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INTERNATIONAL

# CRANES

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Volume 26 ■ Number 11  
■ AUGUST 2018



**ICT50**  
TRANSPORT

# Transport focus



SITE REPORTS ■ ENVIRONMENTAL MATTERS ■ TRANSPORT LEGISLATION



Highlight Video

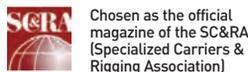
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Max. Lifting Height	Boom: 47.3 m / Boom + Jib: 61.2 m	Boom: 43.4 m / Boom + Jib: 57.3 m	Boom: 34.0 m / Boom + Jib: 48.0 m
Max. Working Radius	Boom: 40.0 m / Boom + Jib: 48.0 m	Boom: 34.0 m / Boom + Jib: 44.0 m	Boom: 32.0 m / Boom + Jib: 40.0 m



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

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# EDITOR'S VIEW



**W**elcome to this month's issue of *ICST* in which we focus on the specialized transport industry.

It was the Romans who, physically and metaphorically, laid the foundations for good transport infrastructure. With their basic surveying techniques, using a groma – a wooden cross with weights hanging from it, they were able to construct rugged roads in a straight

line. This enabled them to mobilise armies long distances quickly and efficiently, establishing one of the greatest empires the world has ever seen.

It's interesting that speed and efficiency remain key aims of lifting and transport companies today and, in terms of size, some of the jobs you can read about in this issue are conducted on a similar scale to mobilising an army, and with military precision. See the site reports on page 31 and page 45 for a taste of what I mean.

However, progress has not been universal. In the specialized transport feature (page 32), equipment manufacturer Goldhofer tells us that it is only now that some countries are relaxing their road regulations regarding maximum permissible axle loads and overall widths due to improvements in road infrastructure. And in the transport legislation feature you can read how in the US 'barrier' states are proving to be an obstacle to the transportation of overweight and oversized loads in a straight line across the country. Read about how the SC&RA is lobbying for harmonisation between all US states in the feature starting on page 43.

The results of our annual *ICST* Transport 50 survey comprise a key part of this special transport issue, and healthy overall growth suggests the industry is now travelling in the right direction; plus, the battle over the top position rages on. Turn to page 21 to find out who triumphs.

We also have the next in our series of technical articles from heavy lift and transportation mastermind Marco van Daal (page 47) in which he looks at the effect of ground pressure on compacted earth during heavy haulage operations. I wonder what he would make of the composition of Roman roads as load bearing routeways for overweight loads? I suspect he'd be quite impressed, considering how many Roman roads still endure in the UK, around 2000 years after they were first built. Perhaps I'll get a chance to ask him in person at the forthcoming Cranes and Transport Middle East (CATME) conference in Dubai, where Marco will be speaking. The conference is being organised by *ICST* and our publisher, KHL. Full details about CATME can be found in the news story on page 11. Finally, I hope you enjoy this transport issue...

## CHRISTIAN SHELTON

Deputy editor



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## KHL CRANES



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**INTERNATIONAL CRANES AND SPECIALIZED TRANSPORT**



**Transport focus**

Site Reports • Environmental Matters • Transport Legislation

This photo, taken by Scottish Photography Productions, shows Collett transporting a wind turbine blade. For more details see the specialized transport feature on page 32.

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Read our preview of the forthcoming IAA commercial vehicle show in Germany to help you plan your visit.

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Barriers to trade and safety standards are being lobbied in North America and Europe.



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Two 430 tonne tugboats were moved by Mammoet on a job in Canada that was described as both logistically intricate and technically challenging.

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New SC&RA members may discover a host of benefits from joining. Mike Chalmers reports.

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HIGHLIGHTS

■ UK-based crane hire company King Lifting has supplied a Liebherr LTM1500-8.1 500te mobile all terrain crane for use at the Hinkley Point C nuclear reactor project.

The crane was used to help install a tripper carriage and tail. The heaviest lift was the tripper carriage, which weighed 33 tonnes and was lifted at a radius of 27 metres with a 47.3 m guyed main boom and 105 tonnes of counterweight.

According to King Lifting, both lifts required detailed planning and the relevant site approvals had to be gained.

■ International heavy moving and transport specialist SCS Heavy BV changed its name to OX Heavy BV on 1 June 2018.

In 2017 SCS Holding BV sold its daughter company SCS Logistics to an international logistics company. SCS logistics will retain its name and office in Ootmarsum, Netherlands, so it was decided to change the name SCS Heavy to OX Heavy BV.

# Al Faris installs generator using 1000 tonne crawler

Al Faris made one of its heaviest lifts, using a 1,000 tonne capacity crawler crane, to install a 404 tonne generator in a new power station under construction in Dubai, United Arab Emirates.

The generator was one of 12 installed by Dubai-based Al Faris. They had to be lifted in confined spaces between structures. Al Faris said that after careful consideration and calculation, it determined that its largest lattice boom crawler crane, a Liebherr LR 11000, was considered the most suitable to safely carry out the heavy lifts.

Execution was planned and carried out by its in-house team of trained and qualified experts, Al Faris said. All technical support documentation, execution plans and schedules were prepared in-house. Organising all activities in-house from start to finish was to achieve minimum delay and maximum safety. Health and safety was

discussed in detail with the client prior to all operations, the company said.

For the final and heaviest lift the crane was in SDWB2 configuration which is a 48 metre main boom plus a 30 m luffer). Heavy duty webbing slings were used. To begin with the 404 tonne generator was lifted from its hydraulic transport trailer. The crane then travelled 10 m under

load towards the foundation. The load was hoisted to a height of 30 m and rotated over a steel structure before being lowered by about 15 m. It was now in a narrow space between the steel structures to the foundation level. Final alignment of the load was done by co-ordinating with the installation team. All 12 generators were lifted and installed in a similar way.



Al Faris installs a 404 tonne generator

# CEZ Group buys first Liebherrs

Romanian utility company, CEZ Group – a conglomerate of 96 companies, with its core interests in the power industry – has purchased two Liebherr cranes: an LR 1600/2 crawler and an LTM 1130-5.1 mobile crane. Lieherr says that these are the first cranes CEZ has ever bought from it.

The new machines will be used for maintenance and repair work on a wind farm run by CEZ at Dobrogea, Constanta. According to Liebherr, CEZ ordered the LR 1600/2 crawler crane in the SL3F wind farm configuration, with a 108-metre main boom and 12-metre fixed jib, in order to reach the 100 metre high wind turbine towers.

**CEZ has bought two Liebherr cranes**

The LR 1600/2 will primarily be used for replacing blades, gearboxes, generators and other heavy gondola components, Liebherr said.

The LTM 1130-5.1, with a maximum lifting capacity of 130 tonnes and a 60 metre telescopic boom, will be used as an auxiliary crane for setting up the LR 1600/2 and for hoisting long components, such as wind turbine blades.

Jan Jires, senior manager of the CEZ wind farm, said, "To simplify the maintenance work process, it was important for us to buy cranes which feature the very latest technology. That is why we decided to buy the two Liebherr cranes. We also appreciate the support available from the local Liebherr team. High safety standards in all

our processes are enormously important to us. Liebherr has an outstanding reputation in this respect as well."





The HLC 150000 offshore crane

## HIGHLIGHT

■ South Wales, Australia-based lifting and rigging equipment supplier Ranger Lifting is opening a new facility in Prestons, near Sydney. This follows the opening of a facility in Melbourne, Victoria, earlier in the year.

The new Prestons facility will be used as Ranger's HQ and is much larger than the company's previous site. The facility will be opened on Saturday 22 September, 2018, in combination with a celebration to mark the company's 20th anniversary.

# Liebherr HLC 150000 for Offshore Heavy Transport

A 3,000 tonne capacity Liebherr type HLC 150000 heavy lift offshore crane will be fitted to a new semi-submersible offshore wind farm foundation installation vessel.

China Merchants Heavy Industry will build the vessel for Oslo, Norway-based Offshore Heavy Transport (OHT). It will be used for the installation of jackets, monopiles and mono buckets for wind turbines, as well as decommissioning and heavy-duty transport.

Liebherr worked with OHT, Ulstein Design & Solution, DNV-GL and CMHI to develop the design. The 216.3 metre ship will be built at the CMHI dock in Haimen. Contracts were signed on 6 July by CMHI and Liebherr in China. Operations using the

new equipment are due to start in 2020. The crane will be built at Liebherr's Rostock plant on the north east coast of Germany.

The lattice boom crane is a design with a slew bearing and also a foldable A-frame to allow passage under bridges. Its boom will be more than 70 metres. Submerging the 48,000 dwt vessel when in operation will increase stability and allow operation in almost any weather, Liebherr said. A split hook operating mode allows 1,500 tonnes to be carried separately on each hook.

Commenting on the deal, Armin Seidel, Liebherr area sales manager for offshore cranes, said, "Since 2016 we have been working very closely with OHT targeting an efficient design to

meet the project requirements and thereby decreasing the costs of installing wind farms on high seas. We have now succeeded in doing this and also achieved an optimal balance between weight and performance."

## ALE INSTALLS WIND TURBINE



Dutch heavy lift and transportation specialist ALE has completed the electro-mechanical installation of seven wind turbine generators (WTGs) for the Garayalde wind farm project in Argentina, South America.

ALE's global electro-mechanical installation team and crane team worked together on the remote site, 260 km away from Puerto Madryn, and handed over the turbines fully assembled to the client.

Carlos Moreno, commercial manager for ALE Wind Services, explained the benefits of using specialist teams. "This was the first time we have executed this installation scope in Argentina and it was completed successfully because of our team's flexibility, local expertise, installation knowledge and specialist equipment," he said. "This was a complex project, made even more challenging by its remote location."

# New Terex ATC for N&A James

UK-based crane rental and heavy haulage specialists N&A James has bought a new Terex AC 40/2L all terrain crane (ATC)

The two-axle 40/2L crane is the most compact unit in Terex's 40 tonne (45 US ton) capacity class and Terex said it is well-suited for operations

in constrained spaces.

The crane has a main boom length of 37.4 metres (122.7 ft), a maximum tip height of 47 m, and an overall system length of 45.4 m (149 ft).

The total length of the crane is 10.79 metres (35.4 feet) and it has a top travel speed of 80 km/h

(50 mph) so it can travel on public roads with ease. The two-seat cab also has air-con.

"We were pleasantly surprised with how fast Terex Cranes was able to help us identify the right model and deliver a new unit to our yard," commented Kevin Green, manager for N&A James. "Our Terex Cranes salesperson, Tim Leech, got us what we needed fast, and we appreciated that."



Dutch heavy-duty logistics company Mammoet has purchased five new Grove GMK4090 all terrain cranes from the Manitowoc factory in Wilhelmshaven, Germany. The GMK4090 was launched in Q3 2017 and Mammoet has purchased some of the first cranes to come off the production line.

The GMK4090 was developed as the successor to the GMK4080-1. According to Mammoet, it has a best-in-class taxi load chart and compact footprint, which makes it suitable for a wide range of lifting applications.



N&amp;A James's new AC 40/2L

HIGHLIGHT

Terex Cranes says it has ramped up production of pick and carry cranes at its factory in Brisbane, Australia, in order to keep up with demand.

In June 2018 the company reported it delivered 15 new pick and carry cranes and it said that June was one of its highest production months since 2014. 13 units went to customers in Australia, while one unit went to Brazil and one to South Africa.

# New Potain tower crane

USA-headquartered crane manufacturer Manitowoc is launching the Potain MCT 565 topless tower crane. It will be sold in all markets that currently receive cranes from the Potain factory in China – namely Asia-Pacific, the Middle East, Africa and Latin America

According to Manitowoc, the MCT 565 is the largest topless crane being built at its factory in Zhanjiangang, China, and the crane has increased capacity

options to reflect the growing scale of projects in the region. It will be officially launched at Bauma China in November 2018.

The MCT 565 will be available in three versions, with capacities of 20, 25, and 32 tonnes. All three have a maximum jib length of 80 metres. They feature a compact design that enables easy transport, said Manitowoc, with the basic crane being able to be shipped in nine containers. The crane needs two days for erection and has one of the best load charts in its class, the company added.

The crane has been shown to a group of 40 potential customers. In addition to the preview of the MCT 565, Manitowoc said the customers were shown production improvements at its manufacturing plant and visited the new Product Verification Centre, where component testing is done. "The Manitowoc Way is about a customer-centric approach to business," said Brian Wang, senior vice president for

APAC for Manitowoc Cranes. "Hosting this visit enabled us to showcase our manufacturing processes. This helped reinforce the confidence they have in our cranes and their reliability. It was also a good opportunity for us to get feedback from customers."



First sight of Manitowoc's new MCT 565

Tilburg, Netherlands-based industrial moving specialist MJ van Riel used an Enerpac SL300 hydraulic gantry to help install a sheet metal press brake in a low height building.

The press brake was in two parts, each weighing 32.5 tonnes and measuring 5.06 metres (L) x 2.86 metres (W) x 4.11 metres (H). To cope with the limited working height, MJ van Riel used a low loader to transport the press brake into the factory.

Equipped with two stage lifting cylinders for loads up to 3000 kN, the SL300 gantry and header beam's electric powered side shift unit lifted and positioned each press brake. Both parts were aligned and levelled accurately.

The SL300 has self-contained hydraulics and MJ van Riel used the gantry's Intellilift wireless remote control for positioning of the press brake. The SL300 ensures automatic synchronisation of lifting with an accuracy of 25.4 mm and automatic synchronisation of travel with accuracy of 15 mm, stated Enerpac.

"The SL300 gantry gave us a trouble-free lift and is perfect for this kind of project," said Frank van Oosterwijk, commercial technical adviser industrial movements at MJ van Riel.



# ESTA guidelines ready soon

New best practice guidelines for the safe transportation and erection of onshore wind turbines could be published before the end of the year, according to ESTA – the European association for abnormal road transport and mobile cranes.

The news follows the latest round of discussions between ESTA and wind turbine manufacturers in Hamburg.

"We have agreed the overall scope and content of the document, and we are now working on the detail," said ESTA director Ton Klijn. "There is still a lot to do and we will need several more meetings of the working group yet, but we are optimistic that the new guidelines will be published by

the end of this year."

The guidelines are expected to include subjects such as common dimensions and standards for access roads and the methods of calculating the ground bearing pressure for crane pads. Talks have been on-going for over a year as part of ESTA's attempts to improve safety standards and onsite efficiency.

The discussions are being lead by ESTA with the support of German association BSK, the crane manufacturers and VDMA Power Systems, the part of the German Engineering Federation whose members include the major turbine manufacturers.



Wind turbine guidelines could be out soon

Safety concerns have been growing with the development of new, bigger turbines with greater hub heights, downward pressure on costs along the supply chain and the increasing use of hard-to-access sites with difficult ground conditions.

ESTA, FEM and VDMA Power Systems plan to produce a core best practice document, backed up by other more detailed technical guidance documents such as the FEM 5.016 Guideline – Safety Issues in Wind Turbine Installation and Transportation (EN – 2017).

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- GRT655L Max tip height: 59,7 m

### NEW GRT880

- Max capacity: 80 t
- Max boom length: 12,6 m – 41,1 m
- Max tip height: 68 m

### NEW GRT8100

- Max capacity: 90 t
- Max boom length: 11,8 m – 46,9 m
- Max tip height: 73 m

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Additional speakers have now been confirmed for the second Cranes & Transport Middle East (CATME) conference in Dubai on 10 October 2018.

Two senior managers at Middle East tower crane specialist NFT – strategy and marketing manager Nagham Al Zahlawi and business development manager Nawar Al Zahlawi – have been added to the programme, joining seven other speakers.

The conference will take place at the Waldorf Astoria, Palm Jumeirah.

CATME is organised by *International Cranes and Specialized Transport* magazine and its publisher KHL Group. The event aims to offer users and owners of cranes and specialized transport equipment in the Middle East a one-day education and networking opportunity.

The speaker line-up, in alphabetical order, is: **Nagham Al Zahlawi**, strategy and marketing manager, NFT; **Nawar Al Zahlawi**, business development manager, NFT; **Martin Ashfield**, capital asset general manager, Al Naboodah Group; **Aaron Chehab**, chief commercial officer, KBW Investments; **Marco van Daal**, owner, The Works International; **Ronnie Drugan**, global account manager, fire suppression products, Johnson Controls; **Thorsten Hesselbein**, sales director, Liebherr-Export, Switzerland; **Dr Shan Senthil**, marketing manager, Integrated Logistics Company, Kuwait; and **John Woodward**, owner, C&D Consultancy.

To find out more about the event and to book your place, see: [www.khl-catme.com](http://www.khl-catme.com)



Hiab is expanding its portfolio in the over 100 tm segment

## Effer to be bought by Hiab

Swedish on-road load handling equipment provider Hiab has entered into an agreement to acquire the Effer loader cranes business from the CTE Group for EUR 50 million.

The acquisition is part of Hiab's stated strategy to renew and expand its loader cranes portfolio with the aim of becoming market leader.

The acquisition comes on the back of Hiab's acquisition of Argos loader cranes in Brazil in October 2017 and the renewal of its light range cranes in May

earlier this year.

With the acquisition of Effer, Hiab will complement its loader cranes portfolio and expand its range of heavy cranes, particularly in the over 100 tm segment in which Effer specialises. Effer will continue to operate as part of Hiab under its own brand and through its own dealer network.

