacity when we need it, while still allowing us to work in spaces where many other large cranes simply will not fit. We see great potential for this machine."

Mammoet in 14,273 tonne load out

International heavy lift and transport specialist Mammoet said it set a new standard in modular construction with its installation of an integrated topside module (ITM) weighing more than 14,000 tonnes.

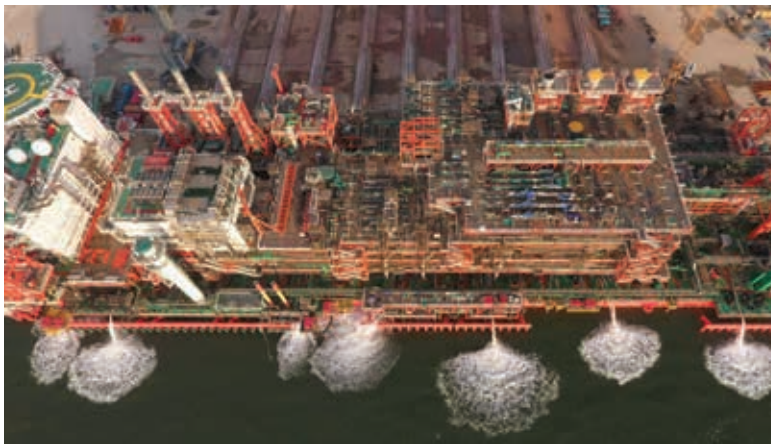
Installation of the module in one piece for the Jangkrik floating production unit (FPU) in Karimun Island, Indonesia, was an industry first and a significant timesaver for FPU construction, Mammoet said. It reduced integration time and was safer, the Dutch company continued.

The Jangkrik FPU is part of Jangkrik Complex Project, operated by ENI Muara Bakau B.V. as contractor to SKK Migas, the Indonesian upstream oil and gas agency. ENI holds a 55 per cent (%) interest in the project, Mammoet said. Other partners are ENGIE (33.3 %) and PT Saka Energi Muara Bakau (11.7%). An engineering procurement, construction and installation contract for the project was awarded to a consortium led by Saipem which includes Hyundai Heavy Industries, Tripatra Engineers & Constructors and Chiyoda. The ITM was fabricated by Saipem in the Karimun Island yard while HHI built the hull in Ulsan, South Korea.

Mammoet installed an hydraulic skidding system with built-in vertical jacks underneath the topside. The jacks were used to lift the topside off its temporary supports and then to weigh it. Still on the jacks, the topside was skidded over nine skid beams from its construction area to the quayside to be prepared for the load out.

As the load out progressed a computerised ballast system with a capacity of 56,000 cubic metres an hour was used to compensate for tidal differences and the weight of the topside as it was loaded. At the same time the jacks compensated for deflections of the ITM and the skid beams.

Mammoet said it has entered a new era where even bigger modules can be loaded onto floating hulls where the overall construction schedule is shortened by months.

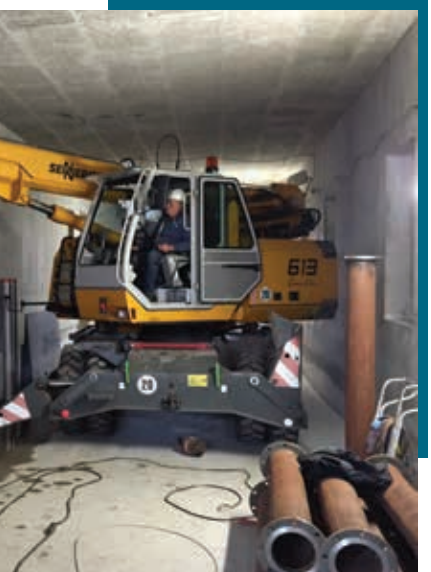


Aerial view of the record 14,273 tonne load out in Indonesia

Speyser, a family-run company from Bas-Rhin, France, used its expertise for a civil engineering and well construction project in Lingolsheim, France. Wells were being dug using two Sennebogen cranes.

On site was a Sennebogen 660 HD duty cycle crane with a casing machine for well construction as well as a 613 telescopic crane used as a service crane to transport and position components and materials. Speyser managing director, Christophe Sprauel, said, "Several well shafts between 45 metres and 65 m in depth are being dug with a rope grab, using the casing machine that is directly mounted on the duty cycle crane. The diameters are up to 900 millimetres."

Speyser uses its compact 613 mobile telescopic crane for work in narrow spaces. The 16 tonne telescopic crane pulls the piping elements out of the well Kobedrilling and loads them directly onto the waiting trucks.



Mecca crane collapse blamed on human error

Human error was allegedly to blame for the crane that fell and killed more than 100 people in Saudi Arabia ahead of the hajj pilgrimage in the holy city of Mecca in 2015, the *Saudi Gazette* has reported.

The Grand Mosque crane was operated by people who were not licensed to do so, an engineer testified in a Saudi Arabian court. The user's manual that explained how to operate the heavy machinery was never consulted by some of the people manning the crane, said the engineer, one of 14 defendants in the case. "Some of them did not even know that such a book existed," said the engineer, who was not immediately identified.

While the proceedings have been taking place in criminal court, the defendants have said the case instead belongs in the Civil Defense Court because it was an accident.

The worst punishment a civil court could levy against the defendants would be about six months in prison and a fine versus a potential life or death sentence in criminal court.

The host of charges the defendants face include, but are not limited to, the violation of safety rules, negligence and causing the death and injuries to many people.

One hundred and eleven people died and 260 people were injured when the 1,350 tonne capacity crane came down on 11 September 2015. The crash happened in the lead up to the hajj pilgrimage. Millions of people attend the annual five day ritual in Mecca, Saudi Arabia.

HIGHLIGHTS

■ In its 40th year of business, Bedfordshire, UK-based NMT Crane Hire has bought its 40th crane. The company has just taken delivery of a Liebherr LTM 1060-3.1 wheeled mobile telescopic crane, which joins a new LTC 1050-3.1 for the company's new Birmingham depot, and an LTC 1045-3.1 delivered in 2015. 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 the STGO regulations.

■ Red7Marine has secured a project to install two new large diameter mooring piles for the new Battersea Power Station river bus service in London, United Kingdom. The company will supply a 400 tonne jack up barge, the Haven-SeaSeven, and a 160 tonne capacity hydraulic crane, to complete the specialist piling works for the development project.

ELLIOTT ANNOUNCES 36 TON BOOM TRUCK

A new boom truck has been announced by Elliott Equipment, The 36 US ton (32.7 tonne) capacity 36142has a 5-section 142 foot (43.28 metre) boom. It is the longest in its class, the manufacturer said. Adding a 32 to 49 ft (9.8 to 14.9 m) two-section jib gives the 36142 a maximum tip height of 201 feet (61.3 m).

Target applications include the utility and power transmission construction industry that needs long-reach telescopic cranes on road legal chassis that can be used for material handling and working at height using a detachable work platform.

Other features include a stand up ride-around lower control console, 9,060 pound (4.1 tonne) single line pull winch and 21 ft 2 inch (6.45 m) span out-down outriggers with full and mid-span charts. The new crane will be at the ConExpo show in Las Vegas, USA, in March 2017.

Integrated Logistics adds 31 Terex and Demag cranes

Middle East service provider Integrated Logistics Company in Ahmadi, Kuwait, has taken delivery of 30 new cranes from Terex. The deal comprises a Demag CC 3800-1 lattice boom crawler crane, 20 Terex AC 100/4L all terrains and 10 Terex Explorer 5600 all terrains.

The new units will join a fleet of more than 2,000 machines and they will be used in the Middle East and North Africa. The 650 tonne CC 3800-1 is the first of its kind in the region.

Saleh Al Huwaidi, Integrated Logistics Company CEO, said, "Our growth has been driven by the relentless pursuit of being the best logistics provider in the region. To achieve that reputation, it's vital for Integrated to have the best equipment available and work with equipment suppliers who do an outstanding job of supporting us.

"Since 2005, we have purchased more than 200 Terex and Demag cranes because the machines are built well and the team at Terex Cranes is responsive to our needs."

Al Huwaidi added, "We selected the CC 3800-1 because of its ability to outperform larger 750 tonne class cranes in many applications."

The new AC100/4L and Explorer 5600s are working in Kuwait, Qatar and Saudi Arabia. "These mobile cranes have proven to be a versatile option for our crews with their extremely long booms," said Al Huwaidi.

The vast fleet includes two 1,200 tonne, Terex AC 1000-9 all terrains, the first and only units of this capacity in the region.

Netherlands-based Conquest Offshore's MB-1 heavy lift barge was the key asset in the largest wreck removal recorded in 2016. *Conquest MB-1* was used to remove the *Troll Solution* jack-up rig from the Bay of Campeche, Mexico. In May 2015 the rig collapsed while positioning for maintenance work. it was on the seabed in 30 metres of water.

The salvage operations were led by salvage company Ardent Global. Ardent deployed *Conquest MB-1* and non-traditional hoisting technologies with a 1,000 tonne hydraulic salvage grab. The six pieces that made up the deck house and the 31 pieces from the vessel's hull were lifted during the course of 2016.

Michiel Zwagerman, Conquest Offshore CEO, said, "The experience and knowhow gained in a complex project like this in an oil and gas field has elevated us to the next level. The project showed excellent integration from the people, assets and technologies."

Six Kobelco crawlers for Ward & Burke

Design and build civil engineering contractor Ward and Burke, which works in the waste, sewage and water management sector, has bought two CKE1350G-2 and four CKE900G-2 Kobelco lattice crawler cranes.

The company has offices in Ireland, the United Kingdom, Canada and the USA. The new cranes will go to work in Blackpool on a project for United Utilities and on a project for Yorkshire Water, both in the north of England. Michael Ward, Ward & Burke owner, said he will develop a major plant yard in Wigan, where there is an abundance of talented young people, to better serve the area.

Ward said, "We've been customers of Kobelco Cranes for over 10 years and half our current fleet of 25 cranes is Kobelco, so we are excited to be receiving these new cranes in January 2017, just in time for what is already turning out to be another busy year."

The CKE1350G-2 and CKE900G-2 series models, which lift 150 tonnes at 4.4 metres and 90 tonnes at 3.9 m, respectively, have Stage IV/Tier 4 Final engines with DPF and SCR.

Vision Creates Future

Booth No. G2793

Find more details at: **en.zoomlion.com**

ZOOMLION

Zoomlion Heavy Industry Science & Technology Co.,Ltd.

overseas_marketing@zoomlion.com

en.zoomlion.com

Copyright © 2017 Zoomlion group. All rights reserved.

Modulift®

working between the hook and the load

Experts in the design and manufacture of standard and custom designed lifting equipment

- Modular Spreader Beams up to 400t in stock and available worldwide for distribution
- Modular Spreader Beams for 2–5000t and spans up to 100m/330ft
- Reduce your rigging weight and health and safety concerns by using the shackle-free Trunnion Spreader Beam system
- Experts in custom lifting solutions and projects requiring high QA standards
- All products fully tested and certified with DNV Type approval as standard

Spreader Beams

Trunnion Spreader Beams

PATENT Modulift PENDING

Spreader & Lifting Frames

Lifting Beams

For more information contact

Head Office:
+44 (0) 1202 621511

Email:
sales@modulift.com

www.modulift.com

CE

MANAGEMENT SYSTEM CERTIFICATION DNV·GL ISO 9001=ISO 14001 OHSAS 18001

TYPE APPROVAL DNV·GL NO. 2.22 LIFTING APPLIANCES Modular Spreader Beams for offshore cranes

FPAL Registered

UVDB Registered

LEEA Full Member

MEMBER SC&RA

KHL.COM

Lift & Move USA
A World of job opportunities

DATES CONFIRMED FOR LIFT & MOVE 2017

The dates have been confirmed for four Lift & Move USA career events to be held in 2017. Lift & Move USA is a one-day conference aimed at introducing the crane, rigging and specialized transport industry to young people, military veterans and others looking for a new career.

Several events were held in 2015 and 2016 and drew more than 1,200 high school, vocational, and-or technical students and military veterans.

Lift & Move USA is jointly organised by the Specialized Carriers and Rigging Association, (SC&RA), the National Commission for the Certification of Crane Operators (NCCCO) and KHL Group, publisher of *International Cranes and Specialized Transport* and *American Cranes & Transport* magazines, among others.

Confirmed dates for 2017 are as follows:

- 14 February 2017, Location: Tampa, Florida, USA. Host: All Construction
- 3 May 2017, Chicago, Illinois, Lifting Gear Hire
- 14 September 2017, Indiana, Buchanan Hauling
- 15 November 2017, Baton Rouge, Louisiana, Berard Transportation & Deep South Crane.

During the Lift & Move events, attendees are provided first-hand information on the state of the industry, the current skilled labour shortage, job requirements and opportunities, training and certification information, earnings potential, equipment displays and demonstrations, and other industry-specific information.

ALE launches light crane series

Limited space is a major challenge for lifting operations on offshore and high rise construction projects. While ALE has designed and built some of the world's largest cranes that can lift in from long radius, its latest design is for a relatively small crane that can be positioned right in there close to the action.

As the first in a series the new model is the smallest, lifting 6 tonnes to a 12 metre radius. Its light weight is by virtue of the fact that it is all made of aluminium. Other models are planned, including larger steel ones that can be doubled up (two units side by side) to give a lifting capacity of 180 tonnes.

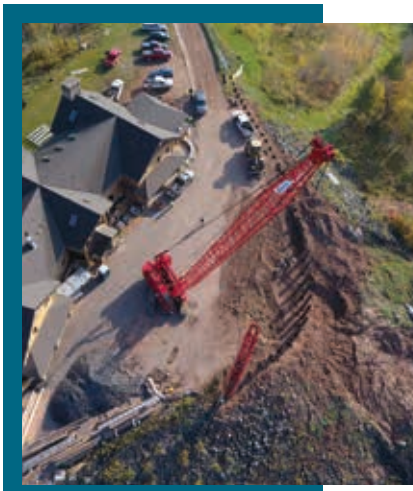
Its modular components can be assembled by hand and, with the vertical mast erected, this can be used to self-build the rest of the crane. Each part can fit in an elevator and be moved along access walkways or up and down stairs. The heaviest piece, at 90 kg, is the ring and winches while all the other components are a maximum of 25 kg and can be carried by hand, Richard Verhoeff, ALE sales manager, explained to *ICST*.

It uses a Tirfor type winch for hoisting which gives a basically unrestricted height of lift as the rope spools, unloaded, in a cage rather than onto a drum. This allows its use on the top of high rise buildings so that it can hoist, for example, air conditioning units directly from ground level all the way up to the roof.

The crane is certified for offshore, subsea and onshore operations. Two types are available, the offshore one with three guy wires for stability, and the civils construction type with lattice type triangular truss guy legs and ballast blocks.

More than 50 ALE customers were shown the first crane at a Dutch launch event.

The Lightweight Service Crane is a series of new designs from ALE for lifting in confined spaces in the offshore industry and on civils construction projects



Wren Works used a Manitowoc 11000-1 lattice boom crawler crane to help build a retaining wall at the Mont du Lac Resort skiing destination in Wisconsin, USA. Using 140 feet (43 metres) of boom, the 110 US ton (100 tonne) capacity crane lifted an 18.5 US ton (16.8 tonne) pile hammer to a height of 75 feet (23 m) to drive a series of 14 H-section piles into the ground.

Timbers weighing 1,000 pounds (454 kg) were lifted to a height of 60 feet (18 m) and inserted between the piles to create a foundation for the retaining wall that will shore up the new banqueting room.

"We're working on a 25 percent grade for this project so we needed a crane that had the power to traverse the job site," explained Brook Benes, Wren Works president.

SPEEDY ACQUIRES LLOYDS BRITISH TESTING

UK plant and tool rental company Speedy Hire has acquired Lloyds British Testing from administrator PWC.

Lloyds British specialises in inspection, certification and repair of lifting equipment. Other trading divisions manufacture lifting equipment, provide training and sell spare parts.

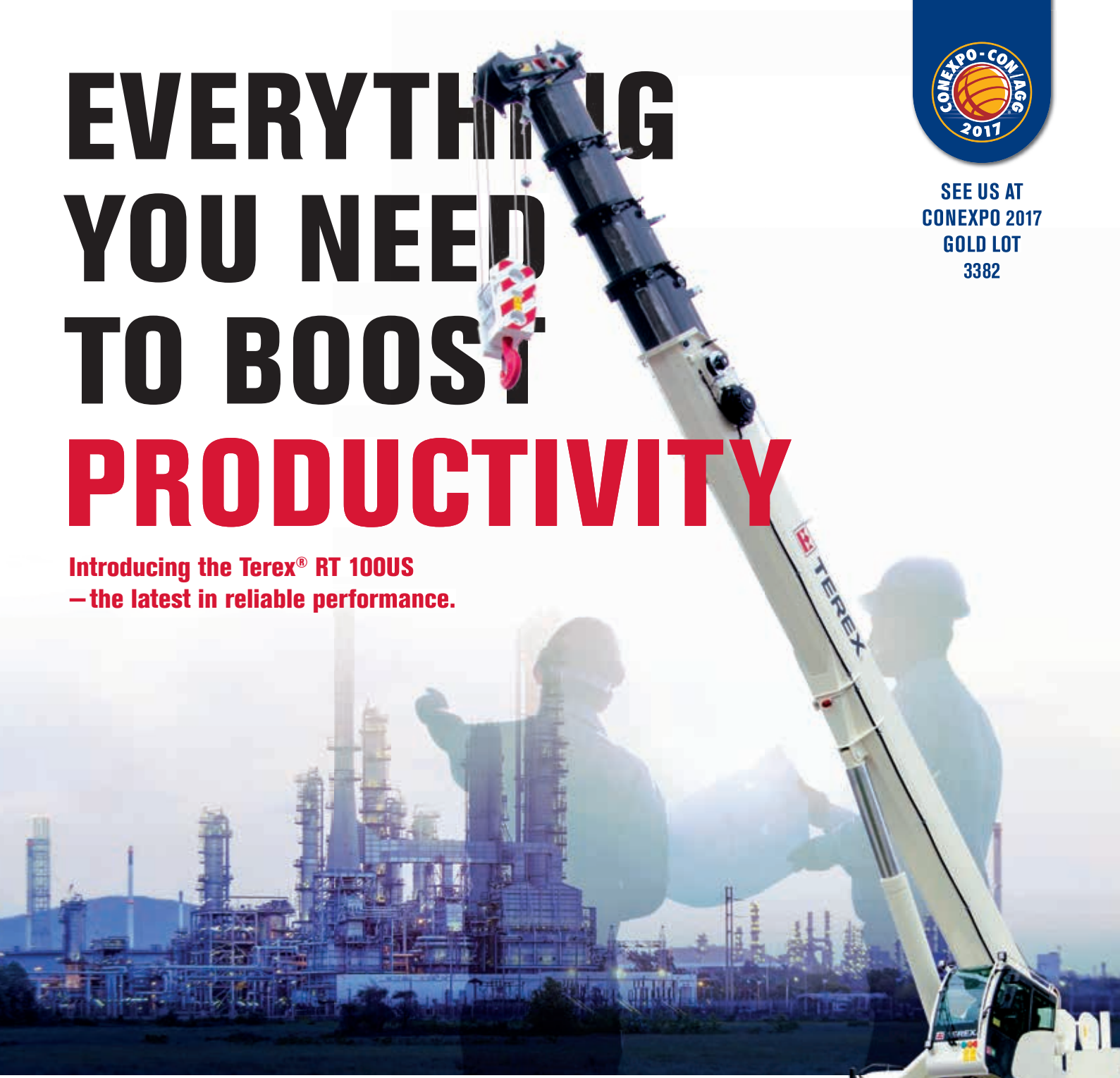
Commenting on the acquisition, Russell Down, Speedy chief executive, said, "This acquisition gives us the ability to provide enhanced training, testing and lifting services to our customers, and realise synergies with our existing lifting business. I would like to warmly welcome Lloyds British employees to Speedy."