Effer was founded in 1965 and its product range encompasses truck cranes with a lifting capacity between 3 – 300 tm, special application truck cranes,

and marine cranes. Its head office is in Minerbio, Italy, and the company has approximately 400 employees. Distribution is managed through a network of over 100 dealers covering 60 countries globally. According to Hiab, Effer's sales in 2017 totalled EUR 71 million and generated an operating profit of approximately EUR 6.1 million.

"Through its size and global scale, Hiab offers the most optimal opportunities for continued growth for Effer," said Lorenzo Cipriani, CEO of Effer.

## Nurol buys five tower cranes

Turkish-headquartered international contractor Nurol Construction Company has taken delivery of five new Raimondi tower cranes to add to its existing fleet in the United Arab Emirates.

The order comprised two LR213s and three MRT294s, which Raimondi reports are already at work across two of the contractor's job sites: Creek Gate at Dubai Creek Harbour and The Cove, respectively. Both are large-scale developments in Dubai owned by Dubai-based global property developer Emaar Properties.

"The original site planning was executed in collaboration with Raimondi's technical office at our Italian headquarters," said Wael Hasan, Middle East

commercial manager, Raimondi Cranes. "The Raimondi Middle East operations team undertook the installations, and we will also later climb the cranes to heights required by Nurol to complete the projects."

Hasan added that the

LR213s specifically met the project's requirements due to an extremely congested job site, with a high number of cranes already at work on neighbouring sites, making the luffers particularly suitable as they remain within project boundaries.



The Dubai Creek Harbour job site

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Despite headwinds caused by the threat of trade wars the markets have remained relatively steady, THOMAS ALLEN reports

# On an even keel

It has been a relatively stable five weeks. The total index figure dropped by 1.03 per cent between weeks 26 and 31, with few large jumps for individual listed companies.

The Chinese yuan has fallen for the past eight weeks, weakening about 7 % against the US dollar since early June. Yet, a devalued yuan could reinforce competitiveness and provide a buffer for Chinese exporters. Indeed, the two most positive movers among the listed companies in the IC Share Index over the past five weeks were two China-based firms: LiuGong and Sany Heavy Industry.

LiuGong saw its share price jump up by 11.01 % between

weeks 26 and 31, to its highest point since June 2015.

The company recently signed a memorandum of understanding with the United Overseas Bank for a partnership in machinery financing in Southeast Asia. It was said that this strategic partnership would provide LiuGong's dealers and customers with easy access to financing.

Sany Heavy Industry experienced a rise of 4.44 % in its share price over the five-week period. The company announced that in the first half of 2018 it expects to achieve net profit of between CNY3.248 billion (US\$474.9 million) and CNY3.596 billion (US\$525.8 million), which would represent a year-on-year

growth of between 180 and 210 %.

Sany Heavy Industry attributed these figures to infrastructure construction, a demand for the renewal of old equipment and an increasing awareness of the need for environmental protection.

On the other side of the coin, Konecranes suffered the biggest fall in share price, dropping by 6.74 % between weeks 26 and 31.

Yet, in its latest financial report, the Finnish company reported solid growth in service orders and a strong improvement in profitability.

For the second quarter of 2018, Konecranes highlighted a 2.2 % increase in service order intake to €256.8 million (US\$297.3 million), compared to €251.4 million (US\$291.07 million) in the same period last year. Also, the company's order book was up 2.6 % in the second quarter, reaching €1.648 billion (US\$1.908 billion).

However, order intake dropped by 3.7 % in the second quarter of 2018 to €760.9 million (US\$881.3 million), from €790.2 million (US\$915.2 million) in the equivalent quarter of 2017.

Looking at the whole first half of the year, Konecranes reported that order intake had fallen by 5.3 % compared to the same period in the previous year, dropping from €1.525 billion (US\$1.766 billion) to €1.444 billion (US\$1.672 billion). However, the order book was up 2.6 % on the first half of 2017, standing at €1.648 billion (US\$1.909 billion) in the first half of 2018.

## AUGUST IC SHARE INDEX

STOCK	CURRENCY	PRICE AT START	PRICE AT END	PRICE CHANGE	% CHANGE	PRICE 12 MTHS AGO	12 MTH % CHANGE
<b>IC Share Index*</b>		<b>57.00</b>	<b>56.42</b>	<b>-0.59</b>	<b>-1.03</b>	<b>59.42</b>	<b>-5.06</b>
Legacy IC Share Index**		343.79	339.64	-4.15	-1.21	317.11	7.10
Dow Jones Industrial Average		24,118	25,326	1,209	5.01	21,844	15.94
FTSE 100		7,620	7,634	14	0.19	7,307	4.48
Nikkei 225		22,270	22,525	255	1.14	19,730	14.17
Hitachi Construction Machinery	YEN	3,470	3,530	60	1.73	3,070	14.98
Konecranes	€	35.31	32.93	-2.38	-6.74	37.55	-12.30
Kobe Steel	YEN	1009	1013	4	0.40	1,350	-24.96
Liugong	CNY	9.99	11.09	1.10	11.01	8.71	27.32
Manitowoc	US\$	26.25	25.00	-1.25	-4.76	40.18	-37.78
Palfinger	€	31.70	32.15	0.45	1.42	37.84	-15.04
Sany Heavy Industry	CNY	8.56	8.94	0.38	4.44	8.07	10.78
Tadano	YEN	1,360	1,306	-54	-3.97	1,311	-0.38
Terex	US\$	41.08	41.06	-0.02	-0.05	37.90	8.34
XCMG	CNY	4.08	4.07	-0.01	-0.25	3.78	7.67
Yongmao Holding	SGD	0.45	0.45	0.00	0.00	0.63	-28.57
Zoomlion	CNY	4.04	4.04	0.00	0.00	4.66	-13.30

\*IC Share Index, 1 Jan 2011 = 100

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



### ABOUT THE AUTHOR

THOMAS ALLEN is assistant editor on ICST sister publication *International Construction*

## EXCHANGE RATES - VALUE OF US\$

CURRENCY	VALUE AT START	VALUE AT END	VALUE CHANGE	% CHANGE	VALUE 12 MTHS AGO	12 MTH % CHANGE
CNY	6.497	6.854	0.3571	5.50	6.88	-0.37
€	0.8664	0.8621	-0.0043	-0.50	0.9355	-7.85
Yen	110.39	111.58	1.20	1.08	115.11	-3.06
UKE	0.7649	0.7672	0.0023	0.30	0.7974	-3.79

Period: Week 26 - 31

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# ALE transport turbine components



In total ALE will transport 220 abnormal loads

ALE is currently performing the transport, craneage and installation of 20 Siemens Gamesa wind turbine components to Vena Energy's Tolo 1 project site in Jeneponto, South Sulawesi, Indonesia.

As part of the whole contract, ALE has been tasked to provide the full TCI package of 20 Siemens Gamesa wind turbines comprising five tower sections, to make up a total of 220 abnormal loads.

The components were received at the Makassar Port, where they were unloaded and stored. The generators, weighing 74 tonnes each, and the tower sections, the

heaviest weighing 86 tonnes, were loaded onto 11 axle lines of conventional trailers in a configuration of 3 x 2 file 5 as well as 6 axle lines of clamp tower trailers. This is the first time these specialist clamp tower trailers had been used in Indonesia and were ideally suited when negotiating the overhead restrictions on the challenging route as the driving height could be reduced, said ALE.

For the 64-metre-long blades, 12 axle lines of specialist extendable blade trailers were utilised in a configuration of 3 x 2 file 4 axles.

So far, ALE has transported 40 per cent of the components almost 100 km to the site. ■

## ENERPAC BUILDS VERTICAL CASK TRANSPORTER



Enerpac Heavy Lifting Technology has completed the manufacture of a 170 tonne Vertical Cask Transporter for Holtec International, a diversified energy technology company.

Holtec is a global supplier of nuclear equipment and handling systems within the energy industry. The Vertical Cask Transporter (VCT) combines the lifting capability of a hydraulic gantry with the flexibility of a self-propelled modular transporter, said Enerpac, and will be used to provide Holtec with a system for safely handling and transporting casks at a spent nuclear fuel storage facility.

According to Enerpac, the wheeled cask transporter's modular assembly design has a number of functional and safety features including normal steer, 90-degree turn, crab and auto-rotation turn and drive capability, and a cab design that allow the VCT operator to face the direction of travel. According to Enerpac, safe handling of the casks is provided by the VCT's drop prevention system and integrated cask restraint – a hydraulically operated clamp that secures the cask for transport. The cask handling system has low ground bearing pressure and is fully CE certified, Enerpac added.

## Fincantieri buys Cometto steelwork transporter

Italian shipbuilder Fincantieri has extended its specialized transport fleet with the addition of an ETH5/4E transporter for steelwork, made by Italian company Cometto.

According to Cometto, the ETH5/4E bought by Fincantieri has five axles and a payload of 121 tonnes – although the complete range offers payload capacities between 20 – 400 tonnes.

The transporter range is suitable for

moving iron and steel products and the platform dimensions can be customised, Cometto said.

The ETH5/4E uses four motorised suspension systems and a 202kW Scania diesel engine with an integrated radiator.

The steering is electronically controlled and four steering modes are possible: longitudinal Ackermann; transversal Ackermann; carousel; or crab.

The position of the operator's cab is flexible enabling the operator to see either over or under the loading platform.

According to Cometto, the ETH5/4E also has: a sprung, 180-degree rotating driving seat; tempered glass; a thermostat-controlled heating system, electronically adjustable rear-view mirrors, and two rear-view cameras. Soundproofing and shock absorbers are designed to maximise operator comfort. ■

The ETH5/4E has capacities of between 20 – 400 t





Mammoet transports a 325 tonne Royal Smit transformer

# Mammoet continues with Royal Smit work

Mammoet says it has been responsible for the local transportation of transformers from Dutch transformer manufacturer Royal Smit Transformers since 1927.

The two companies have now formalised and extended their relationship for a further five years with the signing of a framework agreement.

According to Olivier Dirkwager, Mammoet account manager for the Royal Smit partnership, "The transport of heavy loads has come a long way since we moved

the first 26,500 kg transformer for Royal Smit. Back then no vehicle could transport a single load that heavy so the Mammoet team moved the transformer manually over wooden beams, 200 metres a day, across Amsterdam.

"Since that first project we have established a global transport network over land and sea ensuring that these valuable parts are delivered safely to their destinations on time and with minimal impact."

## KHIMJI RAMDAS MOVES

Oman-headquartered freight, container, and cargo transport specialist Khimji Ramdas Shipping has transported eight pieces of oversized cargo, namely heat steam generators with a combined weight of 815 tonnes, a distance of 50 km – from the Port of Sohar, Oman, to the job site.

Khimji Ramdas Shipping took charge of the loads from an incoming ocean vessel at the port.

The job involved jacking the loads onto customised stools, clearing customs, arranging escorts and civil work along the delivery route. Two lots of 18 axle lines of SPMT were also used to aid delivery.

The items were delivered safely and on time, said Khimji Ramdas.

## KING TRAILERS REFURB SERVICE

UK manufacturer of trailers for abnormal loads up to 150 tonnes, King Trailers, is promoting its refurbishment service for all trailers.

The company said it undertakes both small and large refurbishment jobs which, for example, can include: installing fall arrest systems; installing new timber decks; and repainting.

King says refurbishment work is not restricted to King-manufactured products as its team can refurbish any make or type of trailer. The company also said it also offers a comprehensive accident repair service, as well as offer advice on possible refurbishments for customers on a restricted budget.

# GMB buys Volvo truck

UK demolition and waste management company GBM Demolition has taken delivery of its first-ever Volvo truck: an FH16-650 6x4 tractor unit.

The vehicle is suitable for operations up to 120 tonnes and will be used on the company's heavy haulage side, transporting diggers, crushers and mobile screening equipment for its demolition division.

It was supplied by Crossroads Truck and Bus in Lincoln. The double drive prime mover is fitted with a Globetrotter cab and is equipped with Volvo's 12-speed I-Shift Crawler automated manual gearbox with

multi-speed reverse gears.

GBM UK also specified a 3600mm wheelbase chassis, hub reduction drive axles; a ten-tonne front axle; and a FH front towing device and construction front bumper.

Inside the truck has Volvo's Drive plus++ and Living packages, which includes a bed and a 33-litre fridge/freezer.

GBM Demolition's new FH16-650 Volvo truck





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**COSMATOS TRANSPORTS WIND TURBINE BLADES**



Greek shipping agency Cosmatos Shipping Services (CSS) has transported wind turbine rotor blades by road from Goleniow, Poland, to southern Greece. The blades measured 44.2 metres long, 2.6 metres wide, and 2.81 metres high. The blades weighed 10.4 tonnes each.

Services provided by CSS included organising road permits, the provision of suitable extendible trailers, and coordination with relevant authorities along the route.



The blades measured 44.2 metres long



DB Schenker is testing an automated Wiesel at its site in Nuremberg

# New cab for the Wiesel

Through its Kamag business activities German manufacturer of heavy-duty vehicles with hydraulically supported pendulum axles Transporter Industry International (TII Group) is launching a new cab for its Truckwiesel (known as the Wiesel) swap body and semi-trailer transporter.

New features include an enlarged windscreen for optimum all-round visibility, a maximum low access height and a range of ergonomic features. There are mounting options for data terminals and added storage possibilities. It is also available as an emission-

free version with an electric drive.

In related news, German logistics service provider DB Schenker is testing an automated Wiesel at its site in Nuremberg. Erik Wirsing, vice president global innovation at Schenker said, "digitalisation improves efficiency throughout the entire transportation ecosystem. The use of driverless transportation systems is already an important component of our logistics processes. The evaluation of the test phase will show how we integrate the system into our overland transportation system."



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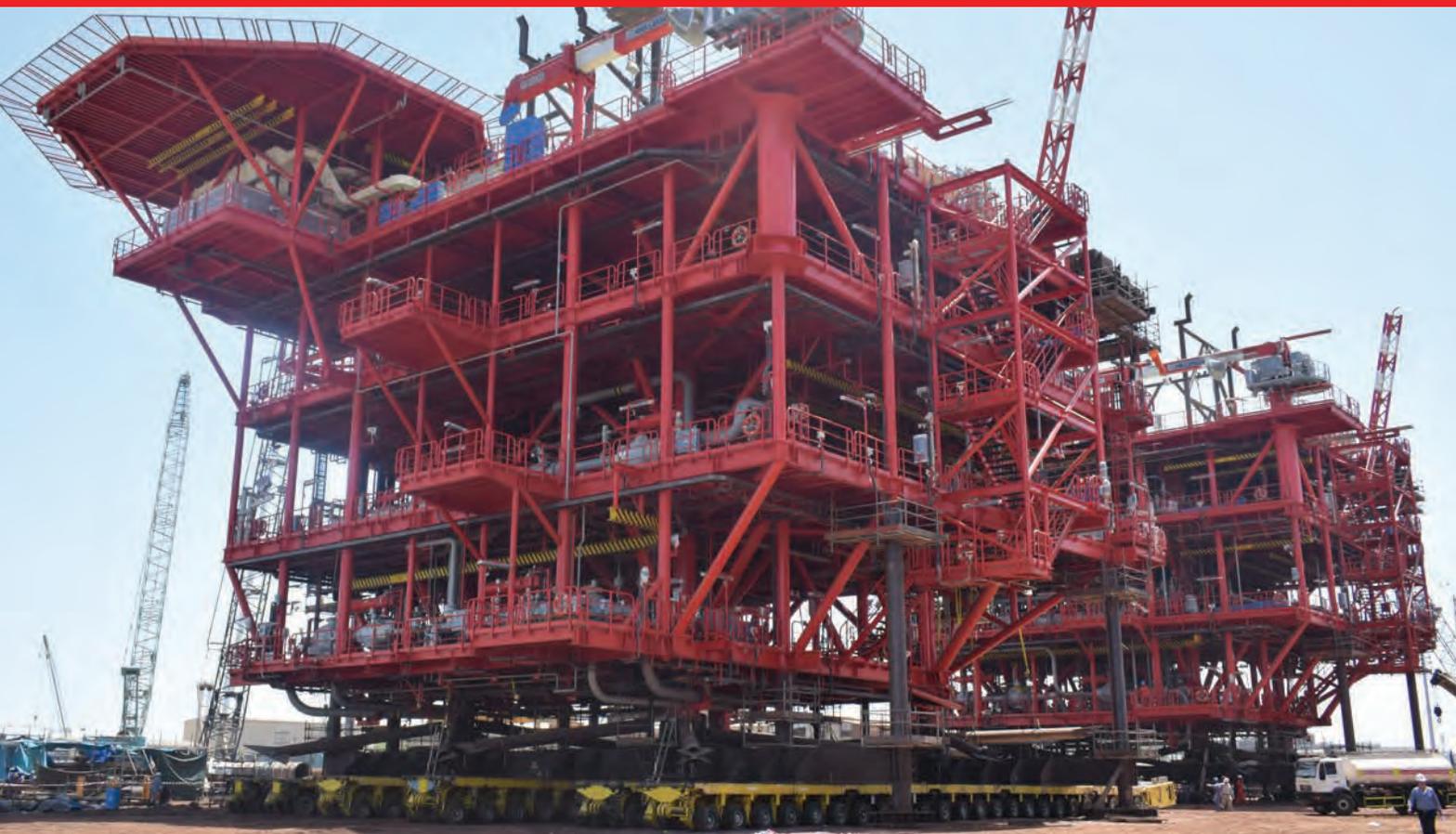


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# ICT50

## TRANSPORT

Collett and Sons move up seven places from last year's ranking



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# Changing up

Away from the battle for top spot, a healthy overall growth of 4 per cent in the 2018 Transport 50 looks positive for the industry, at least in the short term. *ICST* reports

## THE TRANSPORT 50

The Transport 50 Index is calculated using the total carrying capacity in metric tonnes of all specialized transport equipment in a company's fleet. The two main sections are specialized trailers and modular trailers and SPMT.

It is very much a work in progress and will always be evolving and changing. We largely rely on the submission of entry forms completed by the companies listed. We are always interested to hear from companies that have not yet entered the Transport 50. If yours is one of them, please let us know and look out for the 2019 Transport 50 entry forms and calls for entries on the KHL web site during the second quarter of the year. You are welcome to inquire at any time about the next T50.

**T**he *IC* Transport 50 ranking of the world's largest specialized transport companies has seen some big changes since last year.

Once again, the leader, in the number one position, has changed in that Mammoet has regained the top spot from ALE last year as the two companies swap places. It was the first change at the top of the table since the *IC* Transport 50 started, which is now 14 years ago.

The headline figure is that the top 50 is up by an impressive 4 per cent on the 2017 figure. The *IC* Transport 50 total index is up from 1,716,431 to 1,785,805.

It is interesting to note that the increase is all in the self propelled modular transporter (SPMT) and modular trailer category, up 5.4 % from 1,070,764 to 1,128,927. Last year it was up 3.99%. This would be in line with the widely held view that there is now a large surfeit of SPMT in the world because many lines were bought specifically for a couple of large petrochemical projects which are now drawing to a close or have already finished. It will be interesting to see how this affects

things next year and further on.

The specialized trailer category was down 12 % from 750,085 to 657,368. The year before it was up 6.29 %. Such is the extra capability of modular trailers and SPMT over conventional ones, however, the decrease was more than cancelled out.

The number of depots was down 27.8 % from 3,131 to 2,262.

## Increased capabilities

Mammoet increased its capability by an exceptional 14 % and ALE added 5.3 %. Also following a trend of recent years, Sarens, remaining in third place, raised its total by an impressive 9.5 %. Next in the table, Fagioli, also posted a rise, of 1.5 %. After that, Landstar, in fifth place, broke the 100,000 tonnes milestone with a 9.25 % jump from a T50 Index of 92,527 to 101,087. Just to note »



the scale of this company – it has more than 10,000 tractor units.

After that, All Erection moved up two places, at the expense of ATS, down one to 7. Barnhart gained two places, coming in at eighth place and Bennett maintained the ninth spot. Rounding out the top ten was Bigge, up one place from 11th last year.

This year’s table saw an impressive nine new or returning companies out of a total of



ALE has increased its capability by 5.3%

2018 RANK	2017 RANK	COMPANY	COUNTRY OF HQ	DEPOTS	AREA OF OPERATION	EMPLOYEES
1	2	Mammoet	Netherlands	90	Worldwide	5,000
2	1	ALE	United Kingdom	40	Worldwide	2,003
3	3	Sarens	Belgium	90	Worldwide	4,700
4	4	Fagioli	Italy	10	Worldwide	625
5	5	Landstar	USA	1,400	Worldwide	1,150
6	8	All Erection & Crane Rental	USA	37	International	1,500
7	6	Anderson Trucking (ATS)	USA	15	International	979
8	10	Barnhart	USA	48	Continental	1,350
9	9	Bennett Motor Express	USA	115	International	320
10	11	Bigge Crane and Rigging	USA	17	National	984
11	14	NTC Logistics India	India	15	Continental	3,048
12	12	Lone Star Transportation (Daseke)	USA	16	USA, Canada, Mexico	360
13	13	Al Jaber Heavy Lift & Transport	Abu Dhabi, UAE	8	Worldwide	850
14	19	Entrec	Canada	14	Canada and USA	565
15	16	Deep South Crane & Rigging	USA	8	North and South America	650
16	17	Big Move	Europe	13	Europe	1,230
17	18	Emmert International	USA	3	USA/International	95
18	20	Transport Bellemare International	Canada	7	International	675
19	21	NCSG Crane and Heavy Haul	Canada	26	North America	1,000
20	22	Sterett Crane & Rigging	USA	9	National	70
21	26	MSA Delivery Services	USA	6	International	75
22	28	Hareket Heavy Lifting and Project Transportation	Turkey	5	Turkey, CIS and Middle East	420
23	25	Heavy Transport Inc (Bragg Companies)	USA	9	National	200
24	27	Sankyu	Japan	10	Japan and Asia	300
25	24	Daily Express	USA	8	International	142
26	15	Maxim Crane Works	USA	51	National	3,500
27	29	Tradelossa	Mexico	6	Mexico, Southern USA, Central America	273
28	30	Edwards Moving & Rigging	USA	6	International	125
29	37	SOP&G	Russia	5	Russia and CIS	700
30	31	Lampson International	USA	8	Worldwide	300
31	32	Tutt Bryant Group	Australia	8	National	550
32	n/a	Berry Contracting / Bay Ltd	USA	8	International	8
33	39	Miller Transfer & Rigging	USA	18	International	80
34	38	Allelys Heavy Haulage	United Kingdom	2	UK, Ireland and mainland Europe	155
35	34	Vietranstimex	Vietnam	5	Vietnam, Laos and Cambodia	326
36	41	Havator	Finland	29	Northern Europe, Russia	600
37	35	Van der Vlist	Netherlands	11	Worldwide	600
38	n/a	J Supor Trucking & Rigging	USA	5	National	152
39	43	Megatranz Transportes	Brazil	3	Brazil, Bolivia, Paraguay	114
40	47	Collett & Sons	United Kingdom	4	UK, mainland Europe, worldwide	152
41	44	Berard Transportation	USA	5	National	75
42	45	Irga Lupercio Torres	Brazil	9	South America	200
43	46	Burkhalter Rigging	USA	5	North and South America	120
44	40	Lift and Shift India	India	4	India, Middle East, Sri Lanka, Bangladesh, South East Asia	250
45	54	Contractors Cargo Co	USA	2	Western USA	72
46	53	W.O. Grubb Crane Rental	USA	14	National	400
47	49	Transportes Noroccidental	Ecuador	12	Ecuador, Peru	600
48	50	Stiglich Transportes	Peru	4	Peru, Chile	139
49	51	JH Parabia Transport	India	10	India	410
50	42	Locar Guindastes e Transportes Intermodais	Brazil	9	National	1,103



78 entries. At the same time we removed 21 companies due to a lack of data, mergers or other changes.

Two of the new or returning entries this year made the top 50, namely Berry Contracting/ Bay Ltd in 32nd place and J Supor Trucking & Rigging in 38th place. Both are based in the USA. All the best to these and the other companies in the table for the coming year. ■

SENIOR CONTACT	WEB ADDRESS	NUMBER OF TRACTOR UNITS	MODULAR TRAILERS/ DOLLIES	SPECIALIZED TRAILERS	T50 INDEX 2017	T50 INDEX 2018	2018 RANK
Jan Kleijn, COO	www.mammoet.com	493	228,760	n/a	200480	228,760	1
Mark Harries, Global managing director	www.ale-heavylift.com	177	207,738	10,355	207093	218,093	2
Wim Sarens, CEO	www.sarens.com	344	137,064	23,902	146,966	160,966	3
Fabio Belli, CEO	www.fagioli.com	122	96,540	11,100	106,040	107,640	4
Rusty Cody, VP heavy specialized services	www.landstar.com	10,158	2,645	98,442	92,527	101,087	5
Michael Liptak, president	www.allcrane.com	381	1,728	60,384	62,112	62,112	6
Gary Stang, senior VP and GM	www.atsinc.com	894	0	60,725	80,437	60,725	7
Alan Barnhart, CEO	www.barnhartcrane.com	330	25,920	24,646	47,390	50,566	8
David Lowry, CEO/Jay Folladori, president	www.bennettig.com	980	3,883	41,767	47,745	45,650	9
Weston Settlemier, president and CEO	www.bigge.com	90	34,092	10,542	41,536	44,634	10
K Chandramohan, chairman and MD	www.ntclogistics.in	746	13,672	24,860	34,057	38,532	11
David Ferebee, VP sales	www.lonestar-llc.com	425	4,047	34,220	39227	38,267	12
George Koshy, business development director	www.ajhl.com	0	34,476	0	34,476	34,476	13
John Stevens, president and CEO	www.entrec.com	252	17,616	10,292	26,060	27,908	14
Mitch Landry, president	www.deepsouthcrane.com	79	16,572	10,503	28,092	27,075	15
Horst Wallek, chairman of the board	www.bigmove.net	668	4,968	21,376	26,344	26,344	16
Terry Emmert, president	www.emmertintl.com	89	22,580	3,620	26,200	26,200	17
Jean-Luc Bellemare, president	www.transportbellemare.com	225	6,148	17,966	24,114	24,114	18
Ted Redmond, president and CEO	www.ncsg.com	163	12,962	10,956	23,937	23,918	19
Jonathan Spong, president	www.steretheavyhauling.com	73	12920	9233	22,157	22,153	20
Jerry Rozum, president	www.msadelivery.com	60	0	21,460	20,598	21,460	21
Engin Kuzucu, general manager	www.hareket.com.tr	80	16,010	4,957	17,788	20,967	22
Robert Weyers, general manager	www.braggcrane.com	110	13,971	6,985	20,956	20,956	23
Masaharu Miyazono, general manager	www.sankyu.co.jp	38	19,465	990	18,233	20,455	24
Mark Eyer, vice president	www.dailyexp.com	264	966	19146	20,984	20,112	25
Bryan Carlisle, CEO	www.maximcrane.com	429	2,209	13,524	30251	15,733	26
Carlos Carcamo, sales manager	www.tradelossa.com	150	8,069	7,486	15,393	15,555	27
Mark Edwards, CEO	www.edwardsmoving.com	29	10,304	4,836	15,140	15,140	28
Ildar Akhmetov, director	www.sopig.ru	105	9,136	5,680	13,330	14,816	29
William Lampson, president and CEO	www.lampsoncrane.com	30	12,706	1,775	14,482	14,481	30
Robert West, general manager	www.tuttbryant.com.au	28	13,054	1,758	14,332	14,322	31
Larry Lewis, heavy haul & rigging manager	www.bayltd.com	160	11,384	2,495	n/a	13,879	32
Mitchell Unger, president	www.millerttransfer.com	132	0	13,622	13,074	13,622	33
David Allely, director	www.allelys.co.uk	48	8,760	4,835	13,235	13,595	34
Do Hoang Phuong, CEO	www.vietranstimex.com.vn	74	9,548	3,860	14,164	13,408	35
Erkki Hanhiova, board member	www.havator.com	16	9,246	4,000	12,916	13,246	36
Dirk and Nico van der Vlist, directors	www.vandervlist.com	246	3,364	9,554	13,503	12,918	37
Doug Filos	www.jsupor.com	45	9,184	3,570	n/a	12,754	38
Renato Zuppardo, commercial director	www.megatranz.com	52	11,140	735	11,875	11,875	39
David Collett, managing director	www.collett.co.uk	68	5,892	5,645	11,209	11,537	40
Brett Berard, VP operations	www.berardtrans.com	42	10,120	1,385	11,475	11,505	41
Lupercio Torres Neto, president	www.irga.com.br	81	7442	4,014	11,456	11,456	42
Delynn Burkhalter, CEO	www.burkhalter.net	68	7,729	3,493	11222	11,222	43
Sameer Parikh/Romil Parikh, directors	www.liftandshift.co.in	10	10,950	270	12,970	11,220	44
Gerald Wheeler, president	www.contractorscargo.com	45	5,800	5,308	9,494	11,108	45
William Grubb, president and owner	www.wogrubb.com	99	3756	6,507	9,513	10,263	46
Edgar Andrade, business manager	www.noroccidental.com	150	5,905	4,000	9,905	9,905	47
Aldo Macassi Pereyra, operations manager	www.stiglich.com.pe	78	5,567	4,295	9,862	9,862	48
Zarksis Parabia, director	www.jhparabia.com	52	7,040	2,786	9,826	9,826	49
Julio Simões, president, director	www.locar.com.br	47	5,879	3,508	12,255	9,387	50

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# Forward thinking

With a heatwave currently ravaging Europe and warnings from scientists about global warming, environmental issues have never been more salient.

**CHRISTIAN SHELTON reports**

**E**nvironmental matters are increasingly making headline news around the world as mankind becomes more aware of, and more concerned about, its impact on the natural world. As such, manufacturers and end users across many different industries are making efforts to be more environmentally responsible, the lifting and transport industries included.

Two main ways in which companies can reduce their negative environmental impact are through the way they operate and in what they produce.

## Practical measures

With regards to operating procedures, companies working within the lifting and transport arena are effecting a wide range of positive actions, from small to large. For example, Dutch heavy lift and transportation company ALE says it fills the tyres of its specialized vehicles with nitrogen to reduce pressure loss, thus improving fuel economy. It also monitors its operations, in line with ISO 14001, undertaking life cycle assessments of its own activities, as well as its suppliers.

“ We maintain green offices where possible, actively employing re-use, reduce and recycle initiatives ”



**Link-Belt has effected a range of energy efficiency measures including the use of high-volume, low-speed fans for recirculating tempered air and a heat recovery HVAC system in offices**

“We maintain green offices where possible, actively employing re-use, reduce and recycle initiatives,” says Gary Hewitt, ALE’s group HSQE manager.

In North America, crane manufacturer Link-Belt won its second environmental award from international trade association the Specialized Carriers & Rigging Association (SC&RA) at the SC&RA’s Annual Conference in Florida in April 2018. It says it is the only member organisation to have won the award twice. It cites actions such as becoming a zero-landfill facility by the end

of 2017 and reducing its carbon emissions by 30 per cent (6,134 metric tons) in 2017, compared to the 2013 base year, as helping it win the award. Link-Belt achieved zero-landfill by recycling all of its by-products and waste and it reduced emissions by effecting a range of energy efficiency measures including: installing low wattage automatic lights; utilising high-volume, low-speed fans for recirculating tempered air; using exhaust air from large air compressors to supplement shop heating; using a heat recovery HVAC system in offices; and by not heating/cooling »

unoccupied offices; finally, Link-Belt says its paint line processes have been improved to reduce demand for natural gas.

## Protecting the environment

Japanese crane manufacturer Tadano says it strives to help protect the global environment and contribute to the creation of a sustainable society via a range of activities and policies, including installing 2000 square metres of solar panels on the roof of its Shido plant in Japan and the decision to transport products by barge following the company's renovation of the port next to its Shido plant.

Tadano subsidiary, German-based crane manufacturer of mobile cranes Tadano Faun, says it also seeks to minimise any negative environmental impacts in a number of ways. For example, in order to conserve resources, it says it uses a plasma steel cutter which provides cleanly-cut edges that do not then require extra working – thus saving energy and resources.



A Volvo Penta Stage V D8 engine and EATS

## MAKING THE TRANSITION TO STAGE V EMISSIONS STANDARDS

With EU Stage V emissions standards for off-road machinery to be implemented in 2019, Volvo Penta says it has created an engine platform designed to assist original equipment manufacturers (OEMs) in making the transition simply and effectively.

The company says it has a range of off-road engine solutions, from 5-16 litres, that provide power from 105 to 575 kW (143-782 hp). Common rail fuel injection and a fixed geometry turbo contribute to good fuel efficiency, says Volvo Penta.

“Our engineers have created a solution that will enable hassle-free operation and enhanced productivity with minimal servicing required,” says Johan Carlsson, chief technology officer at Volvo Penta.

The company has also taken steps to reduce its use of volatile organic compounds. For example, it is using protective lacquer instead of grease to help preserve steel bolt connections. The lacquer can simply be peeled off like a plaster, Tadano Faun says, without the use of solvents.

The company also uses a two-component solid finish paint that has had its solvent levels reduced. It is applied to the cranes using a low-pressure spray so that the paint is only applied to the crane rather than escaping into the air. The company says it decided against using water-based paint because once the cranes had been tested, following painting, they would then need to be cleaned again using more solvents than the two-component solid finish paint contains.

Tadano Faun has also updated the roof and insulation of its production facility and used new energy-saving lighting. The building's heating system has also been updated.

## Eco features

With regards to end products, crane manufacturer Terex Cranes points to a host of environmentally friendly features on its Demag all terrain cranes that demonstrate its commitment to the environment. For example, Terex says it was the first manufacturer to implement an eco-mode in which the crane just uses the power it needs for the lifting operation. The company also highlights that many of its cranes are equipped with a stop/start button in the operator cabin to help reduce idling time and fuel consumption and a fuel-efficient gearbox that meets the latest

“ A key focus for Tadano

Faun has been the use of

Bluetec technology ”

emission regulations. It is currently working on Euromot 5 implementation.

Tadano also points to energy management measures such as engine shutoff features, engine acceleration control, hydraulic pump and motor control, electric motor control, and battery recharging control, which result in greater fuel efficiency and lower noise production. The company also says it tries to reduce vehicle running resistance by reducing the weight of its vehicles.

A key environmental focus for Tadano Faun has been the use of Bluetec technology in its all terrain cranes. The Bluetec engines are particle reduced engines, the company says, due to optimised combustion in which particle emissions are a tenth less than the amount specified by Euromot 3b. Additionally, says Tadano Faun, exhaust gasses are split into their chemical parts, resulting in a reduction of nitrogen oxide.