Lloyds British Testing went into administration on 24 November 2016. Based in the West Midlands near Birmingham, Lloyds British Testing operates from 12 offices in the UK and has been associated with lifting equipment engineering since 1812. Its 200 employees will move to Speedy.

EVERYTHING YOU NEED TO BOOST PRODUCTIVITY

Introducing the Terex® RT 100US – the latest in reliable performance.

SEE US AT CONEXPO 2017 GOLD LOT 3382



Boost your lifting performance with the new Terex® RT 100US rough terrain crane. The five section, fully hydraulic boom stretches an impressive 47 m (154 ft) to extend your capabilities on long reach applications. Integrated diagnostics and an optional centralized lubrication system improve serviceability while the removable counterweight lets you move quickly and efficiently from job to job. The RT 100US has everything you need to get the job done.

TEREX®

WORKS FOR YOU.™

© 2017 Terex Cranes. All rights reserved. Terex, the Terex Crown logo and Works For You are trademarks of Terex Corporation or its subsidaries.

Calm before a storm?

The *IC* Share Index saw a relatively quiet period between weeks 48 and 1, but the New Year could bring new changes. JOE MALONE reports

As usual, there was little change between weeks 48 and 1, the period covering the end of year holiday that includes Christmas. While business never sleeps, this proved to be a quieter period than most.

The biggest change in the five weeks was a rise of 7.16 percent (%) to Palfinger's share price. While the change may seem unspectacular, the company's price at week 1 was in fact its highest price since April 2015. Overall, the company experienced a solid 2016, seeing its share price rise 13.89 % year-on-year.

Terex provided the second biggest change between weeks 48 and 1, with its stock price rising 6.53 %. Unlike the Palfinger share price, Terex's had a rather more eventful year, amid the potential take over from Zoomlion, before the Chinese manufacturer pulled out in May.

The next news was that Konecranes would acquire Terex's Materials Handling and port Solutions division. Fittingly, completion of that deal was announced this month. The sale was for US$ 595 million plus €200 million in cash and 19.6 million class B shares that represent a 25 % holding in Konecranes, Terex said.

Next comes Sany. The company's share price rose 5.27 % during the five-week period and was up 9.83 % year-on-year. It suffered, however, with a lawsuit in October, which saw the U.S. Court of Appeals for the Federal Circuit rule in favour of Manitowoc in a patent infringement and trade secrets misappropriation lawsuit.

There was a loss of 5.52 % to XCMG's share price between weeks 48 and 1. The changes, however, have been subtle month-on-month over the last 12 months, but it still suffered a decline of 8.31 % year-on-year.

Major markets rise

Reviewing the major markets, the Dow Jones, FTSE 100 and Nikkei 225 all rose between weeks 48 and 1, and all saw significant rises year-on-year. The FTSE 100 rose 6.55 % during the five-week period, and was up 20.06 % year-on-year. At the start of the month, the FTSE 100 edged to a record high, and saw nine straight sessions of gains.

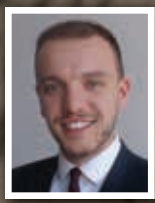
The Dow Jones, meanwhile, rose 3.33 % during the five-week period, and saw an increase of 20.23 % year-on-year. The highlight of the year for the Dow Jones stock market, was on 10 November, when it closed at an all-time high, following Donald Trump's success in the US presidential elections.

The US Dollar was also up against the British Pound, Euro, Japanese Yen and Chinese Yuan. It saw a rise of 2.78 % against the pound, a 1.28 % rise against the Yen, a 1.21 % rise against the Euro and a marginal rise of 0.18 % against the Yuan. ■

DECEMBER *IC* SHARE INDEX

STOCK	CURRENCY	PRICE AT START	PRICE AT END	PRICE CHANGE	% CHANGE	PRICE 12 MTHS AGO	12 MTH % CHANGE
IC* Share Index		**49.28**	**50.01**	**0.73**	**1.49**	**46.66**	**7.17**
Legacy *IC* Share Index**		299.87	306.91	7.04	2.35	253.38	21.13
Dow Jones Industrial Average		19216	19856	639	3.33	16514	20.23
FTSE 100		6753	7195	443	6.55	5993	20.06
Nikkei 225		18361	19521	1160	6.32	17698	10.30
Hitachi Construction Machinery	YEN	2467	2577	110	4.46	1758	46.59
Konecranes	€	33.20	34.76	1.56	4.70	21.10	64.74
Kobe Steel	YEN	1152	1146	-6	-0.52	123	831.71
Liugong	CNY	7.60	7.60	0.00	0.00	7.50	1.33
Manitowoc Cranes	US$	5.88	5.86	-0.02	-0.34	14.20	-58.73
Palfinger	€	26.94	28.87	1.93	7.16	25.35	13.89
Sany Heavy Industry	CNY	6.26	6.59	0.33	5.27	6.00	9.83
Tadano	YEN	1479	1478	-1	-0.07	1281	15.38
Terex	US$	29.84	31.79	1.95	6.53	17.27	84.08
XCMG	CNY	3.62	3.42	-0.20	-5.52	3.73	-8.31
Yongmao Holding	SGD	0.25	0.25	0.00	0.00	0.15	66.67
Zoomlion	CNY	4.56	4.65	0.09	1.97	5.04	-7.74

* *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 *IC* 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	6.876	6.889	0.0126	0.18	6.06	13.66
€	0.9323	0.9436	0.0113	1.21	0.7376	27.93
Yen	113.98	115.44	1.46	1.28	102.51	12.62
UK£	0.7841	0.8059	0.0218	2.78	0.6119	31.72

Period: Weeks 48-01

RITCHIE BROS. Auctioneers®

Unreserved public equipment auction

No payments for 120 days – offer extended through March 2017!*

Manitowoc M250C 1 & 2 300 Ton

3 of 5 – 2008 Terex RT555-1
55 Ton 4x4x4

3 of 7 – Galion 150FA
150 Ton 4x4x4

Grove RT760 60 Ton 4x4x4

1 of 3 – Grove RT58D
20 Ton 4x4x4

Liebherr LTM1300 360 Ton 14x8x10

Terex RT780 80 Ton 4x4x4

Terex RT335 35 Ton 4x4x4

Link-Belt HTC11100
100 Ton 8x4x4

2008 Terex HC165 165 Ton

Houston, Texas

February 15–16 (Wed–Thu) 8 am

Over 35+ cranes including
25- rough terrain, **5-** crawler, **3-** conventional truck, **2-** all terrain, **2-** carry deck, hydraulic truck, material handlers & much more

On-site inspection hours
Mon–Fri, 8 am–5 pm

Bid in person or online
- No minimum bids or reserve prices
- Test and inspect on-site
- Open to the public, free registration

Location
15500 Eastex Frwy, Humble, TX

More items added daily
Call about selling: **713.455.5200**

See complete listings at rbauction.com/Houston

Auctioneer Chad M. Johnson #17668
*OAC. Terms & conditions apply. See rbauction.com/financing.

RITCHIE BROS. Auctioneers®

Unreserved public equipment auction

Thousands of items including 50+ cranes!

Grove GMK5175 175 Ton

1 of 5 – Terex RT450 50 Ton, 1 of 4 – Terex RT335 35 Ton & 1 of 7 – Terex RT230 30 Ton

2007 Grove RT880E 80 Ton

2008 Manitowoc 8500 80 Ton

2008 Mantis 9010 45 Ton

International 5600I PayStar 6x6 w/Bronto Skylift S158MD

TOGETHER *we* CREATE AN AUCTION LIKE NO OTHER

Orlando, Florida

February 20–24 (Mon–Fri) 8 am

Over 50+ cranes including
32- rough terrain, **5-** crawler, **2-** conventional truck, **2-** all terrain, **3-** hydraulic truck, **8-** carry deck, material handlers & much more

On-site inspection hours
Mon–Fri, 8 am–5 pm

Bid in person or online
- No minimum bids or reserves
- Test and inspect on-site
- Open to the public, free registration

Location
700 Ritchie Road, Davenport, FL

More items added daily
Call about selling: **1.855.331.5757**

See complete listings at rbauction.com/Orlando

Auction Business License #AB303, Auctioneer Trevor J. Moravec # AU3889
*OAC. Terms & conditions apply.

Out with the old?

When considering the repair and refurbishment of a crane or buying new, it comes down to much more than just the price. KATHERINE WEIR reports

A before and after shot from a Terex Cranes repair shop

When factoring in cost and time, repairing a damaged crane rather than replacing it with a new one is the preferred option is most situations.

Bert Avezaat, director at Netherlands-based crane repair company Avezaat, says, "We are not focused on simply renewing parts, we look over them and try find the most cost efficient way to repair or refurbish a crane. This means that if parts need to be renewed, we obviously renew them, but when repair is a better option, we will do this.

"Repairing parts saves a lot of money and time as long as it does not compromise the quality or safety of the crane. Also, the insurance companies prefer this option, which will save money for the client in the end, since the insurance costs won't increase too much."

Recent examples of cranes refurbished by Avezaat include a Terex-Demag AC 700, a Liebherr HS 895HD, a Hitachi KH 300 and a Kobelco CKE 2500. Work included an overhaul of the crawlers and the rest of the undercarriage, and the full booms were repaired and painted. The company checked the slewing rings and, where necessary, the engine, winches and hydraulic motors were refurbished.

Crane manufacturer Terex says that it is the hands-on experience with the crane models that tips the balance between repair and replacement. The crane owners trust the machines they have and are wary of investing in something new.

Erwann Maillot, spokesperson at Terex, says, "End users can be a bit apprehensive about newer models and their new functions, despite the additional benefits those offer. That's why they first think about repairing, instead of renewing. Obviously, it is also a matter of cost for customers because repairing a crane is a smaller investment compared to a new purchase.

"Also, in the case of accidents, the residual value of the damaged crane sometimes simply justifies a repair."

Refurbishments at Terex – usually seen on models that are between seven and 12 years old – can be carried out at many factories internationally, including Zweibrücken in Germany as well as the repair stations the company has in the United Kingdom, Scandinavia and Latin America. Recent jobs include work on AC and CC models in many capacities – Terex says it is often a case of polishing and re-chroming parts of hydraulic cylinders, and replacing rollers and seals.

Maillot adds, "The CC 2800 had a badly damaged boom section, which we repaired and delivered fully functional and safe again."

Safety concerns

UK-based crane repair company Crowland Cranes explains that the most cost-effective and efficient way to proceed is by repairing a crane, depending on the extent of the damage. Peter Issit, managing director at Crowland Cranes, says, "For refurbishing, the main factor will normally be if the model is still available and manufactured. If so, then replacement is the normal choice. However, if the model is no longer manufactured, the refurbishment of a crane is seriously considered."

In terms of safety, Issit says the company is not experiencing any negative effects from safety laws and regulations surrounding repair and refurbishment, and he feels this is to do with the company's standards of work, facility and skill base.

Crowland describes its Peterborough site as one of the UK's largest workshop facilities for mobile cranes, exceeding five acres and having four paint shops, four welding and fabrication bays, nine service bays,

Crowland Cranes repaired the damage from an engine fire on a Tadano ATF 40G all terrain crane

shot blasting and its own engineer training departments.

Issit says, "Our high standards have greatly helped us in obtaining the title of approved repair centre for two of the UK's main insurers, Allianz and Aviva."

USA-based heavy lift and transport company Lampson International states that it adheres to the OSHA and ASME recommendations for inspection, maintenance and repair.

Kate Lampson at Lampson Crane says, "We can typically remanufacture the older cranes for a fraction of the cost that we would spend on a new crane. We have found that with the ongoing remanufacture of our Lampson Millennium 4100 crawler cranes, we are able to offer that same type of cost saving to our customers and they appreciate that."

The Lampson 4100 Millennium crawler is said by the company to "combine the structural integrity and versatility of the Manitowoc 4100 with the safety and ease of operation of the new generation hydraulic operating system cranes".

The company has its own in-house training programme for refurbishing cranes as well as working with local harbour unions for training of all its personnel, including manufacturers' certifications.

Bert Avezaat explains some of the safety concerns that have come to light following the difficult economic situation last year. He says, "Many companies have been carrying out less maintenance and servicing on their cranes. This is causing a lot of extra work and pressure on the notified bodies, who must inspect and approve the cranes on a regular basis.

"It is also hard for companies to keep their skilled and experienced employees up to date, because of the increased frequency of safety inspections and regulations."

Crane manufacturer Liebherr has three repair halls in Germany: Ehingen, Oberhausen and Alt-Bork (Berlin). Outside Germany it has repair and service halls in France, UK, Italy, Spain, South Africa, Australia, Russia, Brazil and USA – highlighting the popularity of repair and refurbishment for its crane lines.

"We repair, if it is cheaper than replacing certain components," says Wolfgang Beringer at Liebherr. "But, besides economy, the availability of those parts is also a deciding factor. Sometimes you must repair as a new part is not available. We also consider the condition of the crane and the wishes of the customer."

Liebherr sees the safety guidelines for repair and refurbishment as very similar to the regulations that apply to the manufacture of new cranes, for example, the company must have proof that the welding work it does is completed by qualified staff.

It is a similar story for Terex, which treats the refurbishment of cranes with the same level of safety awareness as though a new crane was being built. Maillot says, "The Terex Cranes repair shops apply the same functional testing and load testing – if required – as the ones we apply in the acceptance testing area of our factories for new equipment. Provided that the crane is restored to the original equipment manufacturer's specifications, the original certificates apply."

Industry opinion

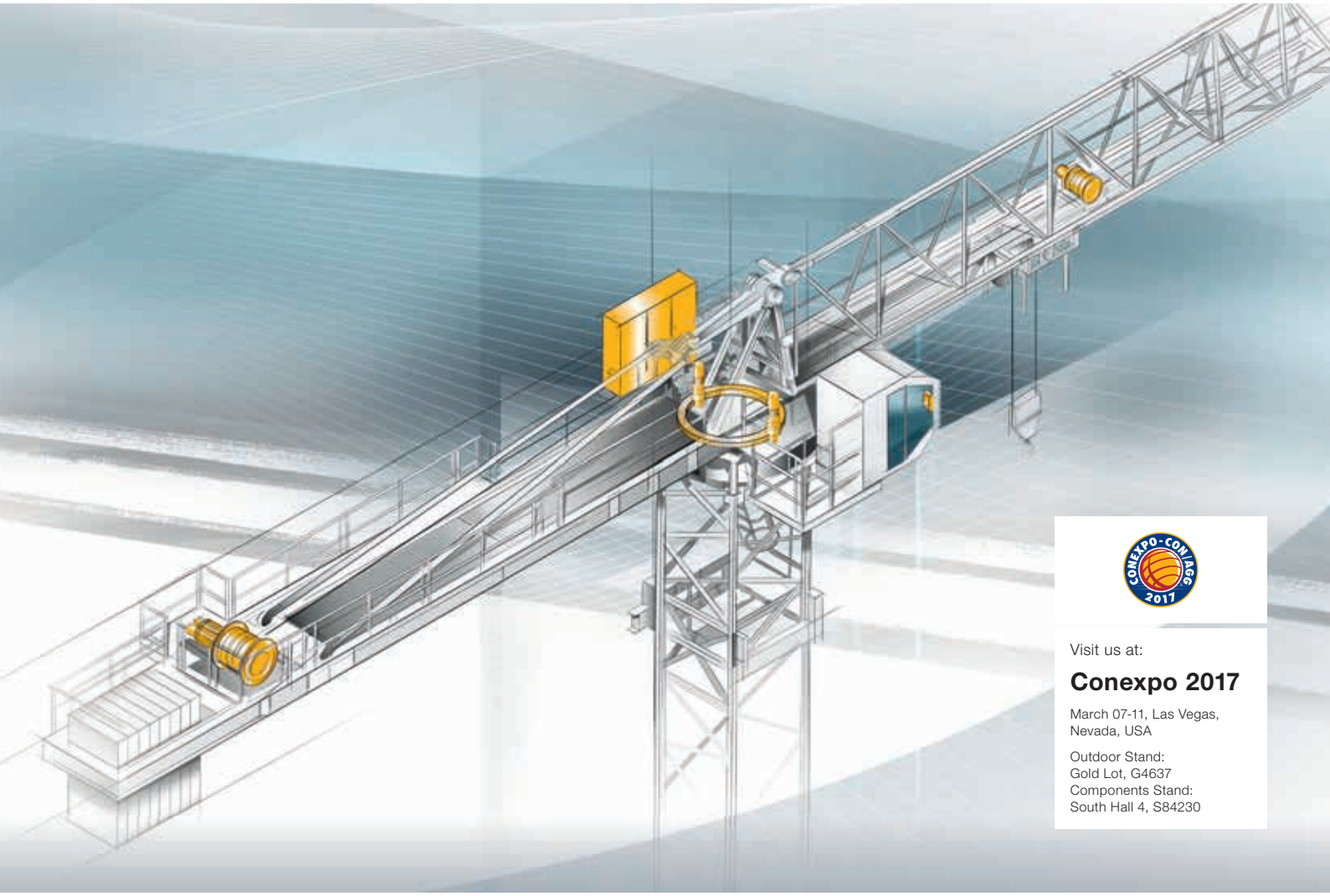
Repair and refurbishment has continued to gain popularity as costs are lower and end users are more inclined to stick to the machines they know and trust rather than making the substantial investment to purchase a new model that may be seen as too much of an unknown quantity.

Avezaat expects this market to continue to grow in the next few years, but that there are challenges ahead. Bert Avezaat explains that because the offshore market declined last year due to low oil »

Remounting on a new DAF LF45 truck chassis and complete refurbishment of the superstructure of a Tadano TS75 by Crowland Cranes

Repair and refurbishment at Avezaat

Components for your Equipment.



Visit us at:

Conexpo 2017

March 07-11, Las Vegas, Nevada, USA

Outdoor Stand:
Gold Lot, G4637
Components Stand:
South Hall 4, S84230

A strong partner for the construction and mining industry

Components by Liebherr perform a wide range of different tasks in various applications in the fields of construction and mining. Examples include rope winches and slewing drives in cranes, large diameter bearings and electric motors in crawler vehicles, control cabinets and gearboxes in mining equipment.

Liebherr-Components AG
Post box 222
5415 Nussbaumen AG, Switzerland
Phone: +41 56 296 43 00
E-Mail: info.cos@liebherr.com
components.liebherr.com

LIEBHERR
Components

Liebherr staff working on the repair and refurbishment of an all terrain crane

prices and because of less work coming in, these companies are not positive about the coming year.

He says, "We also hear more and more negative news about the Far East from our clients. They are also feeling the consequences of the low oil prices and are not willing to invest much now. We hope this situation will get a bit better in the second half of next year."

The company remains positive, however, with a new workshop operating in Dubai that offers "better and faster repair and refurbishment solutions" in the Middle East area. Avezaat adds that many of its clients would like to invest in new cranes, but that difficulties with financing this type of equipment and lack of profits from 2016 for some, has led to more cranes being repaired.

Crowland Cranes says that there are fewer recognised repairers now in the UK, as the costs to operate such facilities are significant because investment in people and technology is continually needed. In light of this, the company has a steady workflow.

Issit says, "Customers will always consider the repair options on crane parts and components if the service provider has a good level of service, at a sensible cost and can complete the job in a timely fashion."

Liebherr says it is seeing less demand for completely reconditioned and newly painted cranes, but customers are requesting technically refurbished cranes. Beringer says, "The demand and delivery times of new cranes have a large influence on the used crane market. Older and cheaper used cranes allow entry in new markets, whereas new cranes or young, used cranes cannot be financed."

Maillot at Terex comments on the company's concerns about repairs carried out by third parties. He says that repair shops can often be 'unqualified to carry out the required quality of work', especially when it comes to load bearing components and structures.

He adds, "We have seen accidents related to such bad repairs, so we inform our customers accordingly, together with the repair offer, to avoid third parties providing poor quality at low prices. Price should not be the only criterion when it comes to a decision on the place of repair, especially when it comes to safety and readiness of the equipment.

"Crane owners and insurance companies should be informed about the potential risks related to crane repairs performed by third party companies, or persons not accredited or recognised by the OEM." ■

Goldhofer

ADDRIVE
POWER YOUR FLEET TO MORE EFFICIENCY!