Tadano Faun's all terrains are also equipped with automatic transmissions with a dry clutches, instead of transmission oil, and software is used to calculate the ideal shift point. The operator has the choice of selecting 'eco' or 'power' mode. In eco mode gear shifts happen at a lower engine speed, while in power mode the shift up to the next gear happens at a higher engine speed.

Link-Belt says it is dedicated to using the latest diesel engine technology regarding exhaust emissions and fuel efficiency in its cranes and claims it was the first mobile crane manufacturer in North America to achieve Tier IV final compliance across its product line.

## HYBRID DRIVE CONCEPT

German engine manufacturer Deutz has released its first off-highway hybrid drive concept. The modular concept is scalable and comprises a TCD 2.9 diesel engine and an electric motor.

Dr Frank Hiller, chairman of the Deutz Board of Management, says, “the power output and capacity of each component can be scaled to meet customers' requirements. Customers will be able to choose whatever is the optimum combination of conventional and electric drive components for their particular application. Overall, this will increase efficiency and thereby significantly reduce total operating costs.”

Deutz says the new concept is the first tangible result of its E-Deutz programme established in 2017 and opens up significant potential for efficiency gains in drivetrain technology.



Deutz has recently released its first off-highway hybrid drive concept

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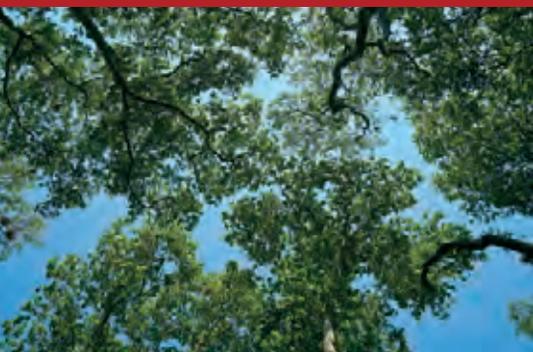
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Mammoet aims to reduce its use of hardwoods

## Evolving engines

Engine manufacturers are at a particularly interesting juncture in engine development. Faced with the forces of digital and electric technologies and the introduction of EU Stage V emissions regulations next year they are being prompted to step back and assess their overall strategy.

For example, US engine maker Cummins is now putting more emphasis on hybrid solutions, having recently revealed its first electrified powertrain system. “We are expanding our portfolio to reflect the alternative power needs of the future,” says Hugh Foden, executive director off-highway business at Cummins. “We’re developing a range of options such as alternative fuels, range extenders and full electric power to

“ We are expanding our portfolio to reflect alternative power needs of the future ”

## MAMMOET WINS ECO AWARD

Mammoet has received an Environmental Award at this year’s Specialized Carriers and Rigging Association (SC&RA) conference in Boca Raton, Florida.

The company says sustainability initiatives it has carried out include: the utilisation of geothermal heating and cooling, recycled water systems, and LED lighting at new facilities; recycling and waste management programmes; tracking vehicle emissions using GPS to assist in reducing vehicle idling across the fleet; and the development of products designed to reduce environmental impact, such as the EnviroMat – a product which improves soil bearing capacity for heavy lifting projects without the need to transport gravel, mats or concrete slabs to a project site.

Mammoet is also seeking to reduce its use of endangered hardwoods by developing a new type of jacking beam made from a bamboo composite.

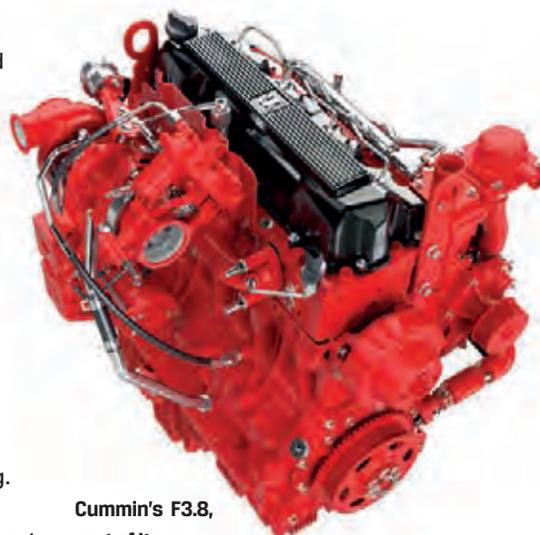
complement our Stage V clean diesels and provide customers with the best solution for their machines.”

According to Cummins, its new range extended electric driveline (REEV) is suitable for a wide range of equipment including mobile cranes and off-highway applications. Cummins says the system offers a balance of battery power with a compact engine-generator. It can provide electric power with zero emissions on a single charge at the point of use but it also has a four-cylinder F3.8 Stage V powered generator and plug-in options for charging. Cummins says this provides much more flexibility where charging infrastructure is not available.

The REEV system blends the energy use between the engine-generator and battery to best suit the operational needs, Cummins says. The engine-generator will automatically recharge the battery pack as needed. Operators will also have the option for overnight charging with plug-in capability.

According to Cummins, the generator uses a high-efficiency traction motor which provides continuous torque of 1,850 Nm, eliminating the need for gear shifting and reducing powertrain noise. An instant peak torque boost up to 3400 Nm is available when the machine requires it.

“With our recent acquisitions of Brammo and Johnson Matthey Battery Systems we are building capability across the entire range of electric storage,” says Julie Furber, executive director, Cummins Electrified



Cummins's F3.8, part of its new range extended electric driveline (REEV)

Power Business. “Our 35kWh battery pack can be installed singularly or in multiples to meet the needs of the equipment operation and duty cycle and the high-density battery enclosure and engine can be sized to deliver the best balance between ultra-low emission and zero emission operation.”

On the back of the REEV launch and recent acquisitions, Cummins has further strengthened its position in the electric and hybrid powertrain market with the acquisition of Silicon Valley, USA-based company Efficient Drivetrains. Efficient Drivetrains specialises in the design and production of hybrid and fully-electric power solutions for commercial markets and has a range of fully-electric and four-mode hybrid powertrains. According to Cummins, EDI’s hybrid system is the most versatile on the market today, able to switch in real time between fully electric, series, and parallel modes.

## Next generation productivity

Swedish engine manufacturer Volvo Penta is also exploring electrification and hybridisation. “Our strategy stands on two legs,” elaborates Johan Inden, chief technology officer at Volvo Penta. “One is understanding the application needs of our customers, and the other is reusing the technology that is developed in the group. You’ll see the continuation of our pure diesel offerings, but you’ll also see that being combined into hybrid solutions.

“Many of the opportunities going forward are in the integration of the engine with the full machine. By building a more integrated solution that adds both the connected side, in terms of uptime serviceability, and the automated side, in terms of both safety and increased productivity, and then also moving to electric or hybrid, the next generation of productivity is opened up for many different types of machines.”



Mammoet carried out a range of sustainability measures, helping it win the SC&RA award



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Salgert used its brand-new Liebherr LTM 1095-5.1 on the job

Six cranes owned by Salgert in Germany work in unison to raise a roof structure without damaging it. CHRISTIAN SHELTON reports

# Raising the roof

**G**erman mobile crane and heavy haulage contractor Salgert used six Liebherr LTM mobile cranes to lift the roof structure of an industrial building being built near Mechernich, Germany.

The steel roof structure measured around 500 square metres and comprised trusses and girders weighing around 150 tonnes.

For the job Salgert used three of its fleet from its headquarters in Lohmar and

three from its branch in Euskirchen, both in Germany. One of the cranes was Salgert's most recent purchase – a Liebherr LTM 1095-5.1, the ballast slabs for which were delivered straight to the site from the Liebherr's plant in Ehingen, Germany.

The smallest crane used was an LTM 1090-4.1, with a capacity of 90 tonnes, while the largest crane was an LTM 1300-6.2, with a capacity of 300 tonnes. All the mobile cranes

had their telescopic booms extended around 25 metres and a gross load of around 25 tonnes each on their hooks.

## Precision required

Once at the job site, the six LTM cranes came under the control of Gerd Müller, the manager of Salgert's Euskirchen branch, who ensured that each crane was set up and ready to go at its designated location in around an hour.

After the slings had been attached to the load and the connections to the pillars released, the steel roof structure was initially hoisted just a few centimetres.

A high degree of precision was required from both the crane operators and the marshals to ensure the lift was synchronised so that the roof was not damaged.

Once Müller was satisfied all was well, the load was then raised around one metre. Then structural steel workers bolted-in place 75 cm extension sections to six pillars that held the roof up.

The roof was then carefully lowered onto the extended pillars, again with the six cranes working in harmony. The total job took just four hours from start to finish. ■



Salgert used three cranes from its Lohmar headquarters and three from its Euskirchen branch

# Trailblazers

**Demand from end users for a plethora of specialized transport equipment remains high, spurring manufacturers to continue innovating.**

**CHRISTIAN SHELTON reports**

In a similar way in which digital technology has 'shrunk' the world into what has been described as a 'global village', advancements in specialized transport technology mean ever heavier loads can now be transported greater distances more easily than ever before. The emergence of new types of abnormal and overweight loads is also stimulating growth in the specialized transport sector, resulting in manufacturers developing new, cutting-edge bits of kit to meet demand.

And demand is high, as illustrated by heavy lift and transportation specialist ALE which says it continues to invest in trailers and specialized transport equipment with the latest technologies. "We purchased two new fleets of widening trailers, some for our South Africa branches, that can be mechanically widened three metres to get the maximum stability and footprint for travelling long distances safely with severe road cambers, and another fleet in the UK that can be widened to 4.3 m whilst loaded. Both trailers are being used to optimise the road conditions," says David Purslow,

general manager of global operations at ALE. "Last year, we purchased 2 x 6 axle units of Goldhofer ADDrive SPT, complete with power packs, which will be utilised in Kazakhstan to primarily service the Caspian region."

## Tough terrain

ALE has also bought eight new Iveco Trakker trucks for use in Argentina and Chile. "We wanted to increase our transport capabilities as we often have to negotiate terrain that has unprepared roads," explains Walter Rago, general manager of ALE's Argentina branch. "The decision was made to purchase these trucks because of their off-road characteristics. This makes them particularly suitable for the region's roads and the specific routes we take. Their sturdy features, including the chassis, suspension and engine capabilities, will help when negotiating the difficult Patagonian roads. The trucks will be used to strengthen ALE's service

offering across the region and, specifically, its presence in the region's burgeoning wind energy market."

ALE also develops its own in-house specialised transport equipment, such as the AL600 girder frame and Route Survey Tool released at the end of 2017. "The AL600 is the world's highest capacity girder frame and can carry up loads up to 600 tonnes using up to 80 axle lines," explains Purslow. "It is ideal for challenging routes as the necks narrow in from the load-carrying beams to the tower, so it doesn't take as much space or require as many obstacles to be removed when driving around bends.

"The Route Survey Tool is a computerised system that automatically logs accurate route descriptions on digital maps for greater reliability and project efficiency. In fact, the Route Survey Tool won the Safety Innovation



**Mammoet has acquired an American and Canadian patent for a widening adaptor for SPMTs**



Goldhofer's THP/DC transporter

award at the ESTAs for its safer and more reliable functionality.”

ALE says that it is finding the busiest markets for moving oversized and overweight loads to be the wind and power generation sectors. “The busiest markets requesting transportation of oversized, abnormal loads are most commonly across Europe, South America, Australia, Africa, and South East Asia,” adds Purslow. “As a result, we are investing in the most suitable equipment to match the regional requirements and challenges.”

Specialized transport equipment manufacturer Goldhofer also says that the wind power sector is a key area of focus and the company has two transport solutions for wind power plant logistics: the FTV 300 and FTV 500.

The larger of the two, the FTV 500, has been designed for the increased size of modern rotor blades. It has a load moment of up to 500 metre-tonnes and is suitable for handling the Enercon E-138 rotor blade, which has a length of 67.9 m and a dead weight of 21,400 kg, and the Vestas V 150, currently the biggest rotor blade on the market with a length of 73.7 m. The FTV 500 has a maximum lift-up angle of 60 degrees and allows infinite pitch adjustment around the axis of the blade so that it can be adjusted depending on the direction of the wind, says Goldhofer.

For road haulage operations on less challenging routes Goldhofer makes the BladeX blade tip lifting device, which can be installed on any Goldhofer flatbed semitrailer with pendular axles. It can handle blades with a length of up to 70 m. It incorporates

a scissor lift with a maximum stroke of 7 m which gives approximately 10 m of clearance above the ground for negotiating roadside obstacles and narrow sections of a route.

The BladeX can also be retracted under load, adds Goldhofer, while the blade tip lifting device incorporates a crosswise tilt angle of up to three degrees for equalisation of centrifugal forces caused by either bends or slopes.

### Global markets

According to Goldhofer, in countries such as Turkey or India road regulations are being relaxed with regards to maximum permissible axle loads and overall widths due to improvements in road infrastructure. Goldhofer reports that, because of this, these markets are opening up to its product portfolio.

In Thailand, on the other hand, Goldhofer says the maximum number of permitted axle lines per combination has been reduced. There are also complicated regulations to be observed in the US market, Goldhofer adds, where it is aiming to strengthen its presence following the foundation of Goldhofer Inc. in 2017 and its 2018 partnership with US trailer manufacturer Trail King Industries – where the two companies have agreed to help support and promote each other’s products. Compliance with the legal requirements for road haulage is all the more challenging in the USA, says Goldhofer, as there are considerable differences between the individual states.

It is against this backdrop that it introduced its THP/DC transporter in 2017. Using a remote control, Goldhofer says the THP/DC can be widened step by step from a width of 4,260 mm up to 6,100 mm. This can also be done with the vehicle under load – at a maximum axle load of 24 tonnes at 40 kph – and even whilst on the move, claims Goldhofer. The loading height can be adjusted from 1,000 mm up to 1,700 mm. The transporter is suited for haulage operations across several borders as automatic hydraulic operation permits load distribution to be quickly adapted to the various regulations without having to spend time offloading the cargo at critical points on the journey, Goldhofer explains.

Goldhofer’s second US-compliant vehicle, the Goldhofer STZ-P9, comprises three three-axle bogies with swing axle technology and an extension system for changing the distance between the bogies and thus axle spacing to cope with differences

## TRANSPORTING TURBINE BLADES

This image, taken by construction, demolition and transport photography specialist Scottish Photography Productions, shows UK-based transport and logistics company Collett and Sons transporting wind turbine blades for its client, wind turbine manufacturer Senvion.

Collett is transporting the blades using its Super Wing Carriers (SWC), made by Dutch manufacturer Nooteboom, Trailers between KGV Dock, Glasgow, to the Kype Muir Wind Farm in South Lanarkshire, Scotland.

Colletts has three SWCs which it purchased in 2015 direct from Nooteboom in response to the increasing size of turbine blades. “We have seen turbine blades grow from 18 m long for 450 kW turbines, where we could load 3 blades per trailer, to the latest generation of turbines (3 and 4 MW turbines) which have blades up to 70 m long,” said Colletts’ managing director David Collett. “This project comprises 260 abnormal loads consisting of blades, tower sections, nacelles, drivetrains and hubs that have to be delivered on time and in the correct sequence. These blades are only 52 m long but specifically required the SWC due to some problematic road restrictions and alignments en route. With the SWC it is possible to shorten the body and wheelbase of the trailer whilst loaded. This is due to the sliding bolster arrangement on the deck of the trailer. The use of this feature meant that the access route became viable for this size of turbine for this wind farm, otherwise a smaller turbine would have had to be nominated.

“The Collett Consulting team provided proof of this prior to the transport taking place by creating a 3D model of the truck, trailer and load and then produced a swept path analysis movie of the blade successfully negotiating the route restriction by manipulating the trailer whilst loaded.”



in the relevant regulations. In addition, Goldhofer says, with the support of a tractor, the length of the trailer can be decreased by retracting the rear bogie of the STZ-P9 – even under load. It can then be extended again when required.

### Widening system patent

Dutch heavy lift and transportation specialist Mammoet has also been looking at widening systems and has just announced it has acquired an American and Canadian patent for a widening adaptor which can expand self-propelled modular transport (SPMT) trailers. The widening adaptor enables variable spacing of split SPMT trailers, expanding the width from 10 feet to 21 feet.

According to Mammoet, an SPMT that has been extended with the widening adaptor has the same amount of capacity with additional stability – increasing the width of the loading platform, without the need to add more SPMT trailer units. This, it says, makes transporting such loads more cost-effective and safer due to the increased width.

### WASTE GAS SCRUBBER MOVE

Thai transportation specialist Silamas was contracted to move two waste gas scrubbers, weighing 2,100 tonnes each and measuring 16 x 36.1 x 36 metres, a distance of 800 m from the factory where they were made to a nearby quay in Japan, and then to load them onto a barge.

Silamas' engineering manager Teeraphap Juntorn says, "In view of the enormous weight and dimensions of the units, we finally opted for two 24-axle parallel combinations controlled by a single operator using a Hydronic steering system from Goldhofer."

The first parallel combination comprised two PST/SLE 16s and THP/SL 8s; the second configuration comprised one PST/SL 4 and THP/SL 20, and one PST/SL 6 + THP/SL 18.

According to Goldhofer, its PST/SL series is one of the heavy-duty modules with the highest loading capacity on the market and has a tractive force of 160 kN per driven axle line.