ADDRIVE

Visit us at
Gold Lot G-4416

CONEXPO·CON/AGG 2017

Goldhofer – The Original.

WWW.GOLDHOFER.DE

Introducing TCC 2500

Longest boom in its class!

- 68 m main boom
- 105 m max tip height with full attachment
- Superior capacities
- Ultra-wide winch design
- Vision package - 4 cameras!

CONEXPO-CON/AGG 2017

March 7-11 2017
Come see us at our booth! G3864 Gold Lot

Link-Belt CRANES

LINK-BELT CONSTRUCTION EQUIPMENT
Lexington, Kentucky, USA | www.linkbelt.com

230 mt TELESCOPIC CRAWLER

HIGHEST CAPACITY AVAILABLE IN THE MARKET!

YouTube Link-Belt Cranes
Like us on Facebook Link-Belt Cranes
@LinkBeltCranes @LinkBeltCranes

CONTACT YOUR LINK-BELT DISTRIBUTOR TODAY!

Get going

Now is the time to start planning your trip to Las Vegas for the 2017 ConExpo Con/Agg construction industry trade show in March. *IC* presents an initial preview

Every major construction industry sector will be represented at ConExpo in Las Vegas, USA, from 7 to 11 March 2017. More than 2,500 exhibitors will show and demonstrate equipment and services over 232,000 square metres of the Las Vegas Convention Center. Some 160,000 people are expected to attend. Held every three years, it is the international gathering place for the construction industry. An extensive industry-targeted education programme is another strand of this event.

New in 2017 is the Technology Track, which focuses on industry innovations and future growth opportunities in the technology field, including drones, autonomous machines, 3-D imaging, smart apps, gamification, big data and IoT. The technology track complements the new Tech Experience to showcase ideas and technologies that will transform construction.

The first thing you need to do in planning your trip is to register. New in 2017 is the ConExpo Con/Agg Badge-Pack, which includes a lot of freebies and promotions, the most valuable of which is a Las Vegas Monorail multi-day pass. Also included is access to seven halls and outdoor lots on all five days. Discounts at Las Vegas bars and restaurants are included.

After determining when you will be travelling and how long you will be staying, the easiest way to book hotel accommodation is to visit the hotel information page on the ConExpo website. Experient is the official housing provider for the show and it is the only company that can sell rooms in the official ConExpo hotel blocks.

The benefits of reserving your room through the ConExpo Con/Agg Show Housing Services are rate assurance, no prepayment, immediate confirmation, ability to make changes and cancellations online, detailed hotel information and access to shuttle services between the hotel and official hotel partners, with the exception of those within walking distance to the convention centre. AEM warns attendees to be aware of unauthorised hotel solicitations. Entering into financial agreements with non-endorsed companies can have costly consequences, AEM said.

McCarran International Airport is the primary commercial airport serving the Las Vegas Valley. It is about five miles (8 km) south of downtown Las Vegas. See the box for information about transportation options to and from the airport.

AT A GLANCE

SHOW HOURS:
Tuesday, 7 March to Friday, 10 March: 09.00 to 17.00
Saturday, 11 March: 09.00 to 15.00

REGISTRATION:
www.conexpoconagg.com/visit/register
Advance pricing is US$195 per person from 14 January to 7 March 2017.
Day badges are $249 per day.
Phone: +1 800-424-5247 or +1 847-996-5878

HOTEL/LODGING
Email: showmgmt@experient-inc.com.
Phone: +1 800-424-5247 or +1 847-996-5878
http://www.conexpoconagg.com/visit/hotel-information/

AIR TRAVEL
McCarran International Airport
www.mccarran.com

TAXI/SHUTTLES/LIMOUSINES
More than 10 companies offer taxi service to and from the airport and throughout Las Vegas. Some taxis do not accept credit cards. The maximum number of passengers allowed in a taxi is five. At Terminal 1, taxis are available on the east side of baggage claim at Exits 1-4. At Terminal 3, taxis are on Level Zero. Expect long lines during peak hours. Visit www.mccarran.com/Go/Taxis.aspx for information about booking a taxi.

Group shuttles are an economical way to get from the airport to most major hotels. While in route, group shuttles make multiple stops. For Terminal 1 group shuttles are available on the west side of baggage claim outside of doors 7 to 13. For Terminal 3 shuttles are on Level Zero at the end of the building. Four shuttle companies serve the McCarran International Airport. For information about booking as shuttle please see: www.mccarran.com/Go/Shuttles.aspx

Limousine service information is at: www.mccarran.com/Go/Limousines.aspx

RENTAL CARS AND BUSES
Blue and white McCarran Rent-A-Car Center shuttle buses depart approximately every five minutes for the three-mile (5 km) trip to the Center and the car rental company of your choice.

For information on the rental car and bus companies see: www.mccarran.com/Go/RentalCars.aspx.

MONORAIL
The Las Vegas Monorail is an easy way to travel on the Strip. Trains arrive every 4 to 8 minutes at seven stations.

For more information and train hours see: www.lvmonorail.com

iCraneTrax.

Turning data into useful information.

Powerful business, equipment, & job management tools at your fingertips.

Business Management. Maintain customer relationships, identify potential sales, produce quotes and invoices from any device.

Equipment Management. Harness telematics to stay on top of maintenance, crane location, fuel consumption, and bare rentals from all branch locations.

Job Tracking. Deliver great customer service with online dispatch. Upload documents like certifications and permits. Set rates for cranes & employees.

Reporting Tools. Utilize assets for maximum profits, track sales, make important decisions.

3D Lift Plan.

Landing the job. Delivering it safely.

An engineered lift planning tool that is as easy as 1-2-3.

Realistic. 3D graphics viewable from any angle. Choose from hundreds of 3D objects, import CAD drawings or Google Earth images.

Accurate. Search entire fleet in seconds for the most economical configuration. Create custom plans with advanced rigging, multi-crane lifts, and precise dimensions.

Efficient. Quick Lift Setup and 2D Job Site Designer allow you to create complicated plans in less time. Subscription based plans mean you'll never have to update software again.

Safe. Simulate the lift. Know the capacity, ground bearing pressure, obstructions and other hazards for the entire load travel path. Produce critical lift worksheets. Improve communication with GC, owner, and other trades.

Profitable. Turn crane selection into new contracts with professional, accurate bids that demonstrate your expertise.

VISIT US AT

CONEXPO-CON/AGG 2017

Booth G2231

a1 one Software

Your Data, Your Way

www.a1asoftware.net 904-430-0355

Back in the hot seat

A few days after his return to the job of Terex Cranes president, STEVE FILIPOV talked to ALEX DAHM about his initial take on turning around the business

Reviving the Demag brand at the Bauma show in 2016 was seen as a strong decision

Former U.S. president John F. Kennedy said that the one unchangeable certainty is that nothing is unchangeable or certain. This is a reality that Steve Filipov, freshly reinstalled as president of Terex Cranes, has come to terms with as he battles to get the business back on track.

Filipov admits that he has a major task to turn Terex's ailing crane business around. "It's going to take a lot of work," he said.

But he is confident he will succeed. Filipov headed up Terex Cranes between 2003 and 2008 before moving on to manage new business development and then the Materials Handling and Port Solutions business, which includes port and industrial cranes. Now he's back, and with a critical mission to turbocharge Terex's crane business.

"I have tried to keep in contact with a lot of customers," he said. "I still end up at shows and see people around. We have a small community of customers in cranes and that is one of the benefits – I still have those contacts so I hit the ground running. That's a big positive."

Another is Filipov's open management style and ability to relate to customers, "If you have a problem, you can call me and I am going to get it fixed. That is going to be our number one priority."

He sees this as one of the secrets of success. "People tend to get sucked into internal issues, but we need to be focused on the customer," he said. "My job is going to be to get the organisation focused on the customer, and get out there and win deals. We need to get share back in key markets and key product areas. Terex Cranes is still a solid business; it just lost its way. That will change."

As well as a laser-sharp focus on customers, Filipov has identified another issue to tackle – product problems.

"We are going to get out and fix those problems... I have to change the dynamic and I will," he said.

Named president of Terex Cranes towards the end of 2016, Steve Filipov has an ambitious 100-day plan

Taken to task

As part of his 100-day resurgence plan, Filipov is putting together a taskforce to tackle the issues.

"I have already assembled a team and we are working on a communication plan with our customers so that, in the next few weeks, we can start fixing some of the problems."

He acknowledged Terex Cranes' recovery will take time, but has a bone-deep conviction in his ability to turn the company around.

"We are going to get back to where we were," he said. "When I was in the crane business the last time, I think we put some stakes in the ground, we said that we were going to be number two in Germany and we were number two in Germany. We were the market leader in France with the PPM product and then with the rest of the products we became the leader there. We were in the top two in North America and we are going to get back there."

Maintaining development

"I would be crazy not to say that we have product gaps, but we will fill those gaps. One of the other fundamental things you will see me do over the next couple of years is invest in new products. Whether the market is good or bad – indeed, more importantly when it's bad – we need to continue to invest in new products."

Filipov drew up his 100-day plan with a focus on dealing with what he calls "the burning house issue." This means the business must focus on four priorities.

"Financially, the business is in a difficult place so we have got to address that part of it. We also need to address the credibility and get back into the market. And we have got to address product issues in the first 100 days. We are also going to have to address our footprint; we have too much footprint for the »

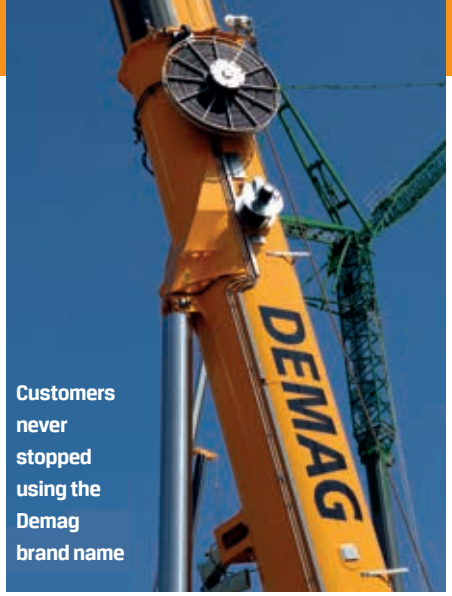
level of business we currently have."

Filipov said that Terex Corporation will become a smaller company focused in three businesses – aerial work platforms, cranes and materials processing. "Cranes is a significant part of the business, but it is underperforming and it is my and my team's job to turn that around."

To that end, "What I am calling commercial excellence is going to be a key part of the longer term focus. What I mean is to continue those valued customer relationships, to manage our pricing better, to manage our pipeline better, to manage my sales team better. There is a whole lot of heavy lifting – no pun intended – around commercial excellence where I think we can get much better in Terex Cranes and that, for me, is going to be a big focus, now and in the future."

Filipov said he would like to get the business to a break-even point in 2017 and he said that the company will also launch a series of what he describes as innovative, game-changing products.

"My true definition of success is when customers really start to see the difference and see us getting some positive momentum," he said. "That would be my target in my first 12 months, but it's going to come with a lot of hard work."



Customers never stopped using the Demag brand name

As for service and support, he mentioned how difficult it is to find service technicians, "but we are going to pick our areas where we have a significant installed base and we are going to push and drive more penetration with those fleets."

That may mean the company setting up its own infrastructure and working to improve the dealer network. "We can't do everything ourselves so we are going to have to rely on our distribution network where they perform. Where they don't, we are going to have to look at finding new dealers. Training is a big part of that, for sure."

Another opportunity is to increase the share of the global spare parts business, "to get more of our installed base, to drive more business for us."

Getting it back

As to the future, Filipov is excited.

"We are going to get out and start to re-engage with our customers. This starts with me and then the team is going to follow suit..."

He continued, "We have a plan. Now we need to execute it. That is the challenge, but I am confident that we have a good team. We have good products and I am not afraid to get on the road and be aggressive and get out there and re-engage so I am looking at this as a good thing...

"I think it is going to be really fun to get back into the mobile and tower crane customer base. I have never lost touch with many of them and many have voiced their frustrations to me, but until you have got the power or are at the wheel it makes it harder to drive that change. I am not going to shy away from that now and we are going to make some change where we need to. We are going to make the hard decisions and we are going to fight. It is high time for us to win and I have got to get the team winning again and that's what I'm going to do."

POTAIN®
by Manitowoc

^ 20 configurations possible thanks to telescopic mast at 21 m and 27 m high and multiple jib positioning

NEW Hup 32-27

Max capacity 4 t at 32 m jib

New HPL Technology® (High Performance Lifting); faster lifting with four permanent reeving falls

New High Performance Slewing (HPS) technology for greater control during load swing

New and exclusive technologies: Power Control functionality to adapt to the power available on-site, Smart Set-up software and remote control

ULTIMATE VERSATILITY. MAX PROFITS.

Maximize your profits with more job opportunities than ever before.

The new Potain Hup 32-27 self-erecting crane helps you get more jobs for a higher return on investment.

- Maximum reach for class-leading performance
- Multiple integrated configurations for various jobsite needs
- Unmatched compact design for challenging jobsites and for easy transport
- NEW Smart Set-up software for simplified crane erection using the exclusive Potain remote control

Learn more at your local Potain dealer today, or go to **www.manitowoc.com**

CONEXPO-CON/AGG 2017
March 7 - 11, 2017
Las Vegas, NV

Manitowoc
Booth G3348
www.manitowoc.com

Advanced lifting technology

Visit us at
Outdoor Booth
G-2789
Gold Lot

CONEXPO-CON/AGG 2017

LINDEN COMANSA

FLAT-TOP AND LUFFING-JIB TOWER CRANES

LINDEN COMANSA

Construcciones Metálicas COMANSA S.A.
+34 948 335 020 · export@comansa.com
www.comansa.com
Spain

LINDEN COMANSA AMERICA

Linden Comansa America LLC
+1 704 588 7729 · sales@lcacranes.com
www.lindencomansaamerica.com
United States

COMANSA CM

Comansa Construction Machinery (Hangzhou) Co., Ltd.
+86 571 8299 5555 · sales@comansacm.com.cn
www.comansacm.com.cn
China

Upstream in Kerala

A large fleet of cranes is working to commission one of India's complex refinery expansion projects in Kochi, Southern India. PARTHA PRATIM BASISTHA reports

Kobelco CKE 250 250 tonne crane involved in the erection by G R Engineering of fluegas duct piping in the reactor regenerator package of the fluid catalytic cracking unit (FCCU)

A major expansion is taking place at Indian state-owned oil upstream company Bharat Petroleum Corporation's (BPCL's) refinery in Kochi in the Southern Indian state of Kerala. The project – called the 'integrated refinery expansion project' (IREP) – will increase Kochi refinery's capacity from the current 9.5 million metric tonnes (mmt) annually to 15.5 mmt.

The expansion will enable the refinery to process crude oil with a higher sulphur content. This will allow it to produce auto fuels complying with Euro IV and Euro V specifications for higher profit margins. It will also improve the distillate yield and reduce energy consumption of vehicles using this fuel.

Several new processing units are being installed. These include a crude distillation unit (CDU), which will replace the 40 year-old CDU. The expansion will also involve setting up associated processing units such as a fluid catalytic cracking unit, diesel hydro treater, sulphur recovery unit, tail gas treating unit and hydrogen generating unit. Placing numerous supporting utilities and offsite facilities for the refinery operation is also part of the IREP project.

Contractors have engaged several cranes for heavy lift jobs from specialised Indian and foreign companies.

Project contractor Essar Projects is involved in engineering, procuring, fabricating and erecting the new delayed coker unit (DCU) to process the high sulphur content and low value crude.

The 2,000 tonne Mammoet ringer crane and the tailing crane involved in the erection of the delayed coker unit. The package is being executed by Essar Projects

It has engaged Mammoet to help with the erection of four coke drums for the DCU. This consists of 10 shell assemblies of low alloyed steel and two skirt assemblies, top dished end and a bottom cone assembly with a diameter of 9.6 metres, length of 42.66 m and weight of 550 tonnes. A 2,000 tonne ringer crawler crane from Mammoet, supported by a 450 tonne tailing crawler crane from Indian crane rental company Sangvi Movers, helped lift the coke drums to a height of 35 m.

Reactor pair

Another critical lift involved the erection of two reactors, each weighing 650 tonnes. Indian heavy lift company All Cargo partnered with Tat Hong Plant Leasing Pte of Singapore for this job, which was executed by Albanna Engineering India.

A 1,200 tonne capacity Demag CC 6800 crawler crane and a 550 tonne tailing crawler crane from Tat Hong completed the job. The main crane's boom was kept at 66 m (36 m for the tailing crane) to erect the 48 m-long »

reactors. A 400 tonne super lift counterweight and 250 tonne car body counterweight were used on the main crane.

Ground pressure for the main crane was kept at 69 tonnes per square metre under the crawler and 59 tonnes/m^2 below the mat.

Erection of columns in the fluid catalytic cracking unit (FCCU) was also a critical heavy lift. Contractor Fabtech Projects hired a 1,000 tonne Demag CC 6400 crawler and a 550 tonne Demag CC 2600 tailing crane to lift four stripper columns with weights between 180 and 696 tonnes, four rectifier columns weighing between 181 and 661 tonnes, and the main fractionater at 570 tonnes.

To erect the four sections of stripper and rectifier columns, the boom length of the CC 6400 was kept at 66 m, 84 m, 108 m and 120 m. The job was performed at a working radius between 20 and 28 m. For the tailing crane, working radius was kept between 9 and 11 m. The 1,000 tonne crane was used with 650 tonnes of super lift counterweight (75 tonnes super lift counterweight for the tailing crane) when erecting the heaviest section of the stripper and rectifier.

Hard standing was prepared for both cranes. For the main crane, ground pressure was kept at 60.8 tonnes/m^2 under the crawler and 19.76 tonnes/m^2 below mat.

The author with Mr. Rathi, vice president of G R Engineering – Kochi Refinery Project (right) with 1,600 tonne capacity Terex crane at the FCCU in Kochi refinery expansion project

Main lifter

One major attraction in this project is the 1,600 tonne capacity Terex CC 8800-1 crawler crane hired by Indian Engineering firm G R Engineering for 14 months from Tion Woon Projects. G R Engineering is fabricating and erecting the reactor and regenerator in the FCCU in a consortium with Essar Projects. The crane, with a 108 m boom, has erected the 16 m long third-stage separator, 35 m spent hopper A, and spent hopper B at a height of 170 m. Weights of the units erected were 250, 139 and 218 tonnes, respectively. The crane has also erected the 490 tonne reactor.

The heaviest lifting job performed by the crane was erection of the 700 tonne regenerator at 32 m working radius with 96 m boom. A 540 tonne super lift retractable counterweight used with eight falls. The crane was taken earlier by Fabtech for erection of the main fractionater at 36 m height with 108 m boom.

G R Engineering has deputed its own two 200 tonne Link Belt cranes, one 150 tonne, two 80 tonne and one Kobelco CKE-250 250 tonne crawler cranes in the FCCU package. The CKE-250 is placing flue gas duct piping on racks connected to the FCCU. The job was part of the reactor and regenerator erection in the FCCU. The crane was erecting 6 m pipe weighing 38 tonnes at a height of 20 m. A 92 m boom and 70 tonne crane car body counterweight were used.

Contractor Bilfinger Neo Structo used two crawler cranes – a 350 tonne Liebherr LR 1350-1 and a 750 tonne LR 1750 – to erect »

RIGGING FOR THE 21ST CENTURY

The Slingmax® line of advanced rigging products features the high performance synthetic Twin-Path® slings with Check-Fast® inspection. We also supply Cornermax® cut protection for synthetic slings. Our built-in sling inspection features are not available anywhere else and are backed up by the most extensive testing program in the sling industry.

Important features of our products:

- K-Spec® fiber, the longest lasting composite fiber for roundslings
- Rifled cover™ technology for consistantly strong slings
- Cycle tests to 50,000 cycles with no strength loss
- Covermax® cover for abrasion and UV resistance
- Proof of concept testing to 600 tons
- Check-Fast® inspection technology

SLINGMAX® RIGGING SOLUTIONS

205 Bridgewater Road, Aston, PA 19014-2423 USA

+1(610) 485-8500 • (800) 874-3539

www.slingmax.com

WOLFFKRAN

Cranesational power
from S to XXL.