The new MAX600 turntable trailer from Faymonville

The company has also opened its first office in Kazakhstan, as part of its joint Mammoet-Kasmashal venture. The new office will predominantly provide services to the oil and gas, petrochemical, mining, and wind energy sectors. The new Kazakhstan fleet will include 60 SPMT axle lines, as well as 24 trailer axle lines and 8x8 trucks. This latest branch comes on the back of Mammoet opening new branches in Jubail, Saudi Arabia and Teesside, UK.

Luxembourg-based trailer manufacturer Faymonville has added a new trailer to its range: the MAX600 turntable trailer. Faymonville says the trailer offers a choice of three or four axles and its flat loading platform makes it particularly suitable for transporting construction equipment.

The company has also developed some new features for its PA-X low pendle-axle for use on trailers, which enables a low

loading height of 790 mm and a stroke of 600 mm. Faymonville says the steering geometry of PA-X trailers can now be hydraulically adjusted via the steering system without requiring any mechanical work to provide the ideal steering geometry for the respective vehicle length. This helps optimise manoeuvrability and reduces tyre wear and tilting, says Faymonville.

The most recent product from Faymonville's Cometto brand is the MGSL heavy duty modular vehicle, with a capacity of 45 tonnes per axle line. Its strengthened load area allows point loads up to 50 tonnes above the wheel arches and 80 tonnes above the cross members. It is 3 metres wide and available in units of between two and six lines. A power pack unit can also be added to make it self-propelled and Faymonville says it is compatible with similar vehicles from other manufacturers.

In this image Fagioli Asia is transporting a bullet tank weighing 900 tonnes. Fagioli was contracted for the jack-up, transport and load-out/load-in of seven bullet tanks in Malaysia between February and November 2017. The tanks were also transported via four barges and on the road.

For the job, Fagioli used four jack-up systems, 48 SPMT axle lines with four power pack units, the barges, 20 ballast pumps, and modular grillage.



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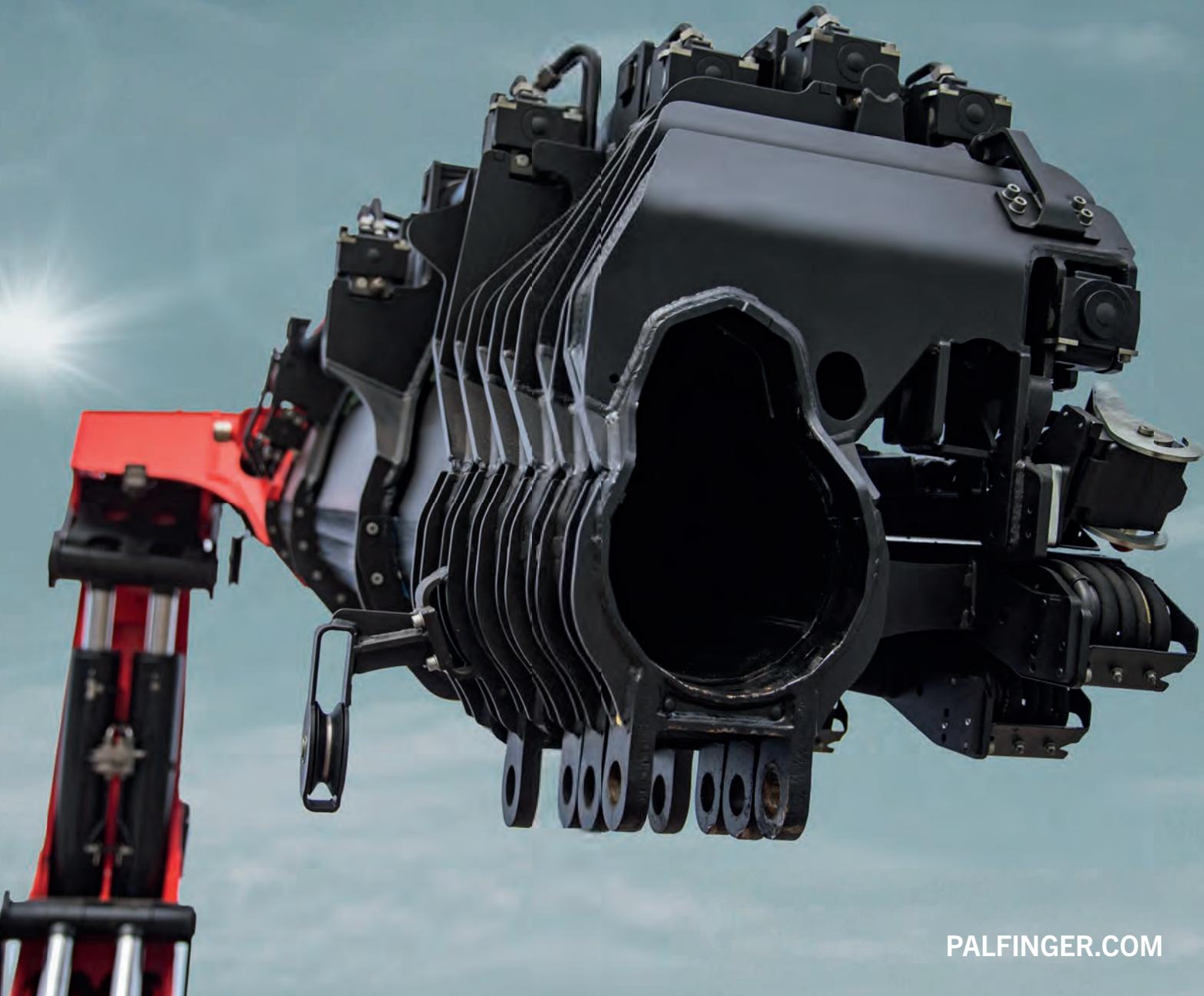
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# Transport trading

The IAA Commercial Vehicles show is a leading event for the industry and the next one is coming up fast. Here ICST outlines what's in store for visitors



More than 2,000 exhibitors will attend the 2018 show

## IAA SHOW AT A GLANCE

A sample of some of the specialized transport-related exhibitors at this year's IAA show.

### CRANES

- Amco Veba
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- Goldhofer
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- Kamag
- Max Trailer
- Nicolas
- Nooteboom
- Scheuerle

### TRUCKS

- MAN
- Mercedes-Benz (Daimler AG)
- Paul Nutzfahrzeuge
- Renault Trucks
- Scania
- Volvo Group Trucks

### COMPONENTS

- Alcoa
- Allison Transmissions
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- BPW
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- Brigade
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- Liebherr-Components
- Meritor
- Michelin
- Orlaco
- Paccar
- Pewag
- Pirelli
- Spanset
- ZF

The 67th IAA Commercial Vehicles exhibition takes place in Hannover, Germany, from 20 to 27 September 2018. It is a leading international event for the industry and covers everything transport-related from trucks and trailers to cranes, components and the rapidly advancing digital element of things.

Almost 250,000 visitors attended the last show from 52 countries. Over an exhibition area of 270,000 square metres more than 2,000 exhibitors, 61 % of them international, will have an opportunity to present or talk about something new. Many of the exhibitors have an eye on a digital future so a theme of this year's event is 'Driving Tomorrow'. This will include the New Mobility World, a focus on connected and automated driving, alternative powertrains, urban logistics and transport services. Designers and other

decision makers will present views on how traffic, mobility and logistics can become more efficient, greener and smarter.

### Market growth

IAA Commercial Vehicles is organised by the German Association of the Automotive Industry (VDA). Commenting on the commercial vehicle market, Bernhard Mattes, VDA president, said, "The international commercial vehicle markets are developing well. For example, by the end of May our Western European home market had expanded by a good 1 per cent."

In the first half of 2018 in Europe nearly 125,000 heavy-duty trucks were sold - the highest number since 2008. The market also grew in the new EU member states and in Russia.

The situation was equally good on the



Looking ahead is a key element of this year's IAA show

Only by doing that we will be able to hold the low level of fuel consumption in the long run



Trailers are a major part of the IAA show. Trailer sales grew by 10 per cent in Germany in Q1 2018

**ABOUT THE EVENT**

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**WHEN:** 20 to 27 September 2018

**WHERE:** Deutsche Messe Fairground, Hermesallee, D-30521 Hannover, Germany

**OPENING TIMES:** 09.00 – 18.00

[www.iaa.de](http://www.iaa.de)

the more imperative that we continue to back free and fair trade and continuation of the negotiations between the large trading nations.”



Popular IAA exhibits include cranes

US truck market, Mattes said, with a rise of almost 18 % in the first five months of the year. China, the world’s largest truck market, also showed double-digit growth from January to May – up by 12 %.

“In addition, Brazil – a cause for concern over recent years – is again generating

optimism,” Mattes continued.

Sales rose more than half, from a low level, in the first five months of 2018. India is the third largest market in the world and expanded strongly, up 49 % in the first half. Following a similar pattern are the markets for trailers and bodies. Sales in Germany grew 10 % in the first quarter.

Looking ahead, Mattes said, “On the commercial vehicle markets, the outlook for 2018 as a whole is also largely positive, especially given the healthy state of the global economy. No-one is going to overlook the risks here – especially the political risks – and that includes the effects of Brexit. In important regions there is the threat of isolationism and protectionism. So it is all

# Know What’s Changed in Crane Safety Management

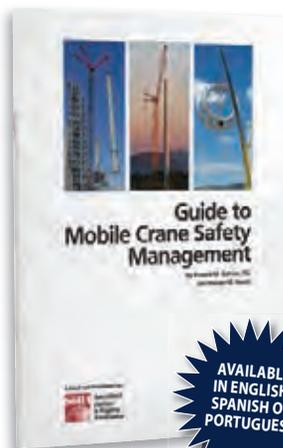


**The Guide to Mobile Crane Safety Management** is the most comprehensive reference manual available today. The manual addresses four key areas of consideration when managing mobile crane utilization on a jobsite: risk; lift classification; lift planning; and jobsite issues.

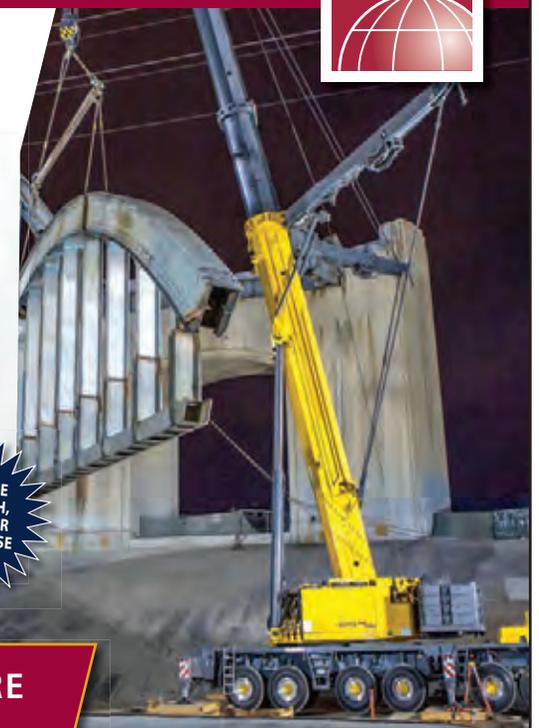
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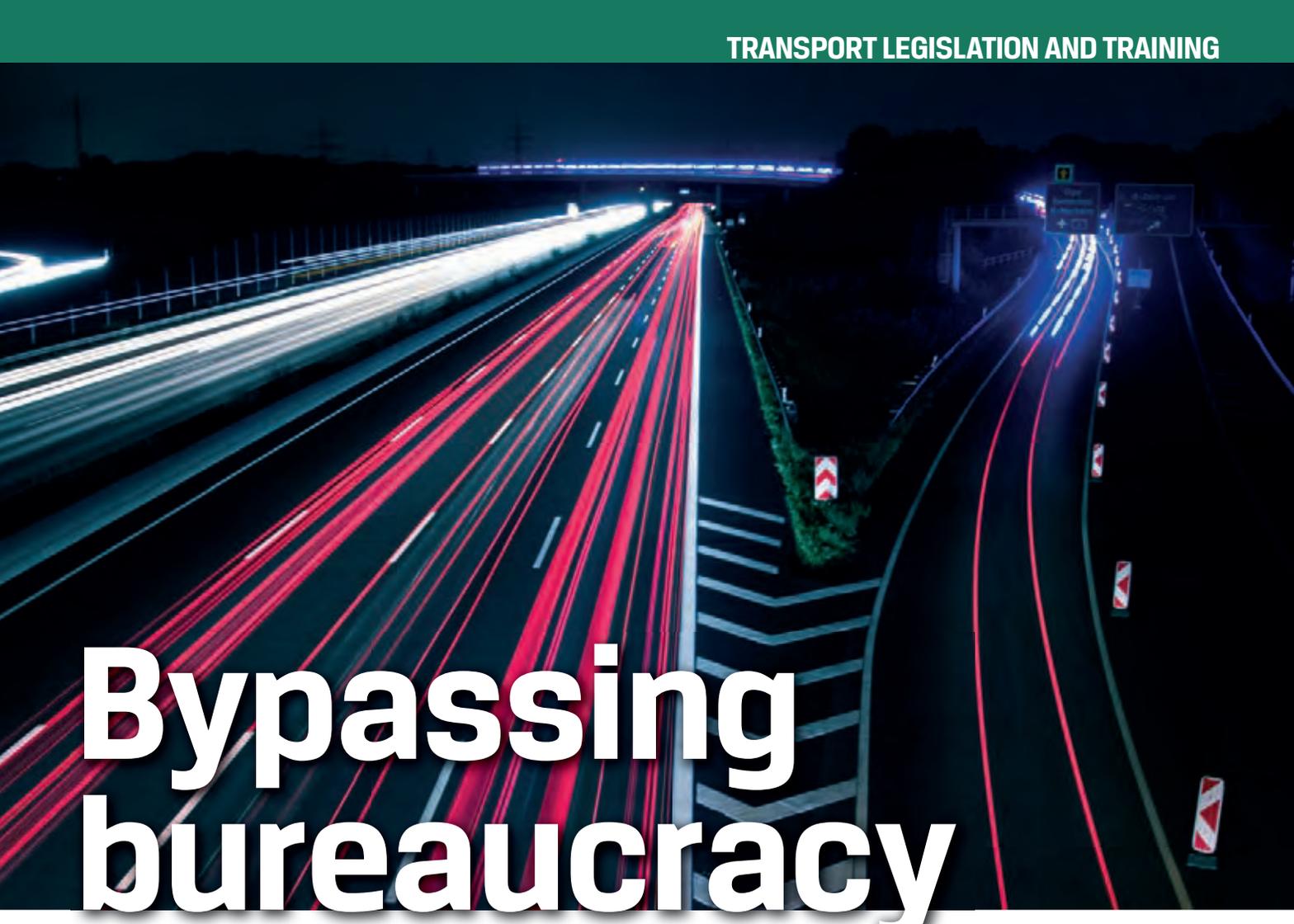


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# Bypassing bureaucracy

Initiatives are underway on both sides of the Atlantic lobbying rule makers to abolish unnecessary barriers to raising safety standards and to trade. CHRISTIAN SHELTON reports

In Europe, ESTA – the European association of abnormal road transport and mobile cranes – is stepping up its lobbying of the European Commission and national regulators in a fresh attempt to raise safety standards and reduce petty bureaucracy and protectionism.

ESTA director Ton Klijn is to start lobbying European national governments in a fresh attempt to persuade them to adopt the European Best Practice Guidelines for Abnormal Road Transport, first published in a European Commission Transport Directive back in 2005.

The directive contains SERT, the Special European Registration for Trucks and Trailers, intended to reduce the paperwork and bureaucracy faced by the industry.

The worsening problem of obtaining permits in many countries was the subject of a passionate debate at the most recent meeting of ESTA's Section Transport where some members referred to the "ever increasing web of bureaucracy" that is hampering the heavy transport industry.

"We will be knocking on as many doors

as we can and directly lobbying national governments," says Klijn. "In particular, we will be talking to our new members and contacts in eastern Europe, some of whom are facing particular difficulties."

To date only the Dutch road traffic authority RDW issues SERT documents with new vehicles, and it is accepted as an information document by the Belgian, Swedish and English road traffic authorities. But ESTA hopes that with authorities throughout Europe under ongoing financial pressure, they will see that an agreed Europe-wide registration system – as part of accepted best practice guidelines – will save time and money as well as making the industry safer and more efficient.

### Growing influence

ESTA's efforts have been strengthened by a growing influence in the Balkans following the Bulgarian Association for the Transportation of Oversized Cargoes (NSPIT) joining it as a new member. NSPIT was formed in 2015 as part of the industry's attempts to update the country's regulations governing heavy transport and, to date, the

“ The more countries that are represented in ESTA, the better our concerns will be heard, both in Brussels and by governments ”

core of its members are transportation firms and freight forwarders, although they have also signed up a crane company.

"The more countries that are represented in ESTA, the better our concerns will be heard, both in Brussels and by our national governments," said Mladen Ganchev, chairman of NSPIT's board and manager of Bulgarian heavy transport company Holleman. "Our goal at NSPIT is to change many aspects in the law and regulations in Bulgaria, as they are over 20 years old and do not correspond to the modern rules and equipment.

"In addition, we want to see the

»

introduction of annual permits as they do not exist at all in Bulgaria at the moment, and we also need to create clear rules for escort services. At the moment everybody can perform an escort with any kind of car and equipment.

“We need ESTA’s international support and expertise and we will provide our local knowledge and know-how to support their activity in the Balkans. I am sure that only by working together – local organisations like ours on one side and ESTA from a European perspective on the other – will we improve the rules in Europe as a whole.”

## North America

In the USA, the Specialized Carriers and Rigging Association (SC&RA) – an international trade association of more than 1,300 members from 46 nations – is seeking to effect harmonisation between all 50 states on



**Steven Todd, SC&RA vice president, says lack of uniformity amongst US states having a negative impact**

overweight and oversize (OS/OW) envelope vehicle configurations with its uniform Permit Transport 2021 (UPT2021) initiative.

At present, different requirements and weight allowances in different states means that when oversize and overweight vehicles cross state lines they can be subject to delays and added costs.

“Lack of uniformity amongst states is costing our member companies millions of dollars annually,” elaborates Steven Todd, SC&RA vice president. “Manufacturers pay more for transporting their products, and those costs are passed along to consumers. Ultimately, it’s nearly every citizen or tax payer bearing the burden.

“Beyond the consumer, the lack of



**Lack of uniformity amongst US states is costing its members dear, says SC&RA**

uniformity among states’ permitted weight allowances has a very real impact on the nation’s infrastructure as OS/OW loads are re-routed hundreds and thousands of additional miles, causing more stress on the nation’s already decaying infrastructure. UPT2021 is one of the most important initiatives we’ve undertaken because, while the goal of uniformity across 50 states is possible, it’s formidable. But the consequences of doing nothing are no longer tolerable.”

## SC&RA's solution

The solution the SC&RA is proposing focuses on two key areas: to encourage all states to allow minimum weight thresholds; and for states to analyse and issue permits routinely, ideally via automated permit systems.

With regards to minimum weight thresholds, Todd says the Association has been moderate in the harmonised threshold it is seeking. Todd explains the thinking behind this, “There was great debate within our committees as to how bold we wanted to be – how high we wanted to set the weight thresholds we were asking for. There are at least 26 or more states that will allow that configuration now with some semblance of engineering analysis. So, our thinking there was that, if we are modest in our request of selected thresholds, that a majority of states already approve, it can hopefully only enhance our advocacy efforts to convince those states in the minority to raise their thresholds

“ The lack of uniformity among weight allowances has a very real impact on the nation's infrastructure ”

## MOVES TO HARMONISE EUROPEAN MARKING AND LIGHTING REGS GATHER PACE

New moves to harmonise standards and regulations governing lighting and marking on heavy transport throughout Europe are gathering pace following the latest round of expert discussions in early July 2018.

Organised by ESTA, the work is being coordinated by an 11-strong expert group co-chaired by ESTA’s Section Transport president André Friderici, technical director of Friderici Special, and vice-president Iffet Türken, executive board member of Kässbohrer.

The group is currently about halfway through the first phase of the programme – collecting and analysing information about the various rules currently in force in different European states. This includes the methods of cargo and vehicle marking, rotating beacons, side marker lighting and conspicuity marking.

André Friderici hopes the first phase of analysis will be complete by this autumn, after which the group will prepare a draft proposal for common Europe-wide standards.

If that is accepted by ESTA’s members, the plan is to present the document to both the European Commission and national governments in an attempt to get it adopted.

According to ESTA, the European heavy transport industry is becoming increasingly frustrated by what it sees as a plethora of petty and unnecessary regulations that can sometimes be used as a kind of protectionism by local authorities. “Minor infringements of local regulations can be extremely expensive and time-consuming,” Friderici says. “You can easily lose half a day or more because a sign is in French instead of German, for example. Surely it can’t be beyond our industry and our regulators to agree accepted common standards.”

ESTA says its work has received strong support from its members associations, especially BSK from Germany and TLN from the Netherlands. Other group members include Tii Group, Hipertrans, Broshuis, Kässbohrer and Faymonville.





### NWH GROUP HGV DRIVER APPRENTICESHIP SCHEME

Scottish environmental and land services provider The NWH Group (NWH), says it has committed £500,000 investment in its own unique HGV driver apprenticeship scheme for the next five years and beyond. Run in conjunction with Glasgow Training Group (GTG), NWH hopes to recruit and train 80 HGV driver apprentices during the course of the next five years, with successful graduates achieving a Modern Apprenticeship in Driving. The scheme is open to young people aged 18 – 24 years.



The NWH Group aims to train 80 HGV drivers

Mark Williams, CEO at NWH, said, "There is an industry-wide shortage of HGV drivers which is a real challenge for businesses in the road haulage industry and other businesses requiring these skilled drivers as core members of their workforce. We believe that focusing on the modern apprenticeship and our driver academy programme is the route to growing our own driver talent and increasing driver retention. Increasing the number of high quality, qualified drivers out on the roads is critical to the continued success of our industry."

to match the majority of the states. It's a strength-in-numbers approach in terms of an advocacy argument.

"We also wanted to keep the number manageable overall, as to not overwhelm state officials. We wanted to select common configurations from our members so as to have a chance at achieving the most success for the most members possible."

Todd also says an automated permit system would enable permit issuing 24 hours a day, seven days a week. The simplification of the process, he believes, would lead to more users legally obtaining and running on state-issued permits, thereby increasing the safety of all road users and increasing revenue for states due to the higher number of permits being issued.

### Making progress

At present around 30 states use automated permit systems but this number is growing. The SC&RA wants all states to use an automated system by 2012. And it is making progress. In July 2018 the state of Missouri upgraded its online system while, also in July the SC&RA visited Ontario and Quebec in Canada as part of a continuing effort to work toward harmonization for its 116 Canadian members. According to the SC&RA, the Ontario Ministry of Transportation is considering fully automated permitting and the complete replacement of police escorts with private certified escorts. In addition, it says, counties throughout Ontario are considering automated permitting and the coordination between local jurisdictions.

Looking forward, the SC&RA is currently awaiting the results of a cost analysis study to determine just how much it costs per mile for an overweight permit load to travel through a barrier state and around it. Once the study is finalised the Association says it will be in a stronger position than ever to promote and effect its UPT2021 initiative.



#13

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Mammoet had to negotiate railway lines and power cables whilst moving the tug boats

# Mammoet moves

**Moving a pair of 400 tonne tugboats was a challenge met by Mammoet on a job in Canada. ICST reports**

**M**ammoet completed the transport of two tugboats, each weighing 430 tonnes, from the Island Tug and Barge (ITB), Annacis Island facility in Canada, to Vancouver Harbour for berthing. The tugs, Island Raider and Island Regent, are each 23.9 metres long and 12.5 m wide.

Many obstacles were identified during an initial scoping of the transport route. One was a below-grade railroad siding and three sets of railway tracks between the yard and the steep bank of the river. There were also overhead powerlines, railway restrictions and constraining tidal conditions, Mammoet said.

Working with subcontractors and the client Tidewater, Mammoet came up with a plan to meet the challenges to load out and launch the ships.

## Multiple challenges

For a start the ITB facility had no clear access to the water. Mammoet transported the tugs across rail lines while maintaining sufficient clearance from overhead powerlines.

Self propelled modular transporter (SPMT) was chosen to carry the tugs. Precise movement was needed in the facility's congested footprint.



Having cleared the rail lines using a ramp, some 40 foot (12 m) ramps were then connected to a self-ballasting barge where a roll-on operation had to be done within a six hour time limit. Both tugs were loaded in time. Next was transport to Vancouver Harbour where they were lifted off the barge ready for transport to the Tidewater Shipyard for completion.

Commenting on the project, Marc Schwartz, Tidewater maintenance and engineering manager, said, "This was a logistically intricate and technically challenging project. We put together a great team, overcame a lot of obstacles and safely launched the two vessels."





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# Ground pressure

MARCO VAN DAAL talks us through the details of ground pressure on heavy haul dirt roads

**G**round pressure under transporters remains a controversial topic. The article I wrote in November 2016 about the two methods to determine ground pressure underneath transporters answered questions for many readers but raised questions for others.

The explanation of using the shadow area and the extended shadow area and how these methods lead to a uniform soil pressure at a certain depth was well accepted. However, it didn't answer how the same soil (i.e. compacted to the same extent) can withstand, at least temporarily, the much higher pressure directly beneath the tyre contact area. In this article I will give a simplistic approach to explain this phenomenon on temporary heavy haul dirt roads.

## Bearing capacity

There are a number of ways to determine the ultimate bearing capacity of different types of soil. Every one of these methods are valid and most are used to this day. The problem with these methods, for the heavy transport industry, is that they all determine soil capacity suitable for structures or buildings that will remain there for many years. They take into account draughts, heavy rainfall (in some areas even floods), frost and other extreme weather conditions. By default, this is clearly overkill for a temporary transport road as the heavy transport imposes its loads for a relatively short time.



FIGURE 1

Many building codes implement a safety factor of up to 3.0 between the ultimate bearing capacity (at which the soil fails) and the safe bearing capacity.

Note that this is an approximation and should never be used to determine soil capacity for permanent structures.

## Tyre pressure

The pressure inside a tyre is (more or less) equal to the pressure exerted onto the soil it is driving on. This is not entirely correct because of the stiffness of the tyre wall but for simplicity we adopt this assumption. You may have seen desert rallies in four-wheel drive vehicles with their tyre pressures reduced to a fraction of the nominal tyre pressure to increase the contact patch. This reduces the soil pressure

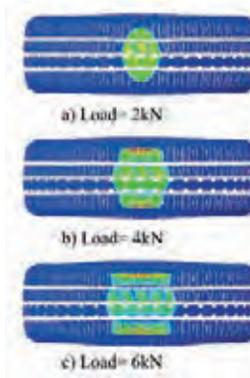


FIGURE 2

and avoids sinking of the vehicle into the loose desert sand. For heavy transport vehicles this is not an advisable solution as reducing the tyre pressure also reduces tyre capacity and heavily increases the rolling resistance of the tyre.

When a tyre is loaded and it deforms, the contact patch increases in size. The pressure inside the tyre remains almost constant. It increases less than 1 % due to a slight decrease in volume. For this article we assume that the tyre pressure remains constant.

For a heavy transport vehicle that is not loaded with cargo and that has an axle-line weight (self-weight) of 3.5 ton/axle-line, the contact patch of all tyres (8.6 bar or 125 PSI) combined in one axle-line equals 429 cm<sup>2</sup> (66.5 inch<sup>2</sup>). This can be calculated as follows:

$$p=F/A \text{ or } A=F/p = m \cdot g/p = 3,500 \text{ [kg]} \cdot 9.81 \text{ [m/s}^2\text{]} / 800,000 \text{ [N/m}^2\text{]} = 0.0429 \text{ m}^2 = 429 \text{ cm}^2 \text{ (66.5 inch}^2\text{)}$$

In the November 2016 article the actual axle-load was 21 ton/axle-line (incl. self-weight) and required a ground preparation of 4.7 ton/m<sup>2</sup>. This results in the following numbers for the contact patch;

$$p=F/A \text{ or } A=F/p = m \cdot g/p = 21,000 \text{ [kg]} \cdot 9.81 \text{ [m/s}^2\text{]} / 800,000 \text{ [N/m}^2\text{]} = 0.2575 \text{ m}^2 = 2,575 \text{ cm}^2 \text{ (339 inch}^2\text{)}$$

Figure 2 visualises the increase in contact patch under the influence of a higher axle load.

The soil pressure beneath the tyre equals 800,000 N/m<sup>2</sup> or 81.5 tonnes/m<sup>2</sup>. That this is an extremely high pressure can be verified in Table 1. All soil pressure in this article are expressed in metric ton per square metre. Knowing that the tyre pressure remains equal and the contact patch increases to achieve this doesn't help much in the quest to explain why the soil doesn't fail. However, if we review figure 3, we see how a tyre behaves under increasing pressure. This figure shows that the tyre wall has a certain degree of stiffness but as the load increases the tyre wall starts to "bulge". In reality, this bulge carries some load while creating and rolling in a track mark or rut. The tyre wall is not specifically constructed for this purpose but it is something that does take place and it increases contact the contact patch by some 25 to 30 %.

Here with reducing the soil pressure by the same percentage.



FIGURES

## Soil failure

As we are trying to explain why the temporary transport road can handle the tyre load in question, we assume that no soil failure takes place.

## ABOUT THE AUTHOR



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

However, a certain degree of settlement directly beneath the tyres is normal. This settlement causes track marks in the soil which is called 'rutting'. The degree of this settlement depends on how well the soil has been compacted. Temporary dirt or site roads that have been subjected to high construction traffic density are often well enough compacted that settlement is minimal. Roads that have not been subjected to such traffic often show deeper settlement tracks or ruts.

As a side note, the topic of tyre pressure directly beneath the tyre contact area often brings up another discussion. Due to the tyre tread, the actual contact area with the underlying soil is thought to be even smaller as the tyre grooves do not carry any weight. It turns out that if the soil can handle the increased load, it will. If the soil cannot handle the increased load, the soil will not immediately fail. Soil is pushed into the grooves as the tyre rolls over it, making the groove contribute to the carrying capacity of the tyre and distributing the pressure evenly over the entire contact patch. See Figure 1.

*Note: This phenomenon is not visible in static tyre loading tests, as these tests are carried out on a solid underground not containing any soil.*

### Road construction

Dirt roads are constructed in layers. The thickness of each layer depends on how coarse the material is but, in general, it's between 8 and 12 inches. Each layer is compacted individually to remove air pockets and water content. Too much water turns the road material into a muddy substance without any load bearing ability. But not all water is removed, as that would turn the road into a sand road without load spreading ability. A moisture content of about 11 to 14% gives the best characteristics for a (heavy) haul dirt road. The right amount of moisture also has positive effects on the soil density and flexibility. Flexible soil deformation is the ability of the soil to flex under the influence of a tyre rolling over it. In flexible deformation (as opposed to plastic deformation) the soil takes the shape of the tyre that rolls over it and herewith increases the contact patch by as much as 25 %, thus reducing the soil pressure by the same percentage.

So why construct a road in layers? Each layer allows the compaction equipment to compact that layer to its maximum efficiency reaching a moisture content of about 11-14%. If the layers are too thin it would be more labour intensive and costly to construct a road. If the layers are too thick, the compaction would not reach to the bottom of that layer, leaving a potential underground soft spot.

Knowing that the compaction equipment does not penetrate beyond the bottom of that layer it is safe to assume that when a heavy vehicle rolls over it and leaves a rut behind, it really compacts the soil beneath the contact patch to a higher density. Even though the soil pressure penetrates beyond the top layer, the compaction does not.

As determined earlier, an axle-line carrying 21 tonnes on tyres inflated to 8 bar has a contact area ( $A_1$ ) of 2,575 cm<sup>2</sup>. If we disregard the number of tyres and assume that this contact area is of a circular shape we can determine the radius ( $r$ ) of that contact area.

$$A_1 = \pi r_1^2 \quad \text{or} \quad r_1 = \sqrt{\frac{A_1}{\pi}} = \sqrt{\frac{2,575}{\pi}} = 28.6 \text{ cm}^2$$

As the forces dissipate at a 45 degree angle we can calculate that at the depth ( $d_1$ ) of the top layer, let's assume 10 inches (25 cm), the new radius ( $R_2$ ) equals;

$$r_2 = r_1 + d_1 = 28.6 + 25 = 53.6 \text{ cm}$$

The new area ( $A_2$ ) at the bottom of the top layer is;

$$A_2 = \pi r_2^2 = \pi * (53.6)^2 = 9,025 \text{ cm}^2$$

What we end up with is a so-called truncated or flat cone, see Figure 4, of which we can calculate the volume ( $V_1$ ).

$$V_1 = \frac{1}{3} * \pi * d_1 * (r_1^2 + r_2^2 + r_1 * r_2)$$

$$V_1 = \frac{1}{3} * \pi * 25 * ((28.6)^2 + (53.6)^2 + 28.6 * 53.6) = 136,760 \text{ cm}^3$$

Let's assume that the tyre leaves a 2 inch (5 cm) deep rut behind. This results in a new depth ( $d_2$ ) of only 8 inches (20.0 cm). The new radius  $r_2$  is now:

$$r_2 = r_1 + d_1 = 28.6 + 20.0 = 48.6$$

The new volume ( $V_2$ ) is now;

$$V_2 = \frac{1}{3} * \pi * d_2 * (r_1^2 + r_2^2 + r_1 * r_2)$$

$$V_2 = \frac{1}{3} * \pi * 22.5 * ((28.6)^2 + (48.6)^2 + 28.6 * 48.6) = 95,711 \text{ cm}^3$$

It is not the absolute value of the volumes  $V_1$  and  $V_2$  that are important, it is the decrease in volume that is important. This volume beneath the tyre has been decreased (read: compacted) from 136,760 cm<sup>3</sup> to 95,711 cm<sup>3</sup>, a decrease of 30 %. This decrease in volume of 30 % means an increase in soil density of the same percentage and herewith an increase in bearing capacity of the same 30 %.

### In practice

Now let's put all this theory together in a real project.

As stated before, the transport calls for a ground preparation of 4.7 tonnes/m<sup>2</sup> based on the shadow area method. See Figure 5.

As the moisture content is difficult to control, it eventually evaporates over an extended period of time (weeks or months), the road surface is kept wet using tank trucks. This is not a scientific way of dosing water so the civil contractor decided to prepare to road to 10 tonnes/m<sup>2</sup> to compensate for the potential water overdose or shortage.