Live in Las Vegas
Gold Lot, Stand G2022
March 7-11, 2017

CONEXPO-CON/AGG 2017

The leader of the pack opens up new horizons – with cranesational technology and service. The modular WOLFFKRAN crane system brings more efficiency and safety to construction sites around the world. Discover the leader of the pack and join the WOLFF:
www.wolffkran.com

Der Leitwolf. *The leader of the pack.*

A 70 tonne capacity Liebherr LTM 1070 wheeled mobile crane belonging to Bilfinger Neo Structo working at the BPCL refinery expansion project

213 and 200 tonne vessels in the ongoing expansion project in the earlier phases. It has now deployed a 70 tonne Liebherr LTM 1070 AT crane at the site. The crane is working with a main 50 m telescopic boom and 16 m fly jib, and 36 m boom and 9 m fly jib for erection of tie members weighing between 2 tonnes and 600 kilogrammes.

While heavier crawlers dominate the project, numerous lighter crawler and wheeled mobile cranes are also working on the project. Fuwa cranes between 35 and 250 tonnes, owned by contractors, L&T Hydrocarbon and Petron, erected pipes between 3 and 8 tonnes and 10 to 12 tonne columns. Indian heavy lift major Sangvi Movers deployed Sany crawler cranes between 80 and 150 tonnes to erect alloyed, stainless steel pipes and carbon steel pipes weighing between 6 and 7 tonnes at heights to 50 m.

Meanwhile, at least 35 Indian Action Construction Equipment's new generation SX and FX series mobile cranes between 12 and 17 tonnes and 15 and 23 tonnes transport smaller equipment. They also erect beams for utility buildings and pipes on pipe racks.

Transportation of over-dimensional consignments to the refinery from the factory was undertaken by Resham Singh & Co, one of India's leading ODC cargo transporters. The task involved moving the consignments from G R Engineering's facility in Tarapur to Mumbai and JN Port at Maharashtra in Western India by road on multi-axle hydraulic trailers. This was followed by further movement on barges to Kochi Port and forward movement to the site, again on trailers.

The barges were loaded at Mumbai and JN Port sailed to Kochi Port. Reshamsingh moved its 32 Goldhofer hydraulic axles and three Volvo heavy-duty prime movers to Kochi.

Several challenge had to be overcome as the cargo moved from the port to the project site. One major obstacle was the road toll tax booth structure at Kochi. The roof of the structure was too short to accommodate the trailers with loaded cargo. To make way for the trailers, the roof was removed with two telescopic cranes. Other challenges were extremely narrow roads in Kochi, and large numbers of cables and high tension wires traversing the city. ■

Shipment belonging to G R Engineering being shifted by Resham Singh's Goldhofer multi-axle trailers through the narrow roads of Kochi

Suzhou Dafang Special Vehicle Co., Ltd.

SPMT/SPT

SPMT/SPT

Shipyard Transporter

Auxiliary Drive Hydraulic Modular Transporter+Girder Bridge

Traction Hydraulic Modular Trailer

Rubber Tyre Gantry Crane

http://www.szdf.com http://suzhoudafang.en.made-in-china.com
Tel: 0086-512-62656410 Email: zshibiao@163.com admin@szdf.com

MEGAMAX

FAYMONVILLE
TRAILERS TO THE MAX

Lowest double drop - highest performance

- Hydraulic self-lifting detachable gooseneck for easy access
- Super low perimeter stretch deck – 13.8" drive height (at 3.9"ground clearance)
- Deck length 25' closed – stretches to 42'4"
- Around 100,000 lbs technical capacity
- Automatically steering axles (king-pin steering)

VISIT US on booth G1326 - Gold Lot

CONEXPO-CON/AGG 2017
IMAGINE WHAT'S NEXT.
March 7–11, 2017 • Las Vegas, USA

Paul Hönen | Cell: +32 498 168 159 | Paul.Hoenen@faymonville.com
Hale Trailer Brake & Wheel Inc. | Cell: 609 820 30 32
mstaley@haletrailer.com | www.haletrailer.com

faymonville.com

RUSCH

CRANE REPAIR

CRANE BOOM REPAIR

- Laboratory control of original material
- Same quality material with certificates
- Qualified welders
- Qualified weld procedures
- Up to Weldox 1100
- Acceptance by Insurance and Certifying Authorities
- Repair report for future reference

RUSH CRANE REPAIR

Aambeeld 4 • 1671 NT Medemblik • Tel. +31 (0)227 540027 • rsc@rush-service.nl

www.rush-service.nl

Historic 'Mexico bridges' are back where they belong

The district Het Eilandje in Antwerp, Belgium is being developed from an old port area to an attractive living and recreation zone.

A new tram line is to be installed, which will cross the 'Mexico bridges'. The two historic bridges in Ghent have therefore been renovated. The bridge on the East side will be reserved for the new tramway and the other will be used by road traffic.

In November 2016 Belgian crane and transport company Aertssen Kranen loaded the bridges in Ghent onto pontoons using a first set of 24 axles (two sets of 12 lines side by side) of self propelled modular transporter (SPMT) and from there sailed to Antwerp. On arrival, the bridges were turned on the deck of the pontoons using the SPMT.

Following this manoeuvre, the element came across the pontoons and between the abutments. Next, the bridges were put in place using the combination of a Demag AC 700 wheeled mobile telescopic crane and a second set of 12 axles of SPMT (2 x 6 axles side by side).

The second set of SPMT was driven on top of the first set to eliminate the difference in height between the pontoon and the quay wall. By lowering the SPMT hydraulically on one side, and using the mobile crane on the other, the bridge was place on its embankments. ■

Two historic bridges were renovated with the help of Belgian crane company Aertssen Kranen

ALE COMPLETES MAJOR SPANISH CONTRACTS

International Specialized transport and heavy lifting company ALE has performed the final load out on the Wikinger OWF Project in Ferrol, Spain. ALE was contracted to undertake a range of services on two sites, in Cádiz and Ferrol.

The scope in Ferrol was divided into three main parts: weighing 12 jackets, transporting 29 jackets at the Navantia Fene Shipyard and then loading them out.

ALE started on the project in December 2015 and did the final load out a year later. Each jacket weighed between 625 and 650 tonnes, and was loaded out using self-propelled modular transporter (SPMT) and a Terex CC 8800 lattice boom crawler crane. ALE performed more than 60 land transports (two per jacket) using SPMT and 29 load outs using a crawler crane.

Hussam Kasis, ALE project engineer, said, "To comply with the client's schedule, we adopted a new technique to attach and detach the jacket to the crane and, as a result, we were able to reduce each load-out by three hours to complete it within just nine hours.

"As one of the biggest projects ALE has undertaken throughout Europe in 2016, it was a very interesting project to work on and be a part of. We received really positive feedback from the client."

Faymonville CombiMax trailer combination

Haulage firm Spedition Meier & Sohn was the first customer in Germany to take delivery of a CombiMax combination from Faymonville. The company, established in Biederitz/Magdeburg, has already had a partnership with the specialized transport equipment manufacturer for almost 25 years.

Over the years around 80 semi-trailers have made their way to the eastern part of Germany. A showpiece is the CombiMax combination and there are two goosenecks, 16 axles, one add-on-beam as well as vessel bridges that can be widened to allow the simultaneous use of two CombiMax combinations. These elements result in a modular system on which Meier & Sohn draws depending on the job at hand.

Bernd Meier, general manager, said, "For us, the CombiMax is primarily used in connection with orders for the wind energy industry (steel towers or installations). But we also use the variable possibilities for deploying the CombiMax, either as a lowbed or a semi-combination for machinery and installations, transformers, or boilers.

Heavy for Hegmann in the air

Hegmann Transit in Germany was responsible for a heavy haulage project involving the giant Antonov AN-225 *Mriya* heavy freight aircraft. The Ukrainian giant with six engines was at the Airport Leipzig/Halle in the Eastern part of Germany.

The cargo was a gas compressor skid with engine module. To reach the airport, the compressor had to be divided into 15 units.

The largest transport, weighing 152 tonnes, had 14 axles and 85 tonnes of cargo.

The five transports that required special authorisation left from the Ruhr area and headed for Leipzig/Halle Airport. A 500 tonne capacity wheeled mobile crane was engaged at the airfield in Leipzig to secure the loading into the Antonov.

The securing system followed its own special rules: A sevenfold load securement system was mandatory. Each piece of cargo needed additional securement points corresponding to the lashing points in the Antonov's cargo compartment. ■

Preparing to load a component into the *Mriya* heavy lift cargo aircraft

Mammoet completes Chernobyl confinement

International heavy lift and transport company Mammoet has finished skidding the new safe confinement arch – the largest land-based movable structure in the world – over the reactor building of the Chernobyl nuclear power plant in Ukraine.

Netherlands-based Mammoet moved the arch at the request of Novarka – the joint venture responsible for the arch's construction – from its construction site to the reactor building, using a specially designed skidding system.

It is controlled remotely and consists of 116 skid shoes with an average capacity of 700 tonnes each. The skid shoes were synchronised on both sides of the structure to ensure smooth and even operation. The tracks of this system were installed in a 33 degree angle to optimise the load transfer onto the foundations.

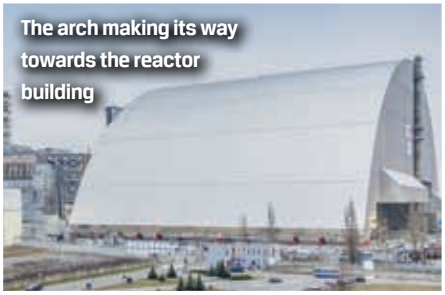
The safe confinement replaces an old shelter that was installed as an emergency measure to contain the radioactive materials in the destroyed unit shortly after the disaster in 1986. It provides a controlled and weatherproof environment where the solid radioactive remains of the destroyed unit can be held for the next 100 years.

At 165 metres long, 260 m wide and 110 m tall, the arch could house the Statue of Liberty, or the Notre Dame Cathedral. With a weight of approximately 36,200 tonnes, the shelter is about three times as heavy as the Eiffel Tower.

Mammoet also done all the jack-up and skidding during construction. The arch was built in two parts in a decontaminated area at safe distance from the reactor. Each half of the arch was elevated during three jack-up operations, allowing crews to work at lower height, increasing cost-effectiveness and improving operational safety.

After construction of the first half was finished, it was skidded into a special parking area, leaving the area clear for the construction of the second half of the arch. On completion of the second half, the two parts were connected by skidding the first part towards the second one.

The Chernobyl arch was built by contractor Novarka, a joint venture between contraxctors Vinci Construction Grand Projets and Bouygues Travaux Publics. ■



The arch making its way towards the reactor building

SINGAPORE INTRODUCES AUDIO WARNING FOR CRANE TRUCKS

The Land Transport Authority (LTA) in Singapore now requires all trucks with loader cranes to be fitted with an audio warning system to reduce the risk of collision with overhead road structures. Since 2013 there have been 20 cases of overhead road structures being hit by over-height vehicles. Many of these "bridge bashing" incidents could have been prevented if the drivers had stowed the cranes properly before setting off.

All trucks with cranes mounted since 1 January 2017 must have an audio warning system for correct stowage. All existing trucks with cranes have until 30 September 2017 to comply with this requirement.

The audio warning system is a buzzer in the driver's cabin which is linked to a limit switch installed at the base of the crane. The buzzer is activated when the limit switch detects that the crane is not fully stowed. In cases where operational factors preclude proper stowage, an angle sensor can be installed on the crane's inner boom instead of the limit switch. When the sensor detects that the crane is above its maximum stowed height, the buzzer sound to alert the driver to retract the crane adequately before moving off.

The limit switch is installed at the base of the crane (or home position)

To further enhance road safety, road humps will be implemented at six locations with high covered linkways by February 2017. The road humps will help reduce the speed of the over-height vehicles as they approach and lessen the impact if any over-height vehicle were to hit them.

JOIN NOW Only $595

More Driver Fines and Less Qualified Crane Operators = Lost ROI For Your Business

Join SC&RA...

and you'll be working with the industry's elite companies to improve the safety, profitability, efficiency and productivity of your business through advocacy and education.

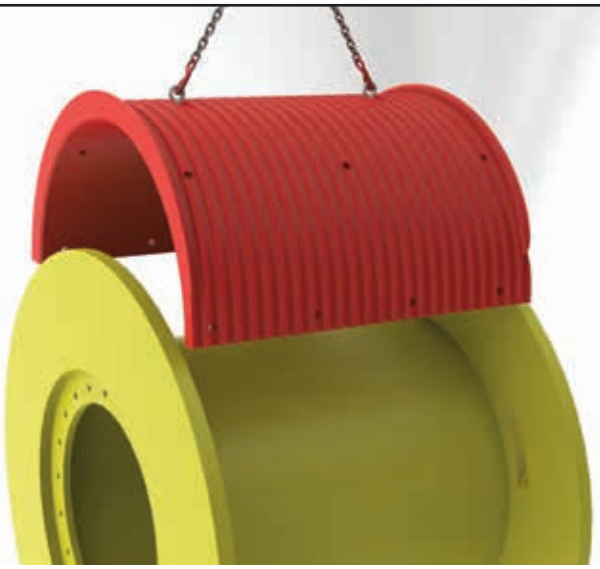
In the last year, SC&RA has provided its members with:

- An Hours of Service exemption for OS/OW loads
- A new SC&RA/IUOE Operating Engineers Agreement
- Substantive OS/OW permitting enhancements in 6 states
- Support in combating MSHA's definition of "load" when using rigging equipment

JOIN NOW!
Enter code 0816

visit **www.scranet.org**
or call **(703) 698-0291**

SC&RA Specialized Carriers & Rigging Association



Refurbish your winch drum with Lebus® split sleeves

Rope drums of all types and sizes can be refurbished quickly and economically by fitting new grooved sleeves, custom-engineered for your application and rope construction.
New sleeves can be welded or bolted to your old drum on site to minimise downtime.

No one knows more about wire rope spooling and management systems than Lebus International.

It's our heritage.

LEBUS® Germany INTERNATIONAL

Experts in wire rope spooling

Lebus International Engineers GmbH
Tel: (+49) 88 06 958 950
info@lebus-germany.com
www.lebus-germany.com

Lebus® is a registered trademark, not a generic term

AVEZAAT Cranes

SINCE 1939

MOBILE CRANE REPAIR AND MANUFACTURING

- Repair and manufacture of lattice booms, jibs and telescopic booms
- New and used (controlled) lattice booms and jibs supplied immediately from stock
- Repair and overhaul of crawler cranes, telescopic cranes, aerial work platforms, forklift trucks and spreaders

FOR MORE INFORMATION

Van Heekstraat 39
3125 BN Schiedam
The Netherlands

T +31 (0)10 415 25 44
F +31 (0)10 415 19 97
E info@avezaat.com

www.avezaat.com

QUALITY SYSTEM CERTIFICATION DNV·GL ISO 9001

QUALITY SYSTEM CERTIFICATION DNV·GL ISO 3834-2

CERTIFIED DNV·GL EN 1090

Transport in session

Regulatory issues, harmonisation strategies and litigation mitigation are key sessions at the 2017 Specialized Carriers and Rigging Association's Specialized Transportation Symposium in February. *IC* reports

Hauling, rigging and moving heavy, huge and often fragile cargo requires specialized expertise, equipment and know how. For this reason, the SC&RA's Specialized Transportation Symposium is an important "must attend" event for owners, management, permitting personal and transportation regulatory and governmental officials. The 2017 STS will be 14 to 17 February at the Hilton Orlando Lake Buena Vista in Orlando, Florida, USA.

The Symposium kicks off with the opening session: Capitol Concerns: What's brewing in Washington? Find out what's happening on the regulatory front in Washington D.C., USA, as a three-speaker panel looks at current transportation regulations and discusses how the impact on business and the wider specialized transport industry. Former ATA chairmen Michael Card, Bulldog Hiway Express president Phil Byrd and current SC&RA president and director of strategic relations at Unified Logistics Operating Group, John McTyre, will address everything from electronic logging devices to parking, speed limiters and permitting harmonisation.

Scott Marion

The How-To of Harmonization is presented by Scott Marion, Missouri Department of Transportation motor carrier services director. He will explain the forward-thinking harmonisation efforts implemented by the Missouri DOT. Marion will provide attendees with fresh ideas to take home and techniques to help tear down the barriers of crossing state lines. He will also discuss how the "Show Me State" became a leader in pro-active strategies to improve permitting and customer service.

Joanna Jungels, OD permit manager at ATS Specialized Inc. and Dan Wells, permit unit manager, Colorado Department of Transportation, will present Communications Wins with State Officials. The industry veterans will discuss why effective communication between industry and state and local officials is imperative for successful permitting and demonstrate how clear, positive communication and professional interaction with officials can increase cost savings.

What really happened during the terrorist attack on the U.S. Embassy in Benghazi on 11 September 2012? Kris "Tanto" Paronto, an author and former Special Forces Army Ranger, was serving as a member of the CIA annex security team during this tragic event. »

AT A GLANCE

Specialized Transportation Symposium

Where:
Hilton Orlando Lake Buena Vista, Lake Buena Vista, Florida, USA

To register:
www.scranet.org/symposium

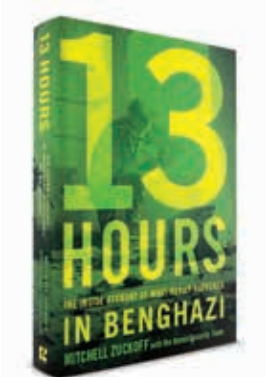
More information from SC&RA:
+1 (703) 698-0291

Mike Card

John McTyre

Joanna Jungels

Dan Wells



Kris Paronto

In his presentation, 13 Hours in Benghazi, hear firsthand the heroism displayed during those 13 harrowing hours. Expect to be inspired. This presentation is billed as one that "will give you the desire to achieve and survive no matter how big the obstacles."

Legal matters

The Mitigation of Litigation is a panel of three attorneys who will guide participants through real-life cases of catastrophic incidents and the resulting litigation. The panel will also share best practices to protect your business from liability resulting from high-value cargo loss, serious injuries, environmental exposures and regulatory enforcement issues. And all this without having to pay a retainer. The panel includes: J. Allen Jones, Attorney at Law, Benesch Friedlander Coplan Aronoff; C. Fredric Marcinak, Attorney at Law, Transportation Industry Group Smith Moore, Leatherwood; and Alan Rucker, director and Attorney at Law, Kane Russell Coleman & Logan PC.

J.Allen Jones III

Fredric Marcinak

Attendees can choose to attend breakout sessions on Thursday afternoon and the Friday morning.

BREAKOUT 1, Reinforce your Safety Culture, features presenters Mike Cobb, vice president safety and compliance at Landstar Transportation Logistics and Lynn Wehrmann, transportation manager at Barnhart. Safe drivers and reliable equipment are the foundation of a specialized transportation company and the safety director has front-line oversight. In Part 1 of the safety director roundtable, Cobb and Wehrmann will discuss best practices for creating and maintaining a first-class safety programme. This session gives attendees the opportunity to see how the same motor carrier regulations are viewed from many perspectives.

Mike Cobb

BREAKOUT 2 is called Perfecting the Partnership between Pilot Cars and Carriers. The SC&RA Pilot Car Task Force has worked to foster productive dialogue between the pilot car industry and carriers. Presenters will discuss expectations of both parties regarding insurance, inter-vehicle communications and more. Attendees will get a sneak peek at a document to lead carriers and pilot car companies into mutually beneficial service agreements. Speakers are Maureen Mandich, owner of New York Truck Escorts & Permits, Inc.; Michael Morgan, president of Pit Row Services; Rob Simon, vice president Heavy Haul & Specialized for Bennett International Group; and Randy Sorenson, president of RSA Network Inc. & PEVOA.