This is the safe bearing capacity and with a safety factor of 3 the ultimate bearing capacity becomes 30 tonnes/m<sup>2</sup>.

The transport left a 2 inch rut behind, meaning that the soil in the rut was compacted and the bearing capacity increased by 30 % in the rut. Bringing the ultimate bearing capacity to 39.0 tonnes/m<sup>2</sup>.

After the transport was carried out the tyre pressure of all tyres was taken. Granted, this should have been done prior to the transport but it wasn't. We found that the average tyre pressure was only 7.0 bar instead of the normal 8.0 bar. An explanation for the low tyre pressure could be that they hadn't been aired-up for a long time and air has seeped out. Another explanation could be that since this transport was

carried out in a hot climate, that the tyres were aired-up at the hottest part of the day and the air contracted during the cooler parts of the day, early morning and late afternoon. In any case, tyre pressure should have

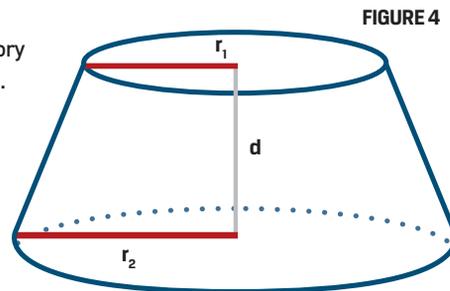


FIGURE 4



FIGURE 5

been checked prior to the commencement of the transport.

The contact patch of a tyre with 7.0 bar of pressure is 2,943 cm<sup>2</sup>. This equates to a 71.4 tonnes/m<sup>2</sup> ground pressure.

The side walls of the tyre increase the patch by up to 30 % with a resulting reduction in ground pressure to 71.4 / 1.3 = 54.9 tonnes/m<sup>2</sup>.

The flexible deformation of the soil increases the contact patch by another 25 % again resulting in a reduction of the ground pressure to 54.9 / 1.25 = 43.92 tonnes/m<sup>2</sup>.

As I mentioned at the start of the article, this is a very simplistic approach to understand why soil beneath a tyre doesn't fail where it seemingly should. The numbers for the ultimate bearing capacity (39.0 ton/m<sup>2</sup>) and the actual ground pressure (43.92 tonnes/m<sup>2</sup>) didn't quite meet but are very close. The difference could possibly be explained by the following:

- 1) The initial road preparation was not 10 tonne/m<sup>2</sup> but slightly more (soil compaction it is not an exact science)
- 2) The road had been subjected to construction traffic to the extent that the road had been compacted beyond the initial 10 tonnes/m<sup>2</sup> of the civil contractor. ■

A few notes for those that might see holes in the above theory:

- There might be holes in the theory, it is a very simplistic explanation of why soil doesn't fail.
- I assumed that the vehicle in question is driving in a straight line and not making any turns, as otherwise other variables come into play that have not been addressed here.
- Any geophysicist may have issues with my explanation as it is indeed very simplistic and may even be oversimplified. ■

Soil type		Bearing capacity (presumptive)			
		t/sq.ft	ksf	kN/m <sup>2</sup>	t/m <sup>2</sup>
Rock (not shale unless hard)	Bedrock	60	120	5746	586
	Layered	15	30	1436	146
	Soft	8	16	766	78
Hardpan (cemented sand or gravel)		10	20	958	98
Gravel, sand and gravel	Compact	8	16	766	78
	Firm	6	12	575	59
	Loose	4	8	383	39
Sand, coarse to medium	Compact	6	12	575	59
	Firm	4.5	9	431	44
	Loose	3	6	287	29
Sand, fine, silty or with trace of clay	Compact	4	8	383	39
	Firm	3	6	287	29
	Loose	2	4	192	20
Silt	Compact	3	6	287	29
	Firm	2.5	5	239	24
	Loose	2	4	192	20
Clay	Compact	4	8	383	39
	Firm	2.5	5	239	24
	Loose	1	2	96	10

FIGURE 6



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# Handing over the reins

Not uncommon in our industry is the time-honoured family business. Decade after decade in construction and heavy transport, company heads hand the reins of the family business to either a son, daughter, or someone else in the family who's dialled in to the process.

It happens so often in this line of work that it may come as a surprise to hear that only around 30 per cent of family companies make it to the second generation.

Unfortunately, there isn't a one-size-fits-all approach to company transitions. But many companies groom young family members for years – who work within and through various aspects of the business as they move from their teen years, become young adults, and eventually pass into productive roles within the business itself. Some companies even encourage their future leaders to go work for someone else – giving them a broader knowledge of the industry and a deeper appreciation for the marketplace.

## Paving the way

One piece of advice many business leaders will give concerns how to lay the groundwork for cultivating a young family member into a future leadership role. A recurrent theme along this line of thinking maintains that the "inherited" position or role is a fast-track to failure.



Earning one's keep is almost always the right path to success – which involves current leadership providing the right opportunities for younger family members as they both enter and evolve within the family business.

The bottom line is, you're trying to create the right culture and environment for the next generation – whether it be family or not – to come in and confidently grow with the company and add value along the way. From a business angle these employees will hopefully become top-end professionals and by the time both current leadership and they are ready to transition, this part of the equation is hopefully less of a challenge than some of the other parts.

Remember, at the end of the day, people run the business. Technology and innovation might enhance it, streamline it, even define it. But people run it. As a company cultivates its next-gen leadership, it has to know that the people in line to take over are made of the same "stuff" while also harbouring a perspective and vision which will move the company forward post-transition.

A successful family business outlines the company's purpose and vision, identifies competition and finds a balance between personal and business relationships. Transitioning a family owned business to the next generation presents a number of unique hurdles, including financials, but it also offers amazing opportunities to contribute to the family's success for generations to come.

## Steps for success

As part of succession planning for leadership and management, older generations should teach the new to follow the same vision and business goals, while incorporating family values. Experts suggest creating plans and goals in these areas:

**Strategic thinking:** Both the current and next generation should create longer-term plans, such as modernising the business while keeping with tradition, and hiring in areas of weakness.

**Planning and performance:** Current owners should develop a hands-on experience and mentor the current management team. As a check-and-balance system, try having a family member report to a non-family member.

**Financial management:** Current owners should make sure their successors understand daily financial practices and how to separate personal and business expenses.

**Next Steps:** Having a clear plan for life after retirement will help to prevent the temptation to interfere. Many business owners have the majority of their net worth invested in the business. If you can't afford to give it to the next generation, and they can't afford to purchase it, consider other options (i.e. leveraged buyout, instalment sale, etc.). ■

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Everyone knows that feeling of being 'the new person' and it can be a bit daunting. However, a host of potential benefits await those brave enough to reach out and join the SC&RA. MIKE CHALMERS reports

# Discovering the power of networking

Association veterans around the world are quick to acknowledge a range of benefits they receive by way of their SC&RA membership. Whether it's through education and related experiences found at annual meetings, products and services developed by the Association, networking-derived opportunities or even leadership roles within the organisation itself, an established member has little trouble leveraging his or her relationship with SC&RA and cultivating the opportunities that emerge.

But what about new members? SC&RA has seen its 'first-timer' population grow steadily at meetings in recent years, as well as through sponsored programmes designed to attract new members. What motivated them to join, and what type of benefits have these folks seen since? Additionally, are they using what SC&RA provides to generate opportunities for themselves?

## First timers

"Attending my first event was a real learning experience for me," said Giovanni Alders, sales manager at ALE's global projects division. "It was great to meet all the companies that operate in the USA and internationally."

“It was great to meet all the companies that operate in the USA and internationally”



Olivier Mailloux

Motivated to join the Association after witnessing the scope and scale of its membership, Alders was also inspired by the ease in which relationships form. "It's now easier to contact the people that you meet at these events – not just because of the business conversations, but we've gotten to know each other socially after the conference, too."

Olivier Mailloux, East Coast sales representative at trailer axle manufacturer KG Industries articulated a similar feeling in regards to how his membership has paid off quickly. "You'll often meet a member of upper management at an event who will give you the proper name of someone to reach out to," he said. "This saves a lot of time on cold calls because first contact has already been made."

As a manufacturer of axles in the heavy haul industry, Mailloux considers SC&RA a natural landing place for KG Industries. "A good part of our list of customers are long-time members of SC&RA," he added. "It's a great way to position ourselves as a supplier, and by participating as an exhibitor, it gives us the chance to present our line of products to customers and new prospects."

But the annual events are just a part of it, noted Mailloux. "Indeed, the discussion sessions at the events combined with networking opportunities helps to motivate us to better serve the industry – but sending email news, magazine issues and compiling the member guide book are



Marcel Riemslag

also all great ways SC&RA educates and informs."

## A deeper appreciation

Marcel Riemslag, general manager at Hovago Cranes, finally attended his first Annual Conference this year, though Hovago has been a member for over 20 years. He quickly realised the value in attending. "We do business globally and also have

rental and purchase customers in the USA – customers with whom I have regular mail and telephone contact," he explained, "but the opportunity to meet them personally, in a situation where the ambience and available time stimulates these personal contacts, really adds much more value to the visit than I had expected."

Emphasising that he is now already planning on attending next year's Annual Conference, Riemslag pointed to how SC&RA is the type of advocate the industry



needs. "It's important for us to be a member because the Association works to make the industry stronger and safer. It protects us all against illogical and unwanted rules and regulations, and works to harmonise standards – both in the USA and worldwide."

He also appreciates the Association's international presence. "I like that SC&RA attends European conferences, like the World Crane & Transport Summit, which is very important for global cooperation and understanding."

### Information provider

Fernando Garcia, quality control and service manager at Mexican crane and transport sales and rental company Auriga agrees with Riemslag, and hopes to use 2018 to become even more informed.

"We've not been able to attend some of the webinars, but I believe those are a good option for us," he said. "I also downloaded some of the presentations, and it will be good to have some printed handouts or brochures with basic information that can be shared easily throughout the rest of our organisation."

Garcia attended his first meeting this year – a relative newcomer to the industry. "I wanted to get acquainted to the crane world, since I'm new in the business. I also wanted to get to know some of the vendors and learn about changes to come and new technologies that could be beneficial for us."

It paid off almost immediately. "We bought some mats for a project from one of the speakers, and we've had contact already with other sponsors," he affirmed.



Fernando Garcia

### Inspiring times

Jan Lansing, an official with the Ministry of Transportation and Infrastructure, Province of British Columbia, was forwarded an invite to this year's Specialized Transportation Symposium by Bob Fleming of Mullen Transport, and made the plunge.

"He thought I might be interested in some of the content on this year's agenda, and I agreed!" she pointed out. "The discussions on permitting processes for 'superloads' and on pilot cars were exactly what I was hoping for, and I got a lot of insight about the ways our systems and policies are both similar and different in British Columbia, compared to various US states."

Lansing also made use of the networking at the event.

"We've scheduled a couple of product demos with vendors who were at the show, and also had a really useful conference call with one of the state representatives about their experiences with building a new permit system," she said.

She even found time for inspiration. "I found the Hauler of the Year and Women in Industry presentations to be very inspirational," she confirmed. "Everyone I met was incredibly welcoming and helpful. It was a great experience."

After attending this year's Annual Conference, Seza Kouladjian, technical product manager (cranes) at simulation specialist CM Labs echoes Lansing. "It was motivating to see that everyone is working towards a common goal," she said.

"I think the key to SC&RA's effectiveness is that spirit of cooperation and community. The annual events encourage members to engage that network face to face. After returning from the Annual Conference, I was able to act on the advice, knowledge and guidance I received and incorporate it into product development plans."

While designing crane simulators for operator training at CM Labs, Kouladjian endeavors to continuously understand the crane industry and its ongoing evolution. She appreciates the depth of knowledge that the Association affords her in this regard. "By attending

**Knowledge, contacts and even new friends are some of the benefits joining the SC&RA can bring**



Jan Lansing

### WHAT ARE YOU WAITING FOR?

If you've been thinking about attending an SC&RA event in the future, now is the time to act. Key networking opportunities this year and beyond include:

#### CRANE & RIGGING WORKSHOP

26-28 September 2018  
Louisville, KY

#### JANUARY BOARD & COMMITTEE MEETINGS

3-6 January 2019  
Wailea, HI

#### SPECIALIZED TRANSPORTATION SYMPOSIUM

19-22 February 2019  
Houston, TX

#### ANNUAL CONFERENCE

23-27 April 2019  
Carlsbad, CA

Event and registration information available at [www.scranet.org/events](http://www.scranet.org/events).

meetings, I get the opportunity to have meaningful conversations with members, ask questions and hear their opinions and concerns. The committee meetings and the content presented is also very valuable. Participating in them allows me to understand the issues the Association is trying to advance. I also get to hear the latest on best safety practices and standards."

Kouladjian knows that the machines she is modelling need to reflect the machines used in the field. "The learning objectives we

include need to result in real-life skills," she maintained. "For us, greater knowledge translates to higher value. Although it was my first time at an SC&RA meeting, I can say that the things I learned will help guide the development of our future products. Likewise, the SC&RA's ongoing leadership in educating their membership on upcoming regulatory updates is invaluable in preparation for certification changes."

And did she mention the networking? "Some of the best ideas for product features come from conversations we have with users and experts. With so many opportunities to network and interact, the environment created at SC&RA events is very empowering."





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# Geda and Potain hoist partnership



Johann Sailer, CEO Geda (left); and Aaron Ravenscroft, executive vice president of cranes, Manitowoc

## AMCS SYSTEMS AT INDIAN MONUMENT

French anti-collision and zoning system specialist AMCS Technologies (AMCS) has installed anti-collision systems on three Potain MR 295 H20 luffing jib tower cranes and one saddle jib tower crane working on the Statue of Unity project on Sadhu Bet island, India.

According to AMCS, its DCS 60 (Driving Control System) zoning and anti-collision systems are key to ensuring the safety, and thus the productivity, of work on the site, where the cranes are lifting rebar, concrete, steel, and assembling the bronze fixtures that will form the outer cladding of the statue.

Once complete, the statue will stand at 182 metres high – making it the highest statue in the world.

■ For more information see: [www.amcs.fr](http://www.amcs.fr)



Tower cranes from Potain will be fitted with the Geda Potain Cab-In internal mast crane operator hoist as part of a new supply agreement.

The two companies say they collaborated closely in the development of the Cab-In, exclusively for the Potain top slewing crane. It is based on the Geda 2 PK crane operator hoist that has been on the market for several years.

The new internal mast Cab-In enables a fast route to and from the cab, said Geda. It fits inside all crane mast systems and is compatible with all Potain bases and drive frames. It also increases cost efficiency, the company claims, since the hoist remains permanently in the crane avoiding any additional transport costs and separate storage areas being required at the installation site.

The Cab-In is easily accessible and therefore easy to maintain and service, Geda continued. For additional safety Geda and Manitowoc have also developed a new, enclosed sliding landing level safety gate specifically for the hoist.

Johann Sailer, managing director of Geda, said, "One of our objectives is to offer tailor-made height access solutions. Our existing expertise in crane operator hoists along with the exclusive collaboration with Manitowoc, has enabled us to develop the Geda Potain Cab-In."

The market launch of the Cab-In is planned for the end of 2018 although Geda says it already complies with French regulations which, from 2019, will make the installation of a crane operator hoist obligatory for every crane with a lifting height of 30 m. The hoist also complies with

regulations in the Netherlands and in Scandinavia.

Since the partnership Manitowoc and Geda have agreed a five-year deal for several hundred devices. Existing Potain cranes are to be retrofitted with the new hoist.

■ For more information see: [www.geda.de](http://www.geda.de)

## JACK-UP DRIVES



Italian drive specialist Bonfiglioli is currently highlighting its series of jack-up drives for lifting applications in the maritime sector.

Bonfiglioli said its drives are designed for use on lifting platforms or jack-up vessels and that each drive variant has four gear stages. Torque for the series ranges between 163,000 to 1,245 million Nm and the retention force is between 263,000 and 1.766 million Nm.

The 700T series of multistage planetary gears can be powered using a hydraulic or electric motor and combined with parallel shaft units which allow them to be built into smaller spaces, said Bonfiglioli. Application-specific input and output options are also available.

All drives have been approved in accordance with American Bureau of Shipping standards, said Bonfiglioli.

■ For more information see: [www.bonfiglioli.com](http://www.bonfiglioli.com)

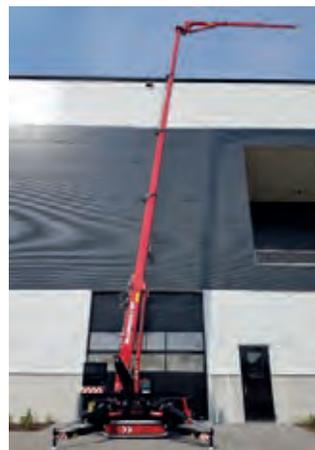
# Mammoet goes small with Hoeflon

International heavy lifting and transport specialist Mammoet has expanded the small end of its crane fleet with the addition of a pair of new 4 tonne capacity Hoeflon C10 mini-crawler cranes.

The Dutch-built telescopic C10 is 800 mm wide to fit through doorways and is designed to operate in confined spaces.

At the maximum 19 metre reach it will lift 209 kg and the greatest hoisting height with all extensions is 22 m. It weighs 4.7 tonnes and can be fitted with a radio remote control. Power is from a three-cylinder Yanmar diesel, or it can be powered electrically. Track width can be adjusted for optimum stability according to the available space.