Maureen Mandich

Michael Morgan

Rob Simon

Dave Wittwer

BREAKOUT 3, Great Drive Talent requires Great Driver Management will be presented by Zathan Boutan, DOT Specialist at WHC Energy Services, and Dave Wittwer, vice president, Hays Companies. The job of safety director goes beyond the implementation of a safety programme. During this second part of the Safety Director Roundtable, the panellists will guide participants through the complexities of managing driver training, driver accountability and successful retention techniques.

BREAKOUT 4 is centred on how Bechtel is applying an engineered logistics approach to be more predictable in transportation planning. Bechtel's Engineered Logistics approach for Strategic Transportation Predictability will show how tools like 4D simulation, holograms, virtual reality and drones can identify potential issues and help prevent downtime. Speaker Stephen Spoljaric, functional T & L manager at Bechtel Oil Gas & Chemical, will share how Bechtel is implementing the newest technologies and what they see as future innovation for the industry.

Stephen Spoljaric

Caring for value

Delivering high-value loads is the charge of the specialized transportation industry. Unfortunately, loads not properly secured place the carrier in jeopardy of significant civil and criminal liabilities. In Part 3 of the Safety Director Roundtable, Fred Koval, field safety specialist at ATS Specialized, LLC, and Peter Trimble, CDS, corporate safety and claims director at Keen Transport will walk attendees through Load Securement – Don't Get Tied Up in the Legalities of Tie Downs. Koval and Trimble will discuss proper load securement policies, federal and state regulations, and driver expectations to ensure your company complies.

Fred Koval

Peter Trimble

Joe Doerr, specialized transportation programme manager, NBIS (Nations Builders Insurance Services) will present Insurance for an Uncertain Future in the final session. Doerr will demonstrate how to create management plans as the industry addresses developments in future video accountability, crash avoidance systems and autonomous vehicles.

Joe Doerr

Other highlights of the symposium will be SC&RA committee meetings, networking cocktail parties, the Exhibit Center and presentations showing the 2016 Job of the Year award winners in the realm of moving and transportation. ■

Sophistication, Ingenuity, and BRUTE FORCE!

www.lift-systems.com

Equipment
built from your perspective

LIFT SYSTEMS

VISIT US AT
CONEXPO-CON/AGG 2017

GOLD LOT
G1112

Turning heavy

Installation of turbines and similar heavy components in power plant construction is a major challenge. A new heavy lift gantry from Enerpac that can also rotate the load is designed to make the job easier, safer and quicker.

ALEX DAHM reports

Hydraulic heavy lifting equipment specialist Enerpac in the Netherlands has a new 450 tonne capacity gantry system that allows the load to be rotated as well as lifted. It is the first Enerpac gantry to offer heavy lift capability, via strand jacks, combined with a rotation function. Large turbine equipment can be lifted and rotated on power plant installation projects.

The turbines and other heavy loads usually come in to site on specialized transport trailers positioned as close as possible to the installation point. They then need to be lifted and installed perpendicular to the trailer. That is where the new Enerpac strand jack gantry comes in. It can lift to a height of 15 metres.

Four modular support legs support an overhead skid track on top of which is placed an Enerpac SBL1100 telescopic hydraulic lifting system. On each gantry beam is a pair of 200 tonne capacity strand jacks. Suspended from them via the lifting strands is a centrally suspended rotation unit and lifting beam. The load can be turned by up to 90 degrees which Enerpac claims as a unique feature of a gantry like this. An Intellilift wireless control system is used to operate the whole thing.

Commenting on the new system, Jeroen Naalden, Enerpac Integrated Solutions director, said, "The strand jack gantry design combines the strength of strand jack lifting with the flexibility of a hydraulic gantry, and an innovative load rotation capability, to provide a highly capable lifting system for heavy loads."

For ease of movement and handling, all of the gantry system components can be transported in standard containers. It is a product of Enerpac's Integrated Solutions facility in Hengelo, Netherlands. ■

Looking at the arrangement head-on. Note the tie wires on the lower level and the corner braces above

An aerial overview of the first unit under test in the Netherlands

The four strand jacks atop the beams

Grand proportions: 450 tonnes capacity and 15 metres lift height

INTERNATIONAL TOWER CRANES

CONFERENCE AND NETWORKING

SAVE THE DATE

10 and 11 May, 2017
London, UK

MILLENNIUM GLOUCESTER HOTEL, KENSINGTON, LONDON

ITC is the essential education and networking event for tower crane professionals around the world.

"ALMOST EVERYBODY INVOLVED IN TOWER CRANES THROUGHOUT THE WORLD IS HERE, IT'S A FANTASTIC NETWORKING OPPORTUNITY"
Dave Holder,
Director, HTC Wolffkran

"WE MAY BE AT A TIME WHEN THIS INDUSTRY IS CHANGING – THIS EVENT IS PERFECTLY POSITIONED TO PROVIDE THE FORUM FOR THIS CHANGE"
Philippe Cohet,
Chairman, Arcomet

"THIS IS A GREAT CHANCE FOR ME TO BE HERE AND MEET WITH ALL THE STAKEHOLDERS IN THE INDUSTRY"
Marco Gentilini,
Vice president,
Terex Cranes

Quotes from the 2015 ITC event

CREATED AND ORGANISED BY

INTERNATIONAL CRANES AND SPECIALIZED TRANSPORT
AMERICAN CRANES & TRANSPORT ACT
khl

www.khl.com/itc

GOLD SPONSOR
JASO

GOLD SPONSOR
LIEBHERR

GOLD SPONSOR
TEREX

GOLD SPONSOR
WOLFFKRAN

SILVER SPONSORS
LINDEN COMANSA
POTAIN by Cantower
radius nft In Partnership Together

SUPPORTING SPONSOR
GEDA ORIGINAL

Don't crack under pressure

Continuing the theme of pressure, this month MARCO VAN DAAL goes into more detail on the relationship between suspension design and the terrain

Last month we demonstrated that a load onto a hydraulic axle results in a certain force and pressure on the hydraulic cylinder of the axle. Due to the construction of the axle, a type 2 lever, this force and pressure multiplies by a factor equal to the mechanical advantage or M.A.

In addition, as the axle lowers and rises, the angle of the hydraulic cylinder changes and this also has an effect on the force and pressure.

FORMULA 1

$$F_{cyl} = \frac{F_L * M.A.}{\sin\alpha}$$

We saw that a 15 tonne load placed on a single axle (not axle line) causes a 268.5 kN force in the hydraulic cylinder, given a certain axle geometry. See formula below.

$$F_{cyl} = \frac{F_L * M.A.}{\sin\alpha} = \frac{147{,}000 * 1.776}{\sin(76.5)}$$

$$= 268{,}490\ N = 268.5\ kN$$

In this article we take this a step further. In the above formula the only variable is the sine of angle α, the other properties (F_L and M.A.) are fixed. Therefore, the conclusion can be drawn that during the execution of a transport only the angle of the hydraulic cylinder (angle α) has an influence on the force on the cylinder and, therefore, the pressure inside the cylinder.

The pressure being determined by;

FORMULA 2

$$F_{cyl} = p * A \quad \text{or} \quad p = \frac{F_{cyl}}{A}$$

NOTE: *The angle of the hydraulic cylinder in turn is determined by its stroke. The set deck height at the start of a transport (often near mid stroke) determines the initial angle. The unevenness in the road surface (bumps and holes) change the cylinder stroke and, therefore, the cylinder angle. Figure 5 shows a transport combination where virtually each axle has a different stroke and, therefore, a different cylinder angle.*

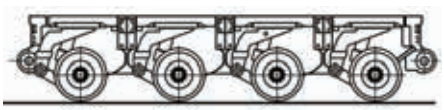


FIGURE 1

CASE 1

Let's review Figure 1, it shows 4 axles (again, not axle lines), these axles are all part of the same hydraulic group or pool. Assume that a total load of 60 tonnes is placed on the deck. Common sense tells us that in this case, where all axles are at an equal stroke and all hydraulic cylinder are at an 76.5 degree angle, each axle carries 15 tonnes and the force on each cylinder is 268.5 kN.

CASE 2

What happens, however, when one of the axles encounters unevenness in the road surface and the hydraulic cylinder angle changes from 76.5 degrees to 60.0 degrees. See Figure 2.

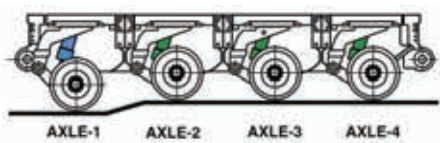


FIGURE 2

Since we are now no longer faced with a single cylinder and a single angle α, we require a slightly different approach to determine the hydraulic pressure (p) and force (F_{cyl}) in each cylinder. We can no longer use Formula 1 in its current form.

NOTE: *Since all four axles are part of the same hydraulic group or pool, by definition, the hydraulic pressure is equal everywhere. The pressure in cylinder 1 is equal to the pressure in cylinder 2, etc.*

What we need to do is combine formulas 1 and 2

$$p = \frac{F_{cyl}}{A} \quad \text{where} \quad F_{cyl} = \frac{F_L * M.A.}{\sin\alpha}$$

therefore

$$p = \frac{F_L * M.A.}{A * \sin\alpha} \quad \text{or}$$

$$p = \frac{F_L * M.A.}{A * (\sin\alpha_1 + \sin\alpha_2 + \sin\alpha_3 + \sin\alpha_4)}$$

From last month's article we know that;

A = 132.7 cm² or 0.01327 m²

M.A. = 1.776

From the above text we know that;

F_L = 60 tonnes (m) or 588,000 Newton (F_L) following F_L=m*g

α_1 = 60.0 degree

$\alpha_2 - \alpha_4$ = 76.5 degree

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*, available at: www.khl-infostore.com/books Van Daal has a real passion for sharing knowledge and experience and holds training seminars around the world.

$$p = \frac{F_L * M.A.}{A * (\sin\alpha_1 + \sin\alpha_2 + \sin\alpha_3 + \sin\alpha_4)}$$

$$= \frac{588{,}000 * 1.776}{0.01327 * (\sin 60.0 + 3 * \sin 76.5)}$$

$p = 20{,}801{,}636$ Pa = 208 bar

NOTE: *1 bar = 100,000 Pa*

This calculated pressure is the system pressure in each of the four (4) hydraulic cylinders.

The force on each cylinder F_{cyl} can now be determined with Formula 2;

$F_{cyl} = p * A = 20{,}801{,}636 * 0.01327 =$
$276{,}037$ N = 276 kN

So far we have not done much different from last month. The question now is, how does this force F_{cyl} translate into an axle force onto the ground.

$$F_{axle\text{-}1} = \frac{p * A * \sin\alpha_1}{M.A.} = \frac{20{,}801{,}636 * 0.01327 * \sin 60.0}{1.776} =$$

$134{,}603$ N = 134.6 kN

Following $F_{axle\text{-}1}$ = m * g this equals 13.74 tonnes

Note that this can only be calculated once the system pressure (p) is known, and this system pressure is determined by the angle of each of the hydraulic cylinders.
As the hydraulic cylinder for axles 2 and 3 and 4 all have the same angle α, these axles experience the same axle load.

$$F_{axle\text{-}2,3,4} = \frac{p * A * \sin\alpha_{2,3,4}}{M.A.} = \frac{20{,}801{,}636 * 0.01327 * \sin 76.5}{1.776} =$$

$151{,}132$ N = 151.1 kN

Following $F_{axle\text{-}2,3,4}$=m*g this equals 15.42 tonnes

Check the math, to make sure no mistakes have slipped in.

$F_{axle\text{-}tot} = F_{axle\text{-}1} + F_{axle\text{-}2} + F_{axle\text{-}3} + F_{axle\text{-}4} =$
$134.6 + 3 * 151.1 = 587.9$ kN

Following $F_{axle\text{-}tot}$ = m * g this equals 60 tonnes

The load onto the ground is 60 tonnes, which makes sense as we placed a 60 tonne load onto the deck. Transporter self-weight is neglected here.

With a 60 tonne load placed onto four axles that are all connected to the same hydraulic group or pool, one would logically expect the axle load onto the ground to be 15 tonnes per axle (60 tonnes / 4 axles = 15 tonnes/axle).

The axle geometry resulting in an ever varying hydraulic cylinder angle causes this not to be true. See below overview.

$F_{axle\text{-}1}$	= 13.74 tonnes	(60.0 degrees)
$F_{axle\text{-}2}$	= 15.42 tonnes	(76.5 degrees)
$F_{axle\text{-}3}$	= 15.42 tonnes	(76.5 degrees)
$F_{axle\text{-}4}$	= 15.42 tonnes	(76.5 degrees)
$F_{axle\text{-}tot}$	= 60.00 tonnes	

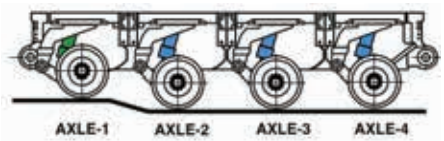


FIGURE 3

CASE 3

For arguments sake, let's also review the numbers when only the hydraulic cylinder of the first axle is at 76.5 degrees and of axle 2, 3 and 4 at 60.0 degrees. See Figure 3.

The following applies;

A	= 132.7 cm² or 0.01327 m²
M.A.	= 1.776
F_L	= 60 tonnes (m) or 588,000 Newton (F_L) following F_L=m*g
α_1	= 76.5 degree
$\alpha_2 - \alpha_4$	= 60.0 degree

$$p = \frac{F_L * M.A.}{A * (\sin\alpha_1 + \sin\alpha_2 + \sin\alpha_3 + \sin\alpha_4)}$$

$$= \frac{588{,}000 * 1.776}{0.01327 * (\sin 76.5 + 3 * \sin 60.0)}$$

$p = 22{,}040{,}775$ Pa = 220 bar

The force on each cylinder F_{cyl} can now be determined with Formula 2;

$F_{cyl} = p * A = 22{,}040{,}775 * 0.01327 =$
$292{,}481$ N = 292 kN

The load of each axle onto the ground becomes now;

$$F_{axle\text{-}1} = \frac{p * A * \sin\alpha_1}{M.A.} = \frac{22{,}040{,}775 * 0.01327 * \sin 76.5}{1.776} =$$

$160{,}135$ N = 160.1 kN

Following $F_{axle\text{-}1}$=m*g this equals 16.34 tonne

$$F_{axle\text{-}2,3,4} = \frac{p * A * \sin\alpha_2}{M.A.} = \frac{22{,}040{,}775 * 0.01327 * \sin 60.0}{1.776} =$$

$142{,}621$ N = 142.6 kN

Following $F_{axle\text{-}2,3,4}$= m * g this equals 14.55 tonnes

Check the math, to make sure no mistakes have slipped in.

$F_{axle\text{-}tot} = F_{axle\text{-}1} + F_{axle\text{-}2} + F_{axle\text{-}3} + F_{axle\text{-}4} =$
$160.1 + 3 * 142.6 = 587.9$ kN

Following $F_{axle\text{-}tot}$ = m * g this equals 60 tonnes

$F_{axle\text{-}1}$	= 16.34 tonnes	(76.5 degrees)
$F_{axle\text{-}2}$	= 14.55 tonnes	(60.0 degrees)
$F_{axle\text{-}3}$	= 14.55 tonnes	(60.0 degrees)
$F_{axle\text{-}4}$	= 14.55 tonnes	(60.0 degrees)
$F_{axle\text{-}tot}$	= 60.00 tonnes	

Axle-1 carries 8.9 % more load than what was expected when the load (FL) would be equally shared between the four axles.

CASE 4

The last exercise of this article is to determine the effect on axle loads if there are 8 axles in a hydraulic group or pool. This simulates a common 12-axle line transporter in a 3-point suspension set-up where each group consists of eight axles. Obviously we have to increase the load (F_L) from 60 tonnes to 120 tonnes. Figure 4 shows such a 12-axle line combination crossing a short span bridge using bridge jumper beams. It can be clearly seen that six of the 12 axles are close to their minimum stroke, the remainder of the axles are approximately at mid stroke. For the below calculation we assume that only one axle is at minimum stroke.

The following applies;

A	= 132.7 cm² or 0.01327 m²
M.A.	= 1.776
F_L	= 120 tonnes (m) or 1,176,000 Newton (F_L) following F_L=m*g

α_1 = 76.5 degree
$\alpha_2 - \alpha_4$ = 60.0 degree

$$p = \frac{F_L * M.A.}{A * (\sin\alpha_1 + \sin\alpha_2 \ldots + \sin\alpha_7 + \sin\alpha_8)}$$

$$= \frac{1{,}176{,}000 * 1.776}{0.01327 * (\sin 76.5 + 7 * \sin 60.0)}$$

$p = 22{,}373{,}976$ Pa = 224 bar

The force on each cylinder F_{cyl} can now be determined with Formula 2;

$F_{cyl} = p * A = 22{,}373{,}976 * 0.01327 =$
$296{,}902$ N = 297 kN

The load of each axle onto the ground becomes now;

$$F_{axle\text{-}1} = \frac{p * A * \sin\alpha_1}{M.A.} =$$

$$\frac{22{,}373{,}976 * 0.01327 * \sin 76.5}{1.776} =$$

162,556 N = 162.6 kN

Following $F_{axle\text{-}1}$ = m * g this equals 16.59 tonnes

$$F_{axle\text{-}2,3,4,5,6,7,8} = \frac{p * A * \sin\alpha_2}{M.A.} =$$

$$\frac{22{,}373{,}976 * 0.01327 * \sin 60.0}{1.776} =$$

144,778 N = 144.8 kN

Following $F_{axle\text{-}2,3,4,5,6,7,8}$=m*g this equals 14.77 tonnes

Check the math, to make sure no mistakes have slipped in.

$F_{axle\text{-}tot} = F_{axle\text{-}1} + F_{axle\text{-}2} + \ldots + F_{axle\text{-}7} + F_{axle\text{-}8} =$
162.6 + 7 * 144.8 = 1,176.2 kN

Following $F_{axle\text{-}tot}$=m*g this equals 120 tonnes

$F_{axle\text{-}1}$	= 16.59 tonnes	(76.5 degrees)
$F_{axle\text{-}2}$	= 14.77 tonnes	(60.0 degrees)
$F_{axle\text{-}3}$	= 14.77 tonnes	(60.0 degrees)
$F_{axle\text{-}4}$	= 14.77 tonnes	(60.0 degrees)
$F_{axle\text{-}5}$	= 14.77 tonnes	(60.0 degrees)
$F_{axle\text{-}6}$	= 14.77 tonnes	(60.0 degrees)
$F_{axle\text{-}7}$	= 14.77 tonnes	(60.0 degrees)
$F_{axle\text{-}8}$	= 14.77 tonnes	(60.0 degrees)
$F_{axle\text{-}tot}$	= 120.00 tonnes	

Note that the axle geometry in this article as well as in last month's article was arbitrarily chosen. To perform the calculations as shown in this article, the correct dimensions and angles have to be determined, these can differ per brand and per model.

From these four case studies we can draw a few important conclusions;

- Axles of which the hydraulic cylinders are at the same angle α carry the same load
- Axles closest to 90 degrees, compared to the other axles in the same group, carry the highest load
- Multiple axles closest to 90 degrees share the highest load, the highest load per axle then becomes less.

WHO SHOULD ATTEND? Owners, Safety Managers, Permit Officials, Sales Managers, Drivers

FEBRUARY 14-17
Hilton Orlando Lake Buena Vista
Orlando, FL

Specialized Transportation Symposium

SC&RA Specialized Carriers & Rigging Association

Join us to interact with more than 35+ state DOT permit officials, network with your peers and learn from industry experts.

TOPICS INCLUDE:

- CSA scores, ELD's and compliance issues
- Federal issues impacting specialized transportation
- Preventing against fines and litigation
- Tips and best practices for obtaining permits and navigating the various state/local rules on permitting

Register online at www.scranet.org/ events

EXHIBIT CENTER—February 16!

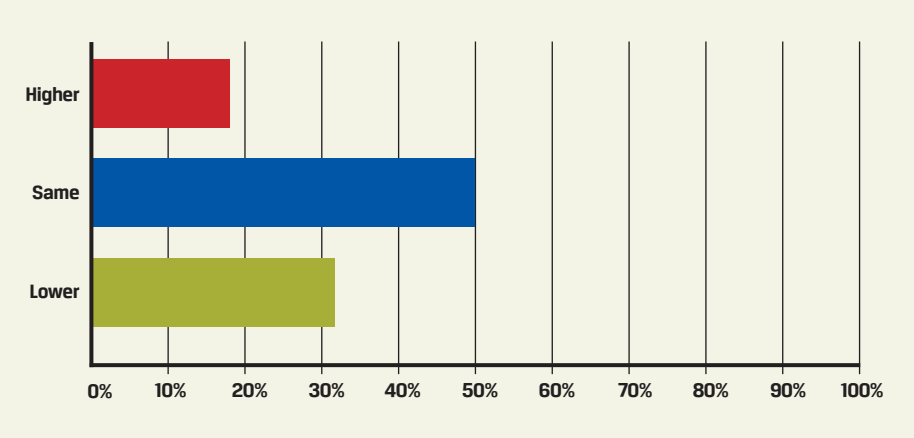
Reserve today! Call 703.698.0291

www.sistemvinc.com
sistem
sistem
sistem
heavy haulage & crane rental
Heaviest
Furthest
Highest
SİSTEM ULUS. TAŞ. DIŞ TİC. LTD. ŞTİ.
Tel: +90 262 644 31 25 (pbx)
Fax: +90 262 644 31 26
www.sistemvinc.com
sistem@sistemvinc.com

Stability for 2017

The annual *IC* crane rental confidence survey aims to provide a clear picture of the global crane rental market as well as gauging what the future may bring. *IC* reports

WHAT WILL BE THE LEVEL OF CAPITAL EXPENDITURE ON YOUR FLEET NEXT YEAR (2017) COMPARED TO THIS YEAR?



Nearly half (47 per cent) of respondents in this year's crane rental confidence survey said that business conditions in their area of the crane rental market were stable, with the remaining respondents equally split between improving and deteriorating (27 %).

Business activity around the world is improving. Just over 40 % of respondents claimed that business activity in 2016 was better than in 2015, while 36 % felt that activity had been stable over this period. In some areas, however, of the Asia Pacific, South America, Europe and the CIS regions, 24 % reported that business had deteriorated.

Looking forward to 2017, 32 % said that they thought business levels would improve while the majority thought levels would remain stable.

Following a downturn from last year's survey, 32 % of respondents claimed that they would be reducing their levels of capital expenditure for 2017 compared to just 14 % from last year. These responses came from companies mainly in the Asia Pacific and Central/South America regions. Almost half, however, of all respondents said that capital expenditure would remain the same, with the majority of those choosing this bracket based in Europe and North America.

Over the last twelve months, there has been some major fleet expansion. USA-based Maxim Crane Works continued its steady expansion by acquiring the core fleet of crawler cranes from Essex Crane Rental Corp. In addition, the company acquired branch facilities across several states in the USA.

Bryan Carlisle, CEO at Maxim Crane Works, said, "Maxim Crane is committed to strengthening its position as a true coast-to-coast lifting solutions provider to all of our customers. These new locations enable Maxim to offer full service operations in areas that we have previously covered on a project basis."

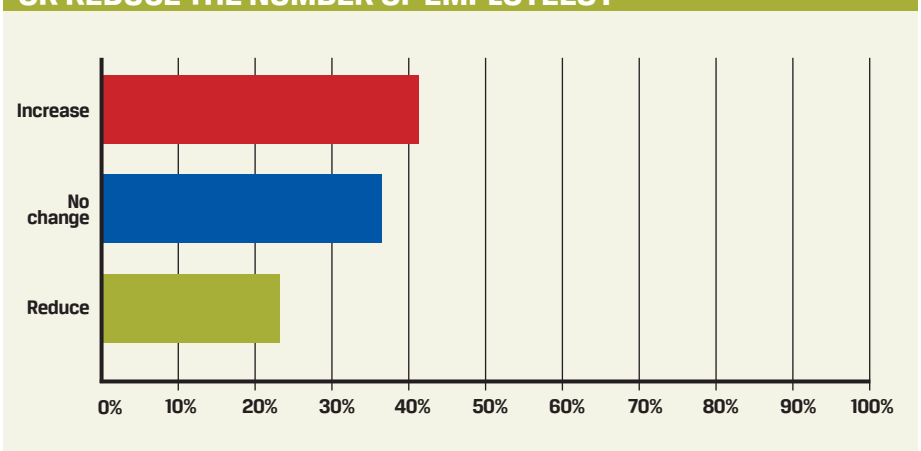
The company has also completed the merger of AmQuip Crane Rental and its affiliated companies. Maxim now has 46 branches and more than 2,500 cranes.

Most recently, Middle East logistics provider Integrated Logistics based in Ahmadi, Kuwait, took delivery of a new Demag CC 3800-1 crawler crane, 20 Terex AC 100/4L all terrains and 10 Terex Explorer 5600 all terrains. The new cranes will join a fleet of more than 2,000 machines to be used throughout the Middle East and North Africa.

India saw fleet expansions too with Mumbai-based crane rental company Amrik Singh & Sons, who took delivery of a new 650 tonne Sany crawler crane on show at Bauma, China last year. Between June and November of 2016, the company received four 650 tonners and will be taking delivery of another later this month. All the cranes are working on or destined for wind turbine erection projects in India.

For fleet expansion and investment, this was a positive area of the survey with almost 41 % of companies claiming they would be increasing the number of their employees. While 36.4 % would be staying the same. Although, for several companies (23 %) in Central/South America and in the Asia Pacific, there was a forecast of employee numbers decreasing in 2017.

IN THE NEXT YEAR, WILL YOUR COMPANY INCREASE OR REDUCE THE NUMBER OF EMPLOYEES?



Rental rate changes

Nearly 16 % said that changes in rental rates for 50 tonne capacity wheeled mobile cranes had increased over the past 12 months, while 68 % said it remained the same and nearly 16 % said it was lower.

Almost 12 % said that rental rates for 100 tonne capacity wheeled mobile cranes were higher over the past 12 months, while 65 % said they were the same and 23.5 % said it was lower. Around 6 % said that the rental rate for 150 tonne capacity wheeled mobile cranes had increased over the past 12 months, while most »

respondents said that it would remain the same (70.6 %) with 24 % saying it was lower. Just over 13 % said that the rate for 70 tonne capacity crawler cranes had increased over the past 12 months, while 60 % said it remained the same and 27 % said it was lower.

In the 150 tonne capacity crawler crane segment 14 % said that rental rates had increased over the last 12 months, while half said rates remained the same and nearly 36 % said it was lower.

Nearly half of the respondents (49 %) said that rental rates for 100 tonne-metre tower cranes had increased over the past 12 months, 39 % said it was the same and 12 % reported it as being lower.

For 300 tonne-metre class tower cranes 40 % said that rental rates had increased, while 46 % said the rate had remained the same and 14 % said it was lower.

Rental rate forecast

Only 11 % of respondents forecast that rental rates for 50 tonne capacity wheeled mobile cranes over the next 12 months would increase, while 83 % said they would stay the same and 6 % said they would be lower.

Around 19 % forecast that rental rates for 100 tonne capacity wheeled mobile cranes over the next 12 months would increase, while 75 % said they would stay the same and 16 % said they would be lower.

Nearly 18 % forecast that rental rates for 150 tonne capacity wheeled mobile cranes over the next 12 months would increase, 76 % would remain the same while 6 % said they would be lower.

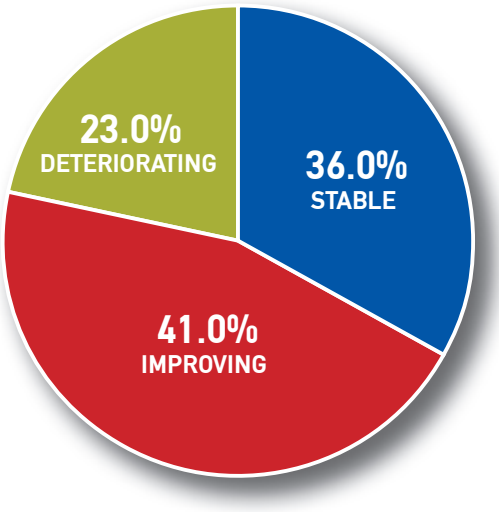
A total of 27 % forecast that rental rates for 70 tonne capacity crawler cranes over the next 12 months would increase, while 53 % said they would remain the same and 20 % said they would be lower.

Around 29 % forecast that rental rates for 150 tonne capacity crawler cranes over the next 12 months would increase, while half said they would stay the same and 21 % said they would be lower.

Similarly, 29 % forecast that rental rates for 100 tonne-metre tower cranes would increase over the next 12 months, while 69 % expect rates to stay the same and 2 % believe they will be lower.

Close to 28 % forecast that rental rates for 300 tonne-metre tower cranes would increase over the next 12 months, while 71 % said rates would stay the same and only just over 1 % said rates would be lower.

HOW DID YOUR BUSINESS ACTIVITY IN 2016 COMPARE TO 2015?



Fleet time utilisation

Overall, only 18 % of respondents said that they felt that fleet time utilisation was improving, while 55 % said it was stable and 27 % said it was deteriorating.

Looking at the next 12 months, 22 % of respondents felt that utilisation rates for 50 tonne capacity wheeled mobile cranes would increase, while just over 60 % said they would stay the same and 17 % expected that they would be lower.

For 100 tonne capacity wheeled mobile cranes, nearly 12 % said that utilisation rates would increase, while more than 60 % said they would stay the same and nearly a quarter said they would be lower.

For 150 tonne capacity wheeled mobile cranes, nearly 20 % said that utilisation rates would increase, while 65 % said they would stay the same and nearly 18 % said they would be lower.

For 70 tonne capacity wheeled crawler cranes, 20 % of respondents said that utilisation rates would increase, while 53 % said they would stay the same and 27 % said they would be lower.

For 150 tonne capacity crawler cranes, 15 % said that utilisation rates would increase, while just over 60 % said they would stay the same and 23 % said they would be lower.

For 100 tonne-metre tower cranes, 15 % said that utilisation rates would increase, while 71 % said they would remain the same and more than 13 % said they would be lower.

For 300 tonne-metre tower cranes, 14 % of respondents said that utilisation rates would increase, while nearly 60 % said they expected them to remain the same and 29 % said they will be lower.

INDUSTRIE COMETTO
building for the heaviest duties

MODULAR TRAILERS AND SELF-PROPELLED VEHICLES

INDUSTRIE COMETTO S.p.A. 12011 Borgo San Dalmazzo CUNEO (Italy) - Tel. +39 0171 263300
cometto@cometto.com
www.cometto.com

ESTA AWARDS OF EXCELLENCE

6 April 2017

Amsterdam, The Netherlands

THURSDAY, 6 APRIL 2017

GRAND HOTEL KRASNAPOLSKY, AMSTERDAM, NETHERLANDS

Celebrate the very best in Europe's crane and heavy transport industry

(and have a great evening out as well)

PLEASE BOOK EARLY TO AVOID DISAPPOINTMENT

For further details, go to www.estaeurope.eu or www.khl.com/esta

Europe's premier crane and transport awards evening, created and organised jointly by ESTA and *International Cranes and Specialized Transport*.

EUROPEAN ASSOCIATION OF ABNORMAL ROAD TRANSPORT AND MOBILE CRANES
SINCE 1976
ESTA

INTERNATIONAL CRANES AND SPECIALIZED TRANSPORT

Gold sponsors

LIEBHERR, SCHEUERLE, NICOLAS, KAMAG, TRATEC

Silver sponsors

Goldhofer, KOBELCO

Silver & hospitality sponsor

DEMAG A TEREX BRAND, TEREX

Supporting sponsors

FAYMONVILLE, Köhler, Modulift

INTERNATIONAL CRANES & TRANSPORT MIDDLE EAST CONFERENCE

CONRAD DUBAI, DUBAI, UAE 8 DECEMBER 2016

THANK YOU

TO OUR SPONSORS, SPEAKERS & ATTENDEES

Gold sponsor

JASD

Gold sponsor

WOLFFKRAN

Supporting associations

ESTA LEEA PROJECT CARGO NETWORK SCRA Specialized Carriers & Rigging Association

Supporting publications

ACT Arab Construction World international construction

Supporting sponsors

BLOKCAM Manitowoc Modulift nft RITCHIE BROS. Auctioneers SENNEBOGEN TADANO TECHNIK-LIFTING

Created and organised by

INTERNATIONAL CRANES AND SPECIALIZED TRANSPORT khl

www.khl.com/catme

Friend or foe

With 2017 coming into focus, new trends and strategies across enterprise logistics operations, combined with a new generation of logistics technology, will change the way leading companies pursue supply-chain management.

As Dan Gilmore of McHugh Software recently pointed out in a piece for *Supply Chain Market*, logistics professionals have a powerful array of new digital logistics weapons that can be strategically deployed to unlock significant value and create customer-focused systems that build long-term competitive advantages.

Companies that recognise this changing landscape and invest prudently in process change and supporting digital logistics technologies will reap vast benefits. Hesitators may find themselves at a competitive disadvantage in the next two or three years.

Global transportation and logistics (T&L) faces "dramatic realignment" from technology, customer expectation and collaborative operating models, says Dale Benton at *Supply Chain Digital*.

All of this speaks to shifting patterns. A recent report compiled by PwC said that 90 percent of T&L companies see data and analytics as the key drivers in redefining the industry over the next five years. Supporting this are numbers: 50 % of companies acknowledge that the absence of a digital culture in their own organisation is the biggest challenge they face.

Whether our industry realises it or not, we should all be aware that, in the last five years, nearly US$200 million was invested in digital logistics alone. PwC UK partner and head of transport, Coolin Desai, said, "Technology is changing the face of the industry and for T&L companies, wherever they might be, digital fitness and clear market focus will be essential prerequisites for success.

"It is important that companies remain alert to how new technologies, from data analytics to automation and platform solutions, are transforming the wider markets," he added. "In this market, early adopters may win early advantages."

Gilmore pointed out that digital logistics is different from traditional logistics in that the former:

- recognises the growing convergence of logistics operation and technology strategy, and
- is driven by a new generation of web-based, enterprise logistics applications that enable collaboration and optimisation, leveraging a central logistics information backbone that provides visibility across the enterprise and extended supply chain.

Tight integration

These new enterprise and supply chain logistics applications are tightly integrated with core warehouse, transportation and labour management systems to enable new process models and ensure fulfilment excellence. With these notations in mind, Gilmore emphasised that digital logistics breaks down operational silos. It impacts not only the cost side of the value equation but also fuels growth through the ability to deliver personalised, customer-focused logistics, with faster cycle times and exceptional customer satisfaction.

"We are entering a period of dynamic and fundamental change to logistics operations and strategy," Gilmore said. "While the 1990s saw rapid advances in the logistics competencies of most companies, a number of forces, especially the communication and collaboration potential of the internet, are dramatically changing the way companies craft logistics strategies, processes and systems. As a result, companies embracing this new paradigm will be able to strip out millions of dollars of operating costs, achieve better supply chain integration and increase market power through customer-focused fulfilment."

Gilmore is describing an era where the internet is ushering in a new age of tremendous increases in supply chain velocity and cost reduction by information sharing and logistics synchronisation between trading partners and service providers. "The logistics opportunities created are driving a market transformation from traditional logistics concepts to a new era of digital logistics," he stressed.

Ask yourself: where is your T&L – and is it contributing to your success or your stagnation? ■

SC&RA LEADERSHIP

SPECIALIZED CARRIERS & RIGGING ASSOCIATION

CHAIRMAN
Bruce Forster
Rigging Gear Sales
Dixon, Illinois, USA

PRESIDENT
John McTyre
McTyre Trucking
Orlando, Florida, USA

VICE PRESIDENT
Terry Young
Construction Safety Experts
Cary, North Carolina, USA

TREASURER
Delynn Burkhalter
Burkhalter
Columbus, Mississippi, USA

ASSISTANT TREASURER
Gary Stang
Anderson Trucking Service
St. Cloud, Minnesota, USA

ALLIED INDUSTRIES GROUP CHAIRMAN
Ben Forster
Riggers Manufacturing,
Dixon, Illinois, USA

CRANE & RIGGING GROUP CHAIRMAN
Ted Redmond, NCSG Crane & Heavy Haul, Edmonton, Alberta, Canada

TRANSPORTATION GROUP CHAIRMAN
J. Rozum, MSA Delivery Service, Canton, Michigan, USA

LADIES GROUP CHAIRWOMAN
Jeannie Montgomery
Intermountain Rigging & Heavy Haul, Salt Lake City, Utah, USA

SC&R FOUNDATION OFFICERS

PRESIDENT
Stephanie Bragg
Bragg Companies,
Newport Beach, California, USA

VICE PRESIDENT
Jim Sever
PSC Crane & Rigging,
Piqua, Ohio, USA

TREASURER
Geoff Davis
Unified Logistics Operating Group, Bethesda, Maryland, USA

EXECUTIVE VICE PRESIDENT
JOEL DANDREA
5870 Trinity Parkway
Suite 200
Centreville, VA 20120, USA
Ph: +1 703-698-0291
Fax: +1 703-698-0297

Of the many operational differences specialized transportation companies share around the world, those involving pilot cars rank near the top. MIKE CHALMERS reports

A steer on pilot cars

It seems that each country or region has its own rules and regulations on pilot cars. Ultimately, this is their "own way of doing things" – and within that notion, are companies' efforts to negotiate an often-labyrinthine system of dos and don'ts. This isn't always popular within the industry, as one can imagine and, regardless of the country or the project, the pilot car issue is not one typically lacking in opinion or insight.

"In the US, the attitude of the specialized transportation carrier towards the pilot industry in general is a mixed bag," said Steven Todd, SC&RA vice president of transportation. "There certainly is the understanding among many carriers that pilots can and are helpful towards moving – particularly the larger loads – safely and efficiently, but there are a few pockets in our industry that view pilots as no more than a burdensome permit requirement – to be relegated to the back of the line ... so as not to disrupt the movement of the load."

Todd acknowledges that many US states severely limit, in writing and statute, the amount of responsibility given to pilot cars. In addition, he sees "private versus police" escorts as an emerging point of discussion among transportation companies around the world, including the USA.

"Pennsylvania [USA] recently went out on a limb and passed regulation where they've effectively replaced what used to be mandatory police escorts of large loads with mandatory private escorts," Todd noted. "This has caused a stir in the industry, and with some of our members – many of whom prefer the police even though they're more expensive."

In New Zealand

Jonathan Bhana-Thomson, New Zealand Heavy Haulage Association chief executive, describes a different approach in his country. "In New Zealand [NZ], we have had solely private escorts since the 1990s. Licensing and training is now undertaken by an agency of government, with the Association having input into the standards for training. This has been highly successful from a safety and productivity perspective, although we are always looking at ways to enhance the signage and warning techniques that our pilots utilise."

Load pilots in NZ, a nation that Todd considers one of the most advanced in terms of pilot utilisation, are given full responsibility for traffic control on all sizes of loads transported. "They have the obligation to provide sufficient warning to on-coming traffic," added Bhana-Thomson, "and it's a legal requirement for other road users to obey a pilot using a Stop paddle."

Indeed, things are done a little differently in NZ, where pilot cars boast amber lights up to 5 metres in width, and then purple and amber lights for anything wider. "The purple is meant to signify a wide load," Bhana-Thomson explained. "However, I believe that NZ is one of the few countries around the world that utilise this colour, and this means that we have to get purple lights and LEDs manufactured for use in NZ. We are considering promoting a change to this."

In NZ, pilot car requirements kick in from 3.1 m in width, and then two pilots from 4.5m – although some longer loads comprise two pilots, according to Bhana-Thomson. "And three pilots (two front, one rear) are mandatory from 5 m in width. But no particular requirements for piloting for height."

Ultimately, load pilots are a part of the everyday oversize freight business in NZ. "Their presence on the road is to be expected under legal requirements, and everyday road users are used to seeing them on NZ's

roads," he said. "While the response from the public is reasonable, at times pilots can struggle to get recognition and response from road users that have not seen pilots performing their role. We believe that there is more that government agencies can do to promote the role of load pilots, and what other road users are expected to do."

Bhana-Thomson knows that nothing is ever perfect. "The NZ Heavy Haulage Association sees our role as promoting load pilots, and enhancing the mechanics of piloting," he affirmed. "To that end, in the recently conducted government review of all the rules regarding the transport and piloting of oversize loads in NZ, we promoted the following: enhanced training for entry-level pilots after they have completed a year's experience; more stringent rules in regards to experience criteria for entry to the higher grade of piloting; standardised training for the higher grades of pilot; new signage wording, colour style and sign types (changeable LED); and more distinctive pilot vehicle marking schemes."

Bhana-Thomson believes NZ has a pretty good handle on the requirements for pilot vehicles and their drivers. "But there are always improvements that can be made. We believe that governmental promotion of the role of load pilots should be undertaken – to continue to make the public aware of what a pilot vehicle looks like, and to continuously promote responsible behaviour by other road users."

In South America

Sindipesa's (Brazil) executive vice president, Joao Batista Dominici sees room for improvement with pilot cars in his country. "We have regulation of escort services for the whole country, dictated by the Federal Highway Police," he said, "It is quite comprehensive in setting requirements for the vehicles and for the drivers – in regards to the inspection and penalties in case of noncompliance. But the challenge now is to strengthen companies, including financially, so that legislation can be enforced, and we can be safer in handling oversized cargoes throughout our large country."

Dominici admits that this facet of the transportation industry in Brazil suffers serious problems both with police and civilian escorts. "With police escorts, the main problem is the huge delay to schedule the service, due to the lack of sufficient police contingent. With the civil escort, the problem is the excess of regulation, deficiencies in the qualification and certification of drivers and the standard of vehicles used, as well as low payment for drivers."

Sindipesa is actively engaged in seeking to maximise the importance of the pilot car "reality" in Brazil, but Dominici understands it will be an uphill battle. "Respecting all aspects related to safety, we consider pilot car service to be extremely important for the strengthening of the OS/OW industry in Brazil – especially as we realise that the lack of interest from police only grows. We have no alternative but to advocate for private pilot car services as a company, and raise the standard within this part of the industry accordingly."

In the United Kingdom

England has its own pilot car issues, says David Collett, managing director at United Kingdom-based specialized transport operator Collett & Sons Ltd. Admitting that his insights can't be applied to the whole of Europe – as it is vastly diverse, with differing requirements in every country – he does explain that his country currently operates a pilot car "Code of Practice" designed by the "Highways England" authority.

"The police advocate this COP and allow self-escort up to a certain dimension with pilot cars that comply with the COP document," Collett explained. "After that, they decide autonomously, between one county to another, if they want to apply escort vehicles, and if so, how much they want to charge."

Scotland, Collett points out, is also going through some issues regarding pilots. "They're undergoing some major reforms with regards to the police escorting criteria, which is now perceived to be 'going backwards' rather than improving and looking forwards."

Off-Highway Research

The Global Mobile Crane Industry

NOW AVAILABLE

New Multi-Client Study

FEATURES

- Unique new study of the US$ 9 billion per year industry
- Five-year forecasts
- All-Terrain, Crawler, Rough-Terrain and Truck-Mounted Cranes
- Global sales and production data
- Analysis of key regions

BENEFITS

- Help plan your sales and marketing strategy
- Identify opportunities for machine sales, component supply and crane accessories
- Gain fresh insight into the global industry

FOR MORE INFORMATION, VISIT:

www.offhighway.co.uk

Dana nears start of RT crane axle production

Dana Spicer 246 steering axle for rough terrain cranes

Updates have been announced for Dana's new series of Spicer axles for rough terrain cranes. The new planetary rigid steering axles cover vehicles with lift capacities from 30 to 110 tonnes and are part of Dana's complete drivetrain system for RT cranes.

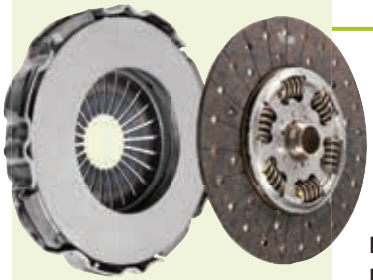
Production of the first of these models – the Spicer 246 – begins in the first quarter of 2017, with 245 and 247 models to follow soon after.

The axles were developed at the Dana China Technical Center with engineering support from Dana's other global technology centres. They will be manufactured by Dana in Wuxi, Jiangsu Province, China.

The new axles are designed to accommodate the company's optional Spicer Smart Suite technology, a platform of integrated, connected-vehicle features that convert operating data from the drivetrain into actionable insights, the company said. Machine-learning algorithms are built into the software to optimise productivity by measuring performance, forecasting maintenance issues, and enabling capabilities such as load monitoring.

For more information see: www.dana.com

CV CLUTCH WARRANTY



Valeo Service in the United Kingdom has a new warranty scheme for its commercial vehicle clutch products. The programme now includes a two year warranty extending to all European countries. There is no limit on mileage.

In 2016 Valeo expanded its Euro 6 clutch range, which now comprises 47 references covering 793 applications, including Iveco Eurocargo, Stralis, and Trakker; MAN TGS, TGX; Mercedes-Benz Actros, Antos, Arocs and Atego; Renault Trucks C, D; Scania G, P, R; and, Volvo Trucks FE and FL.

The range includes complete kits and single components, for example, cover assemblies, driven plates, release bearings, plus new and remanufactured parts with product sizes from 267 to 430 mm.

For more information see: www.valeoservice.co.uk

Clean, safe and hygienic handling

Materials handling specialist J D Neuhaus (JDN) has introduced a range of hoist solutions for working environments that demand high levels of cleanliness and hygiene. Food, beverage, pharmaceutical and chemical industries, among others, must all conform to strict regulations when it comes to clean working practices.

JDN has developed a nickel-plated hoist designed for clean operating environments. This hygienic hoist can be configured in the standard Profi TI series for 0.5 to 1 tonne capacity, or as a big bag handling unit and low headroom trolley hoist for 1 tonne loads. All have outer surfaces plated in 25 micron thick nickel.

Where Profi hoists are required to run on overhead rails, manually operated and motorised trolleys can be provided with nickel-plating features on the gearbox, motor and body.

JDN Profi hoists offer a number of standard features for applications such as commercial kitchens. These include high corrosion and humidity resistance, ease-of-cleaning and suitability for lube-free operation. JDN also has stainless steel options.

The nickel-plated big bag handling air hoist is part of a range of products designed for applications that need to process powdered, granulated or other free-flowing materials which need regular, high volume top-ups to maintain production. These hoists are suitable for handling food products such as salt, sugar, flour and starch, as well as chemicals and pharmaceuticals. All these air operated units offer explosion protection for safe operation when used in potentially explosive environments.

Big bag handling air hoists are available to carry 1,100 and 2,200 kilogrammes at 6 bar air pressure. They can be supplied in two configurations of single or twin lift load hooks. The single hook unit is designed for operation with a standard cruciform lifting beam.

For more information see: www.jdngroup.com

MORE INVERTERS FROM ABM

ABM Greiffenberger Antriebstechnik now offers the Inveor inverter platform with a modular motor design. All ABM motors – both asynchronous and Sinochron – are adapted to the inverter, conserving energy and reducing cost.

ABM offers its Medium-Line Inveor Alpha inverters in outputs from 0.25 to 0.75 kilowatt. The Premium-Line is available with an output range of 0.37 to 22 kW.

Users receive information about the operating state on a handheld control unit. This is to allow quick and easy start up and to help reduce cost.

The Inveor has a die-cast housing and can be installed as an integrated unit with the motor or separately. It is designed to resist high temperature and vibration for trouble-free operation even under harsh conditions.

For more information see: www.abm-antriebe.de

EVENTS DIARY

LIFT & MOVE USA
14 February 2017
All Construction,
Tampa, Florida
www.liftandmoveusa.com

SC&RA SPECIALIZED TRANSPORTATION SYMPOSIUM
14 to 17 February 2017
Florida, USA
www.scranet.org

CONEXPO-CON/AGG 2017
7 to 11 March 2017
Las Vegas, USA
www.conexpoconagg.com

ESTA AWARDS OF EXCELLENCE
6 April 2017
Amsterdam, Netherlands
www.khl.com/esta

SC&RA ANNUAL CONFERENCE
18 to 22 April 2017
Arizona, USA
www.scranet.org

AWRF SPRING CONFERENCE
23 to 26 April 2017
Georgia, USA
www.awrf.org

SMOPYC 2017
25 to 29 April 2017
Zaragoza, Spain
www.smopyc.es

LIFT & MOVE USA
3 May 2017
Lifting Gear Hire,
Chicago, Illinois
www.liftandmoveusa.com

INTERNATIONAL TOWER CRANE (ITC) CONFERENCE
10 and 11 May 2017
London, UK
www.khl.com/itc

PLANTWORX 2017
6 to 8 June 2017
Bruntingthorpe, UK
www.plantworx.co.uk

LIFT & MOVE USA
14 September 2017
Buchanan Hauling,
Fort Wayne, Indiana
www.liftandmoveusa.com

SC&RA CRANE & RIGGING WORKSHOP
20 to 23 September 2017
Missouri, USA
www.scranet.org

LIFT & MOVE USA
15 November 2017
Berard Transportation
& Deep South Crane,
Baton Rouge, Louisiana
www.liftandmoveusa.com

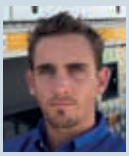
PICTURE OF THE MONTH

Work on the famous Sagrada Familia church in Barcelona, Spain, began in 1882, and is still continuing. The famous architect Antoni Gaudi became involved in 1883 and he died in 1926. With the final phase now underway, completion is expected in 2026 – the centenary of Gaudi's death. It is claimed that the completion of the spires will make it the tallest church building in the world. Concrete is this iconic structure's main construction material. Thanks to Sandy Guthrie for sending in this month's photo.

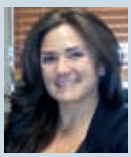
PEOPLE NEWS

■ Goldhofer in Germany and its CEO **STEFAN FUCHS** have parted company. Fuchs has been a member of the Board at the specialized transport equipment manufacturer since 2000 and CEO since 2003. For the time being, the company's business will be handled by the other two board members, Hubert Schaller and Franz Bilmayer.

■ **ANDREW WINTER** has been appointed operations director – heavy cranes at Ainscough Crane Hire, reporting to chief executive officer, Janet Entwistle. Winter has been in the crane industry all his working life and returned to Ainscough in June 2012.



■ Tadano America has hired **JUSTIN ANDREWS** as the regional business manager for Western Canada. Andrews started his career as a rigger and crane operator for a small family-owned company in Brisbane, Australia. He later went to work for Tadano Oceania as a parts interpreter in Brisbane before being promoted to crane sales for a new Tadano branch in Sydney.



■ Empire Crane Company has promoted **KATIE PHAROAH** to sales manager. Her primary focus will continue to be within the sales department with the added responsibility of managing the sales team and strengthening customer relations. She has worked at Empire since 2007 when she started as a receptionist after receiving her BA in Philosophy. She quickly moved into the sales department where she has continued to increase her responsibilities.

■ **MATT DOBBS** has joined Wolffkran in the USA as vice president. Dobbs has been in the crane industry since 2002 when he started with Linden Comansa tower cranes in the USA. He was then at Terex Cranes for nearly five years before leaving in 2012 to set up Crane Swap. In 2014 he moved to Sany America where he was director of sales.

■ 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.

MARKETPLACE

The Marketplace is divided into easy to read colour coded sections to help you quickly find what you need.

PRODUCTS, PARTS & ACCESSORIES 58

Operational aids, communication systems, components, controls, software, crane mats and outrigger pads, crane repair, hydraulics, jacks, attachments, personnel baskets, rigging hardware, rollers, slings and chains, tires, winches, wire rope, batteries, braking systems, and new, used and refurbished parts.

SAFETY, TRAINING & INDUSTRY SERVICES

Training, insurance, inspections, financing, consulting and safety equipment.

SPECIALIZED TRANSPORT

Transportation permits, freight forwarding, heavy haul, pilot car services, trailers, wheels and tyres.

CRANES AND EQUIPMENT FOR SALE OR RENT 61

Crane, rigging and lifting equipment for sale or rent, new or used.

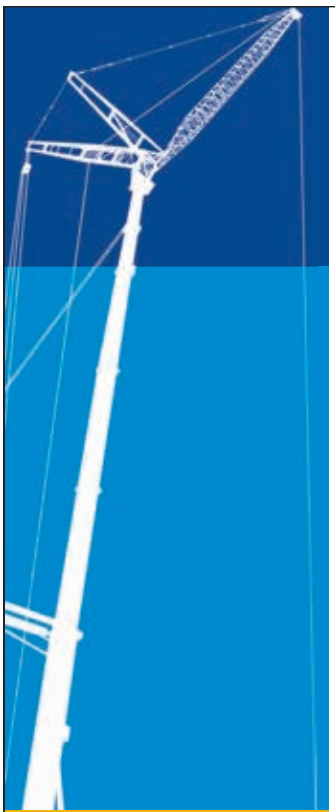
CAREER OPPORTUNITIES

Employee recruitment and job postings.

DEALER LOCATOR - AVAILABLE APRIL 2017

Find a dealer/distributor by using *IC*'s Dealer Locator.

Contact JULIA BOSSIE on: 0044 (0)1892 786204 or e-mail: julia.bossie@khl.com



INTERNATIONAL SALES & BARE RENTAL SOLUTIONS

ALL TERRAIN CRANES

2x	80 t	Grove GMK 4080-1	2013
1x	100 t	Grove GMK 4100L	2012
1x	130 t	Grove GMK 5130-2	2014
1x	170 t	Grove GMK 5170-1	2016
1x	200 t	Liebherr LTM 1200-5.1	2009
1x	220 t	Tadano ATF 220G-5	2012
1x	250 t	Liebherr LTM 1250-5.1	NEW!
1x	300 t	Liebherr LTM 1300-6.2	2014
1x	300 t	Liebherr LTM 1300-6.2	2015
1x	350 t	Demag AC 350-6	2010

CRAWLER CRANES

1x	250 t	Kobelco CKE 2500-2	2008
2x	250 t	Kobelco CKE 2500-2	2010
1x	400 t	Liebherr LR 1400-2	2002
1x	400 t	Demag CC 2400 SL	2009
1x	500 t	Liebherr LR 1500	NEW!
1x	600 t	Liebherr LR 1600-2	NEW!
1x	650 t	Demag CC 3800 SL	NEW!
1x	650 t	Demag CC 3800 SL	2013
1x	1250 t	Demag CC 6800 SL	2014

ROUGH TERRAIN CRANES

1x	40 t	Grove RT 540E	2011
2x	55 t	Terex RT 555	NEW!
2x	55 t	Tadano GR 550XL-2	2013
1x	65 t	Grove RT 765E	NEW!
4x	75 t	Tadano GR 750XL-2	2013
2x	80 t	Terex RT 780	NEW!
1x	90 t	Grove RT 890E	2012
4x	100 t	Tadano GR 1000XL-2	2013
1x	110 t	Terex Quadstar 1100	NEW!
1x	160 t	Tadano GR 1600XL-2	2016

TRUCK CRANES

2x 70 t	Grove TMS 700E	2013
2x 80 t	Grove TMS 800E	2013

Galvanistraat 39
NL-3316 GH Dordrecht
The Netherlands
info@hovago.com
+31(0)10 892 04 75

Established in 1946
Member of the ProDelta group
www.hovago.com

HOVAGO 70 YEARS 1946 - 2016
Your global cranes partner

Connected to **Safety**

Quality Products and Services for Lifting and Lashing

- Slings
- Wire Ropes
- Manual Lifting Equipment
- Load Restraint Systems
- Hydraulic Lifting

sales@carlstahl-lifting.com
www.carlstahl-lifting.com

CarlStahl®

VAN DER HILST INTERNATIONAL b.v.
EQUIPMENT, COMPONENTS & PARTS FOR HEAVY EQUIPMENT

Looking for equipment parts?
Try us!
We deliver anywhere in the world for more than 30 years!

Van der Hilst International b.v.
Ampèrestraat 21
8091 XX Wezep
The Netherlands
www.vanderhilstinternational.com

tel. +31-38-376 28 56
Fax +31-38-376 46 65
E-mail info@hilstinter.com

Grove, Manitowoc, Demag, Volvo, Liebherr, Krupp, P&H, Potain, Cummins, Deutz, Allison, Clark

YOUR ULTIMATE ONLINE
CRANE SPARE PARTS
SHOPPING MALL
PARTGLOBAL.com

PARTGLOBAL.COM launched since 2005 with at least 5000 HITS each month

TRUCK CRANE
ROUGH TERRAIN CRANE
CRAWLER CRANE

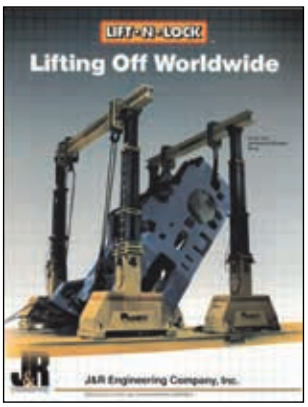
JOIN US NOW!!! TO RECEIVE MONTHLY STOCK UPDATES

NISSAN DIESEL MITSUBISHI KATO KOBELCO SUMITOMO HITACHI TADANO P&H

Email: parts@partglobal.com

BUILDING TOMORROW

MORROW
USA • CANADA • MEXICO • AUSTRALIA • NEW ZEALAND
Morrow Equipment Company, LLC
+1 503.585.5721
www.morrow.com, info@morrow.com



LIFT - N - LOCK®

Lift and move heavy loads safely and conveniently with **J&R** Engineering hydraulic boom gantries as detailed in this brochure. The exclusive ***LIFT-N-LOCK***® feature holds up the load in the event the lift cylinder loses pressure. Other exclusive patented safety feaures include Stabilizer bars, Octagon booms, Load sensing, Digital height indicating system and Oscillating header plates. Field proven models up to 1800 ton capacity and lift heights up to 100 feet. Crawler mounted gantries up to 700 ton capacity and other specialized lifting and transportation equipment available.

Tel: +1 (262) 363-9660
Fax: +1 (262) 363-9620
E-mail: info@jrengco.com
Web Site: www.jrengco.com

CRANE SAFETY INSTRUMENTATION

i 4500 SERIES

FEATURES

- Display sizes of either 4.3 inches, 7 inches or 10 inches
- External or Dash mounting capabilities
- High resolution LCD screen direct sunlight readable
- Flexibility to add inputs and outputs on the CANbus network
- Uploading and downloading information through USB
- Intelligent computing for self-diagnostic detection of system malfunction
- Display rating of IP67
- Integral data logging option
- Outrigger monitoring option
- Range limiting option
- Wind speed option
- External Lightbar option

PROVIDING CRANE LOAD MONITORING SOLUTIONS SINCE 1933. EXPERIENCE YOU CAN RELY ON.

24/7 WORLDWIDE TECHNICAL SUPPORT

www.raycowylie.com | sales@raycowylie.com

United Kingdom	USA	Canada	Colombia	Singapore
Tel: +44(0) 1424 421235	Tel: 1-346-818 8095	Tel: 1+800-563 6137	Tel: (57) 3115970345	Tel: (65) 6908 1127

RaycoWylie SYSTEMS

永茂建机
YONGMAO®

Yongmao Tower Crane – Topless Series - STT2200 – 100ton

YONGMAO MACHINERY CO. LTD.
CHINA FUSHUN OFFICE
T: +86 24 57648899
F: +86 24 57649999
E: sun@yongmao.com.cn

永茂控股

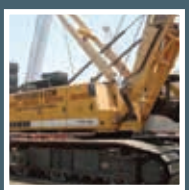
YONGMAO MACHINERY PTE. LTD.
SINGAPORE OFFICE
T: +65 66363456
F: +65 6636 2960
E: sales@yongmao.com.cn

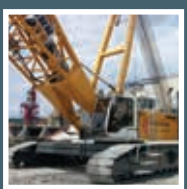
EXPERIENCE OUR QUALITY & SERVICE

FOR MORE DETAIL INFORMATIONS ON OUR PRODUCTS AND SERVICES PLEASE VISIT
www.yongmaoholdings.com/

JRL
LONDON TOWER CRANES
HIRE & SALES
JOST CRANES AUTHORIZED DEALER
YONGMAO
SAEZ CRANES
TEREX | COMEDIL
Worldwide Sales
Nationwide Hire
Spare Parts Supply
Maintenance & Technical Support
ALL CRANES AVAILABLE
Luffing & Saddle Jibs
Jost
Saez
Yongmao
Comedil
4 Elstree Way, Borehamwood, Hertfordshire, WD6 1RN - Tel: 020 8327 4060 - Fax: 020 8236 9391
sales@londontowercranes.co.uk - Web: www.londontowercranes.co.uk - ISO 9001 Registered Company
LTC
PLAN SAFE WORK SAFE

PVE CRANES & SERVICES, WORLDWIDE RENTAL AND SALE OF CRAWLER CRANES
We have a constant stock of 90 cranes ranging from 50 ton up to 1000 ton


LIEBHERR LR1100, 100 Ton Capacity


LIEBHERR LR1300, 300 Ton Capacity

HITACHI SCX 1500-2, 135 Ton Capacity

DEMAG AC200-1, 200 Ton Capacity

LIEBHERR HS 895HD, 200 Ton Capacity

ZOOMLION QUY70, 70 Ton Capacity

Everdenberg 17 • 4902 TT Oosterhout, The Netherlands
T +31 (0)184 425 949 • F +31 (0)184 424 820
info@pvecranes.com • www.pvecranes.com
+ offices in: Dubai - Jacksonville - Singapore
CHECK OUR NEW WEBSITE

KTR CRANES
Repair Parts Rental

Faun
ATF65G-4 2010
ATF100 1999

Liebherr
LTF1035-3.1 2009
LTM1060-3.1 2013
LTM1070 1992
LTM1070-4.1 2006
LTM1090 1991
LTM1070-4.1 2011
LTM1095-5.1 2006
LTM1100-5.2 2012
LTM1100-4.2 2013
LTM1130-5.1 2013
LTM1200-5.1 2007
LTM1250-6.1 2006
LTM1500-8.1 2014
LTM1750-9.1 2013
MK88 2009

Grove
GMK3055 2006
GMK3055 2011
GMK4080 2009
GMK4080-1 2011
GMK4100 2008 2 winches Hydr Jib
GMK4100L 2013
GMK5130 2012
GMK5130 2014
GMK5170 2015
GMK5220 2013
GMK5250 2015
GMK6300L 2012
GMK6400 2013

Demag
AC50 2008
AC200 2007
AC500-2 2006

PARTS FOR SALE
Liebherr Parts
LTM1090-1100-4.1 Winch 2
LT1120 Jib
LTM1130-5.1 Jib extension
LTM1160-5.1 Jib extension and winch 2
LTM1200-5.1 Jib 22 meter
LTM1160-2 jib inserts
LTM1160-2 Boom

CHECK (KTR CRANES) NEW WORKSHOP ON GOOGLE

Grove GMK4100 - 2008

Liebherr LTM 1200-5.1 - 2007

Contact: A. Hekman
Bedrijvenstraat 4-14283 JH Giessen
T: +31183589554 - E: info@ktrcranes.com
www.ktrcranes.com

TAT HONG

GLOBAL CAPABILITY LOCAL DELIVERY

SERVICES	SALES
CRANE RENTAL	CRAWLER CRANE
HEAVY LIFTING	ROUGH TERRAIN CRANE
OFFSHORE & MARINE	TRUCK CRANE

33 TUAS BAY DRIVE SINGAPORE 637310
thhe@tathong.com.sg / thpl@tathong.com.sg
www.tathong.com

With over 30 years of experience and a crane fleet of over 1000 units deployed globally, make us your one stop lifting solutions provider now !

Sales : David Ng / Rental : Patrick Ng

CALL +65 6269 0022

SINGAPORE . MALAYSIA . THAILAND . VIETNAM . HONG KONG . CHINA . AUSTRALIA . INDONESIA . MYANMAR

IMC INTERNATIONAL MOBILE CRANES

Your partner for used mobile cranes

Tel.: +49 (0)2853 60414 0 Fax: +49 (0)2853 60414 44
Im Heetwinkel 38, D-46514 Schermbeck
Email: mail@imc-cranes.com web: www.imc-cranes.com

Prices on request/ Subjects to changes and prior sale/ Colour variation possible

50 t

Tadano Faun ATF 500G-3, 2010

65 t

2x Tadano Faun ATF 65G-4, 2007 / 2010

80 t

Terex Demag AC 80-2, 2005

100 t

Demag AC 100, 2007

100 t

Liebherr LTM 1100-2, 2002

130 t

Grove GMK 5130-2, 2008

140 t

Terex Demag AC 120-1, 2007

300 t

Terex Demag AC 300 SL, 1999

ALL CRANES

ON OUR WEBSITE

Further cranes / Coming soon

500 t,Terex Demag AC 500 SL, 2011
100 t, Grove GMK 4100L, 2007
95 t, Liebherr LTM 1095-5.1, 2006
90 t, Tadano Faun ATF 90-4, 1994
40 t, Terex Demag AC 40-1, 2009
35 t, 2x Liebherr LTM 1030-2 1998 / 2004
30 t, Terex Demag AC 30, 2006
25 t, Krupp KMK 2025, 1990

Please visit our website to see all cranes and information:
www.imc-cranes.com

M. Stemick GmbH
Kran- u. Baumaschinenhandel

Cranes worldwide

Import - Export

ALL TERRAIN-CRANES

Make / Type		y. o. m.	Drive	Boom / Fly Jib
20 t	Gottwald AMK 31-21	1984	4x4x4	20,50m
25 t	Demag AC 25 City	1998	4x4x4	25,00m + 13,00m
30 t	Grove GMK 2035 E	2008	4x4x4	25,00m + 15,00m
35 t	Liebherr LTM 1030-2.1	2005	4x4x4	30,00m + 15,00m
35 t	Liebherr LTM 1030-2.1	2006	4x4x4	30,00m + 15,00m
40 t	Demag AC 40-1 City	2009	6x6x6	31,20m + 13,00m + 1,20m
45 t	Faun ATF 45-3	2006	6x6x6	34,00m + 15,20m
50 t	Terex Demag AC 50-1	2006	6x6x6	40,00m + 17,60m
50 t	Terex Demag AC 50-1	2006	6x6x6	40,00m + 17,60m
75 t	Grove GMK 4075	2001	8x6x8	43,20m + 27,00m
75 t	Grove GMK 4075-1	2005	8x6x8	43,20m + 17,00m + Runner
80 t	Faun ATF 80-4	2004	8x6x8	48,50m + 16,00m
80 t	Faun ATF 80-4	2005	8x6x8	48,50m+16,00m+1,60m+Runner
80 t	Faun ATF 80-4	2005	8x8x8	48,50m + 16,00m + Runner
80 t	Terex-Demag AC 80-2	2004	8x8x8	50,00m + 17,60m
80 t	Terex-Demag AC 80-2	2003	8x6x6	50,00m + 17,60m + Runner
100 t	Grove GMK 5100	2005	10x6x10	51,00m+18,00m+2,50m+Runner
160 t	Tadano Faun ATF 160G-5	2009	10x8x8	60,00m + 37,00m
200 t	Liebherr LTM 1200-5.1	2009	10x8x10	72,00m + 22,00m
250 t	Demag AC 665 SL	1997	12x6x8	58,00m+41,00m+65,00m+2,00m
400 t	Liebherr LTM 1400-7.1	2007	14x8x12	60,00m + 56,00m + 84,00m

RT-TELESCOPIC-MOBILE CRANES

25 t	Kato KR 250	1997	4x4x4	26,70m + 7,00 m
25 t	Kato KR 250 E	1997	4x4x4	26,70m + 7,00m
30 t	Kato KR 300 E	1998	4x4x4	28,40m + 12,10m
70 t	Tadano GR 700 EX	2008	4x4x4	44,00m + 17,70m
80 t	Grove RT 890 E	2008	4x4x4	43,00m

LATTICE-BOOM-TRUCK CRANES

140 t	Demag TC 650	1982	10x8x6	36,00m

M. STEMICK GMBH
Kran- u. Baumaschinenhandel, Import - Export
D-45721 Haltern / Germany

Tel: +49 2364 108203
Fax: +49 2364 15546
Mobile: +49 172 2332923
e-mail: info@stemick-krane.de
Internet: www.stemick-krane.de

MAMMOET
Used equipment

CRANES FROM 10-3.200T

Manitowoc 21000 (Ref. 1763)

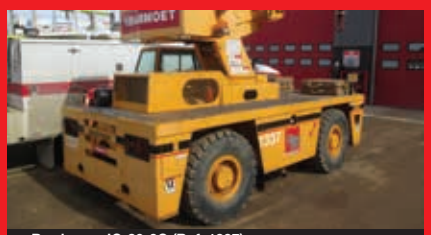
6-line Kamag SPMT (Ref. 300701)

Sennebogen 5500 SL (Ref. 831)

Terex-Demag CC 2800 (Ref. 1716)

Liebherr LR 1400-2 (Ref. 840)

Liebherr LTM 1220-5.1 (Ref. 1141)


Broderson IC-80-3G (Ref. 1337)

Faun ATF 65G-4 (Ref. 1377)

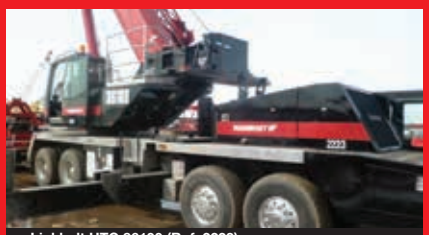
Mercedes-Benz 3355S E5 (Ref. 100653)

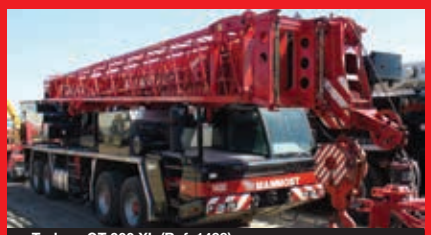
Nooteboom MCO-85-05V (Ref. 200921)

T.N.Vangs mek. bed 3 (Ref. 201837)

MAN TGX 41.540 (Ref. 100616)

Grove GMK 3050-1 (Ref. 1206)


Linkbelt HTC 86100 (Ref. 2223)


Tadano GT 900 XL (Ref. 1488)

Terex-Demag AC 350 (Ref. 1720)

Spierings SK 377-AT3 (Ref. 1388)

www.mammoet.com

MAMMOET

Mammoet Equipment B.V.
Van Deventerlaan 30-40
3528 AE Utrecht
The Netherlands
☎ +31 (0)88 650 2309
mammoet.used.equipment@mammoet.com
www.mammoet.com

HOMAR B.V.

Import - Export Hydraulic and Lattice Boom Cranes

Tel: +31-341-253982 Fax: +31-341-254207
E-mail: info:homar.nl

HOMAR cranes worldwide

TELESCOPIC AT-CRANES

Capacity	Manufacturer	Type	Year	Drive/Steering	Boom/jib (m)	Delivery
450 t	Liebherr	LTM 1450	1992	16 x 8 x 12	50 / 61 / 84	direct ex Dubai
400 t	Liebherr	LTM 1400-7.1	2007	14 x 8 x 14	60/56/84	direct
400 t	Liebherr	LTM 1400	1988	16 x 8 x 12	50 / 61 / 84	direct ex Dubai
300 t	Liebherr	LTM 1300/1	2000	12 x 8 x 10	60 / 21/42/70	direct
250 t	Demag	AC 665 SL	1997	12 x 6 x 8	58 / 41 / 65	direct
200 t	Liebherr	LTM 1200-5.1	2009	10 x 8 x 10	72 / 22	direct
160 t	Faun	ATF 160 G-5	2009	10 x 8 x 8	60 / 37	direct
120 t	Grove	AT 9120 E	1995	10 x 8 x 8	48 / 17	direct
100 t	Grove	GMK 5100	2005	10 x 6 x 10	51/18/2,5/run.	direct
100 t	Grove	GMK 5100	2005	10 x 6 x 10	51 / 18	direct
100 t	Liebherr	LTM 1100/2	2001	10 x 8 x 8	52 / 19	direct
90 t		LTM 1090				
80 t	Faun	ATF 80-4	2005	8 x 6 x 8	48,5/16/1,6/run	direct
80 t	Faun	ATF 80-4	2005	8 x 8 x 8	48,5/16+run	direct
80 t	Terex-Demag	AC 80-2	2004	8 x 8 x 8	50 / 17	direct
80 t	Terex-Demag	AC 80-2	2003	8 x 6 x 6	50 / 17+1,5	direct
80 t	Faun	ATF 80-4	2004	8 x 6 x 8	48,5 / 16	direct
75 t	Grove	GMK 4075/1	2005	8 x 6 x 8	43,2 / 17+runn.	direct
75 t	Grove	GMK 4075	2001	8 x 6 x 8	43,2 / 27	direct
55 t	Grove	GMK 3055	2005	6 x 6 x 6	43 / 15+runner	direct
50 t	Terex-Demag	AC 50-1 (2x)	2006	6 x 6 x 6	40 / 17,6	direct
50 t	Grove	GMK 3050	2003	6 x 6 x 6	38 / 15	direct
45 t	Faun	ATF 45-3	2006	6 x 6 x 6	34 / 15,2	direct
40 t	Demag	AC 40-1 City	1999	6 x 6 x 6	31,2	direct
35 t	Liebherr	LTM 1030-2.1	2006	4 x 4 x 4	30 / 15	direct
35 t	Liebherr	LTM 1030-2.1	2005	4 x 4 x 4	30 / 15	direct
35 t	Terex-Demag	AC 35 L	2004	4 x 4 x 4	37 / 8	direct
35 t	Liebherr	LTM 1030/2	2003	4 x 4 x 4	30 / 15	direct
30 t	Luna	AT 30/27	1989	4 x 4 x 4	27 / 7	direct
30 t	Luna	AT 30/27	1989	4 x 4 x 4	27 / -	direct
25 t	Demag	AC 25 City	1998	4 x 4 x 4	25 / 13	direct

ROUGH TERRAIN CRANES

80 t	Grove	RT 890 E	2008	4 x 4 x 4	43,2 / -	direct
70 t	Tadano	GR 700 EX	2008	4 x 4 x 4	44 / 17,7	direct
35 t	Grove	RT 540 E	2012	4 x 4 x 4	31 / 13,7	direct
30 t	Kato	KR 300	1998	4 x 4 x 4	28,4 / 12,1	direct
25 t	Kato	KR 250	1998	4 x 4 x 4	26,7 / 7	direct
25 t	Kato	KR 250	1997	4 x 4 x 4	26,7 / 7	direct

LATTICE BOOM TRUCK CRANES

180 t	Demag	TC 650	1982	10 x 6 x 6	48 / 24	direct
130 t	Liebherr	LG 1130	1976	12 x 8 x 8	63 / 35	direct
125 t	Luna	GC 125	1986	10 x 6 x 6	56	direct

More machines, crane details and photos on: www.homar.nl

LSM LIFTSOURCEMACHINERY LTD

GLOBAL SALES & RENTALS

Houston, TX 77024, USA
Large fleet in stock
Phone: **+1 (713) 975-7702**
e-mail: **info@LSMcrane.com**

TEREX-DEMAG SL3800, 715T, AVAILABLE.

HUGE $AVING$ ON LONG TERM RENTAL

(2) AVAILABLE FOR SALE, LEASE (OR LPO)
96M BOOM, 84M LUFF, SL
LOC. AB, CA. AND HOU, TX. WILL SHIP AB. UNIT WITHIN 1,500 MILE RADIUS @N.C.

www.LSMcrane.com

YOUR PARTNER IN SALES AND RENTAL
www.vanderspek.eu

VAN DER SPEK

Van der Spek Vianen B.V.
The Netherlands
T +31 347 36 26 66
F +31 347 37 28 74
E jacco.veldhuizen@vanderspek.nl

Van der Spek NV/SA
Belgium
T +32 2 582 29 79
F +32 2 582 48 28
E j.galoy@vanderspek-bel.com

Hexagone Services S.A.S.
France
T +33 1 60 95 01 01
F +33 1 64 68 01 01
E albert.galoy@hexagoneservices.fr

CRANES AND EQUIPMENT FOR SALE OR RENT

NRC
CRANE HIRE & SALES

HIATCHI-SUMITOMO & LINK-BELT
DISTRIBUTORS FOR UK & IRELAND

Tel: +44 (0)1375 361616
info@nrcplant.co.uk

ULTIMATE CHOICE

COMPREHENSIVE RANGE OF
CRAWLER CRANES FROM **5 TONNE**
TO **350 TONNE CAPACITY**

www.nrcplant.co.uk

USED CRANES FOR SALE

Allkran Hellmich GmbH
over 30 years crane experience

Please contact Mr. Hellmich / Mrs. Petri / Mr. Heinrich
Am Schwarzbach a. d. B 44
64560 Riedstadt-Erfelden / Germany
Tel: +49-6158-188413 · Fax: +49-6158-6929
E-Mail: info@allcrane.de

Ask for our sales-list by mail or see on:

www.allcrane.de
www.allkran-hellmich.de

Looking to buy or sell a crane?

look no further

khlcranemarket.com

Maximise the opportunity to sell your crane, with a combination of, online, digital and print advertising – all wrapped into one simple to use package.

KHL Crane Market
The online market place for buyers and sellers of used cranes

To find out more see the website or contact Julia Bossie
email: julia.bossie@khl.com tel: +44 (0)1892 786204

ACT · INTERNATIONAL CRANES AND SPECIALIZED TRANSPORT · khl

re-move

Global capacity provider
for heavy lift and transport equipment

- Leasing
- Bare Rental
- Sale & Lease Back

For more information
please contact us:
+31 30 774 0004

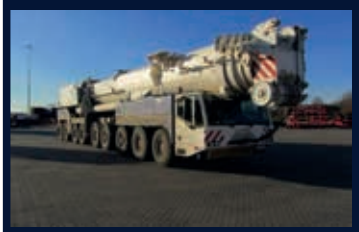
Or visit our website:
www.re-move.com

Our Current Worldwide Fleet:
- Mobile Cranes 10 – 700 Ton
- Crawler Cranes 80 – 750 Ton
- Rough Terrain Cranes 55 – 100 Ton
- Pick and Carry Cranes 20 – 25 Ton
- Heavy Transport Equipment

CRANES 4 CRANES
Global intermediary for cranes and heavy transport equipment

Terex-Demag CC 2500-1 (2010)

Terex-Demag CC 2200 (2008)


Terex-Demag AC 700 (2010)

Liebherr LTM 1400-7.1 (2009)

Liebherr LTM 1220-5.1 (2005)

Faun ATF 65G-4 (2006)

WWW.CRANES4CRANES.COM

TRUCKS 4 TRAILERS
Global intermediary for cranes and heavy transport equipment

MAN TGX-680-250t (2013)

Scheuerle SPMT (2010)

Cometto 14 axles HD (2014)

Goldhofer 40 axles THP-L (2004)

Scheuerle 16 axles Flat Combi (2003)

Nooteboom Lowbed 3+5 (2012)

WWW.TRUCKS4TRAILERS.COM

TADANO

Lifting your dreams

CONEXPO-CON/AGG 2017

March 7-11, 2017

Visit us at Gold Lot Booth 4137

Tadano will show several new cranes which present you our value Safety, Quality and Efficiency.

GTC-600 GR-1200XL

Rough Terrain Cranes

GR-1600XL (160 us ton)
GR-1200XL (120 us ton) NEW
GR-1000XL (100 us ton)
GR-150XL (15 us ton) NEW

All Terrain Cranes

ATF 400G-6 (450 us ton)
ATF 110G-5 (120 us ton) NEW
ATF 70G-4 (75 us ton)
*New long boom model

Telescopic Boom Crawler Cranes

GTC-800 (88 us ton)
GTC-600 (66 us ton) NEW

www.tadano.com www.tadanofaun.de www.tadanoamerica.com www.mantiscranes.com