Mammoet said it will run the mini-crawlers alongside its existing trailer and loader crane fleet for its industrial services customers.



Mammoet has bought two new C10s

Gert Jan Uildriks, Mammoet Assen branch operations manager, said that while Mammoet is known for its big projects, the company has significant operations in rental business and maintenance work. "We now have the necessary and complete range of equipment to expand into new and growing

markets, such as machine relocations," Uildriks said. Mammoet Noord and Mammoet West in the Netherlands will have the new cranes.

■ For more information see: [www.hoeflon.com](http://www.hoeflon.com)

EVENTS DIARY

2018

INTERMAT ASEAN

6 to 8 September 2018

Bangkok, Thailand  
www.asean.  
intermatconstruction.com

SC&RA CRANE & RIGGING WORKSHOP

26 to 28 September 2018

Louisville, Kentucky, USA  
www.scranet.org

CRANES AND TRANSPORT MIDDLE EAST CONFERENCE (CATME)

10 October 2018

Dubai, United Arab Emirates  
www.khl-catme.com

LIFT & MOVE USA

11 October 2018

Portland, Oregon, USA  
(Hosted by Ness Campbell)  
www.liftandmoveUSA.com

AWRF FALL CONFERENCE

14 to 17 October 2018

San Antonio, Texas, USA  
www.awrf.org

BREAKBULK USA

17 to 19 October 2018

Houston, Texas, USA  
www.breakbulk.com

LIFT & MOVE USA

29 November 2018

Rockingham, North Carolina, USA  
(Hosted by Superior Cranes)  
www.liftandmoveusa.com

WORLD DEMOLITION SUMMIT

7 to 8 November 2018

Dublin, Ireland  
www.khl.com/wds

BAUMA CHINA 2018

27 to 30 November 2018

Shanghai, China  
www.bauma-china.com

BAUMA CONEXPO INDIA

11 to 14 December 2018

Mumbai, India  
www.bcindia.com

SC&RA JANUARY BOARD & COMMITTEE MEETINGS

3 to 6 January 2019

Grand Wailea  
Wailea, Hawaii, USA  
www.scranet.org

BAUMA (MUNICH)

8 to 14 April 2019

Munich, Germany  
www.bauma.de

LIFT & MOVE USA

9 May 2019

Webster, New York, USA  
(Hosted by Boulter)  
www.liftandmoveUSA.com



PICTURE OF THE MONTH

This image was sent to us by drone pilot Blayne Jackson, head of aerial surveying company Xcell Aerial (www.xcellaerial.com). It was taken at 5am in the morning on the 360° Barking residential development job site in Barking, East London, UK.

Blayne says he was contracted by developer NU Living to provide floor panoramas pre-build for marketing purposes but couldn't resist capturing this 'heavy lift' shot whilst there.

PEOPLE NEWS

■ Terex Cranes has appointed two new members of its sales team: **ULRICH WAGNER** and **THOMAS KECKEIS**. They will work



under Christian Kassner, senior sales manager for Germany, Austria and Switzerland. Ulrich Wagner's sales area covers East Germany, while Thomas Keckeis will cover Bavaria and Austria. "Our customers in both regions will benefit noticeably from this reinforcement," said Christian Kassner, whose team now comprises six employees.

■ Off highway wheel manufacturer GKN Wheels and Structures has appointed **RON PETA** to the position of sales director, Americas where he will take responsibility for the company's sales activities across the United States, Mexico and Canada. Peta joined GKN Wheels in 1998 which, the company said, has given him a wealth of technical and commercial experience, as



well an in-depth understanding of the core markets in which the company operates and the key requirements of its customers.

■ **PETER LAKE**, board member for the corporate market department of German auto parts supplier ZF Friedrichshafen and **JÜRGEN**



**HOLEKSA**, board member for human resources department, are leaving the company's executive board on September 30th 2018. Peter Lake, having fulfilled the three-year term of his agreement, will end his work for ZF, as planned. Jürgen Holeksa leaves the executive board at his own request.



■ The Supervisory Board of ZF Friedrichshafen AG has appointed **SABINE JASKULA** and **DR. HOLGER KLEIN** to the



company's board of management. Sabine Jaskula, an experienced HR manager and



OBITUARY

■ It is with great sadness that ICST reports the death of **DIRK THEYSKENS**,



former CEO of Belgian tower crane company Arcomet. Dirk was aged just 57.

A tribute to Dirk on the Arcomet website reads: "We will always remember Dirk as the inspiring architect of how Arcomet is known today. He was the man who grew a modest local and family owned company, specialized in the manufacturing of self erecting tower cranes, into a renowned global tower crane rental company." Our thoughts are with Dirk's family and friends at this time.

lawyer, will be responsible for corporate HR and legal functions from latest January 01, 2019. In this function, she will also be in charge of compliance. Dr. Holger Klein has been appointed to ZF's board of management with effect from October 1, 2018. His responsibilities will include car chassis technology and aftermarket (service and parts business).

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

# MARKETPLACE

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



## PRODUCTS, PARTS & ACCESSORIES

57

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

60

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.

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- Zone and Boundary restriction feature.
- Audible & Visual warning Alarms.
- Captured data every 2 sec interval.
- Send SMS to Mobile device (e-Alert features) in the event of Overload, unauthorized Anti Collision Bypassed, Hoisting out of Designated Zone etc. (Support up to 16 Pax SMS Receivers).



## Tower Crane CCTV system ZLX V600 series

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- Designed for Luffing & Saddle Jib tower crane.
- Assist Operators to view Hook Block & Load at Blind Spot area.
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- Live feeds can be view in ZLX Online Platform.



## Load Moment Indicator ZLX 200 series

- 7-inch Touch screen display.
- Designed for Luffing & Saddle Jib tower crane.
- Touchscreen monitor with continuous display of Actual Load, Radius, Hoist, Slew, Wind Speed and Moment per centage measurements.
- Captured data every 2 sec interval.
- 2/3/4 part line switch.
- Zone and Boundary restriction feature.
- Audible & Visual warning Alarms.

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**30 t**



**PPM ATT 340,  
1993**

**30 t**



**Liebherr LTF 1030,  
2000**

**35 t**



**Liebherr LTM 1030-2,  
2004**

**50 t**



**Grove GMK 3050,  
2003**

**65 t**



**Tadano Faun ATF 65G-4,  
2009**

**80 t**



**Demag AC 80-2,  
2004**

**130 t**



**Grove GMK 5130-2,  
2008**

**160 t**



**Tadano Faun ATF 160G-5,  
2006**

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LR 1600/2 (2015)



LG 1750 (2011)



LG 1550 (2007)



LR 1600/2 (2013)



LTM 1750-9.1 (2013)

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- Liebherr LTM 1060/2
- Liebherr LTM 1090/2
- Liebherr LTM 1120/1
- Liebherr LTM 1160/2
- Liebherr LTM 1200
- Demag AC 200-1
- Link Belt HC 238
- Manitowoc 3900 T
- American 4450
- P&H 790
- Grove GMK 4070-1
- Grove GMK 4080-1
- Grove GMK 5200
- Grove GMK 5220
- Grove GMK 6250
- Kato KR 300
- Tadano TR 300 EX
- Lokomo MS 335 N
- Lokomo A 370 N
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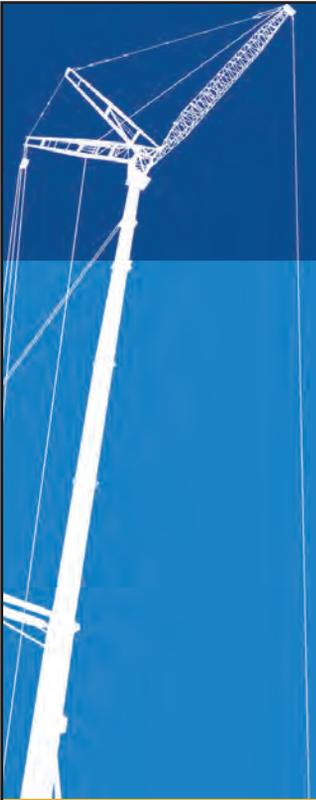
### TELESCOPIC AT-CRANES

Capacity	Manufacturer	Type	Year	Drive/Steering	Boom/lib (m)	Delivery
450 t	Liebherr	LTM 1450 N	1992	16 x 8 x 14	50 / 61 / 84	direct
400 t	Liebherr	LTM 1400	1988	16 x 8 x 12	50 / 61 / 84	direct
300 t	Liebherr	LTM 1300/1	2000	12 x 8 x 10	60/21/42/70	direct
200 t	Terex-Demag	AC 200-1	2007	10 x 8 x 8	68 / 17	direct
200 t	Terex-Demag	AC 200-1	2006	10 x 8 x 10	68 / 33 + 1.7	direct
200 t	Grove	GMK 5200	2006	10 x 8 x 10	60 / 22+runn	direct
160 t	Liebherr	LTM 1160-5.1	2008	10 x 8 x 10	62+7 / 36	direct
120 t	Terex-Demag	AC 120-1	2009	10 x 6 x 8	60 / 17	direct
120 t	Faun	ATF 120-5	1998	10 x 8 x 10	49 / 16,2 / 30	direct
120 t	Liebherr	LTM 1120	1990	10 x 8 x 8	42 / 17	direct
110 t	Grove	GMK 5110-1	2010	10 x 6 x 10	50,77 / 18	direct
100 t	Terex-Demag	AC 100-4	2010	8 x 8 x 8	50 / 19	direct
100 t	Liebherr	LTM 1100-5.1	2005	10 x 8 x 8	52 / 19	direct
100 t	Grove	GMK 5100	2005	10 x 6 x 10	51 / 18	direct
100 t	Terex-Demag	AC 100	2005	10 x 8 x 8	50 / 17	direct
100 t	Demag	AC 100	2000	10 x 8 x 8	50 / 17	direct
100 t	Demag	AC 265	1989	8 x 8 x 8	37 / 17	direct
90 t	Liebherr	LTM 1090-4.1	2008	8 x 6 x 8	50 / 19	direct
90 t	Liebherr	LTM 1090/2	1999	8 x 8 x 8	52 / 19	direct
80 t	Grove	GMK 4075	2004	8 x 6 x 8	43 / 17	direct
70 t	Liebherr	LTM 1070-4.1	2007	8 x 6 x 8	50 / 16	direct
70 t	Liebherr	LTM 1070-4.1	2005	8 x 6 x 8	50	direct
60 t	Terex-Demag	AC 55 L	2008	6 x 6 x 6	44 / 15	direct
60 t	Faun	ATF 60-4	2005	8 x 6 x 8	40 / 16	direct
60 t	Faun	ATF 60-4	2004	8 x 6 x 8	40 / 16	direct
55 t	Liebherr	LTC 1055-3.1	2007	6 x 6 x 6	36 / 7,8	direct
55 t	Grove	GMK 3055	2006	6 x 6 x 6	43 / 15	direct
55 t	Liebherr	LTM 1055-3.1	2005	6 x 6 x 6	40 / 16 + 2,5	direct
55 t	Liebherr	LTM 1055/1	2004	6 x 6 x 6	40 / 16	direct
55 t	Grove	GMK 3055	2004	6 x 6 x 6	43 / 15 + runn.	direct
50 t	Terex-Demag	AC 50-1	2007	6 x 6 x 6	40 / 17,6	direct
50 t	Grove	GMK 3050-1	2006	6 x 6 x 6	38,1 / 15	direct
50 t	Terex-Demag	AC 50-1	2004	6 x 6 x 6	40 / 17,6	direct
40 t	Liebherr	LTM 1040-2.1	2010	4 x 4 x 4	35 / 9,5	direct
40 t	Terex-Demag	AC 40-1 City	2009	6 x 6 x 6	31,2 / 13 / run.	direct
40 t	Liebherr	LTM 1040-2.1	2006	4 x 4 x 4	35	direct
40 t	Demag	AC 40-1 City	2001	6 x 6 x 6	31,2 / 13 + 1,2	direct
40 t	Demag	AC 40-1 City	2001	6 x 6 x 6	31,2 / 13 + 1,2	direct
35 t	Liebherr	LTM 1030-2.1	2007	4 x 4 x 4	30 / 15	direct
35 t	Liebherr	LTM 1030-2.1	2006	4 x 4 x 4	30 / 15	direct
35 t	Terex-Demag	AC 35 L	2005	4 x 4 x 4	37,4 / 8	direct
35 t	Terex-Demag	AC 35 L	2004	4 x 4 x 4	37,4 / 8	direct
30 t	Faun	ATF 30-2 L	2004	4 x 4 x 4	28,5 / 12	direct
20 t	Gottwald	AMK 31-21	1984	4 x 4 x 4	20,5	direct

### ROUGH TERRAIN CRANES

80 t	Grove	RT 890 E	2008	4 x 4 x 4	43,2	direct
45 t	Tadano	TR 400 E	1984	4 x 4 x 4	32,5 / 9,8	direct
35 t	Grove	RT 540 E	2012	4 x 4 x 4	31 / 13,7	direct
25 t	Kato	KR 250	1998	4 x 4 x 4	26,7 / runner	direct

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### ALL TERRAIN CRANES

1x	80 t	Grove GMK 4080-1	2013
1x	100 t	Liebherr LTM 1100-5.2	NEW!
1x	100 t	Tadano ATF 100G-4	2016
1x	200 t	Liebherr LTM 1200-5.1	NEW!
1x	250 t	Liebherr LTM 1250-5.1	NEW!
1x	300 t	Grove GMK 6300L	2015

### CRAWLER CRANES

1x	250 t	Kobelco CKE 2500-2	2008
1x	250 t	Kobelco CKE 2500-2	2010
1x	400 t	Demag CC 2400 SL	2009
1x	500 t	Liebherr LR 1500	NEW!
1x	600 t	Demag CC 2800-1 + wind kit	2013
1x	650 t	Demag CC 3800 SL + wind kit	NEW!
1x	650 t	Demag CC 3800 SL	2013
1x	750 t	Liebherr LR 1750 + wind kit	2010

### TELE CRAWLER CRANES

1x	100 t	Liebherr LTR 1100	NEW!
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### ROUGH TERRAIN CRANES

1x	40 t	Grove RT 540E CE	2011
1x	55 t	Tadano GR 550XL-2	2013
1x	80 t	Terex RT 780	2016
1x	90 t	Grove RT 890E	2012
1x	100 t	Tadano GR 1000XL-3	2017
1x	120 t	Tadano GR 1200XL-3	2018

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**TADANO GR1000XL**, 100 TON, '13 -'18 154' BOOM, 58' JIB, SEVERAL IN OUR FLEET ..... **CALL**  
**GROVE RT890E**, 90 TON, '12/'13, 142' BOOM, 56' JIB ..... **CALL**  
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'13 -'18 TADANO GR1000XL, 100T



'13 DEMAG SL3800 725T, 4200hrs

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# USED CRANES



Brand	Terex-Demag
Model	AC 80-2
Boom	50 m + 17.6 m
Kilometers	138,341 km
Year	2004



Brand	Terex-Demag
Model	TC 2800-1
Capacity	600 t
Configuration	72 + 60 SWSL
Year	2013



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Make / Type	y. o. m.	Drive	Boom / Fly Jib
35 t Terex-Demag AC 35 L	2004	4x4x4	37,40m + 8,00m
35 t Liebherr LTM 1030-2.1	2007	4x4x4	30,00m + 15,00m
35 t Liebherr LTM 1030-2.1	2006	4x4x4	30,00m + 15,00m
40 t Liebherr LTM 1040-2.1	2010	4x4x4	35,00m + 9,50m
40 t Terex-Demag AC 40 City	2009	6x6x6	31,20m + 13,00m + 1,20m
40 t Demag AC 40-1 City	2001	6x6x6	31,20m + 13,00m + 1,20m
40 t Demag AC 40-1 City	2001	6x6x6	31,20m + 13,00m + 1,20m
50 t Terex-Demag AC 50-1	2004	6x6x6	40,00m + 17,60m
50 t Terex-Demag AC 50-1	2007	6x6x6	40,00m + 17,60m
55 t Terex AC 55 L	2008	6x6x6	44,00m + 15,00m
55 t Grove GMK 3055	2006	6x6x6	43,00m + 15,00m
55 t Liebherr LTC 1055-3.1	2007	6x6x6	36,00m + 7,80m
90 t Liebherr LTM 1090-2	1999	8x8x8	52,00m + 19,00m
90 t Liebherr LTM 1090-4.1	2008	8x6x8	50,00m + 19,00m
100 t Terex-Demag AC 100	2005	10x8x8	50,00m + 17,00m
110 t Grove GMK 5110-1	2010	10x6x10	50,77m + 18,00m
120 t Terex-Demag AC 120-1	2009	10x6x8	60,00m + 17,60m
120 t Faun ATF 120-5	1998	10x8x10	49,00m + 16,20m - 30,10m
130 t Grove GMK 5130-1	2007	10x8x10	60,00m + 18,00m
160 t Liebherr LTM 1160-5.1	2008	10x8x10	62,00m + 7,00m + 36,00m
200 t Grove GMK 5200	2006	10x8x10	60,00m + 22,00m

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25 t Kato KR 250	1998	4x4x4	26,70m + 7,00m
40 t Tadano TR 400 E	1984	4x4x4	32,50m + 9,80m
80 t Grove RT 890 E	2008	4x4x4	43,00m

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120 t Sennebogen HMC 6120	2000	8x4x8	37,00m
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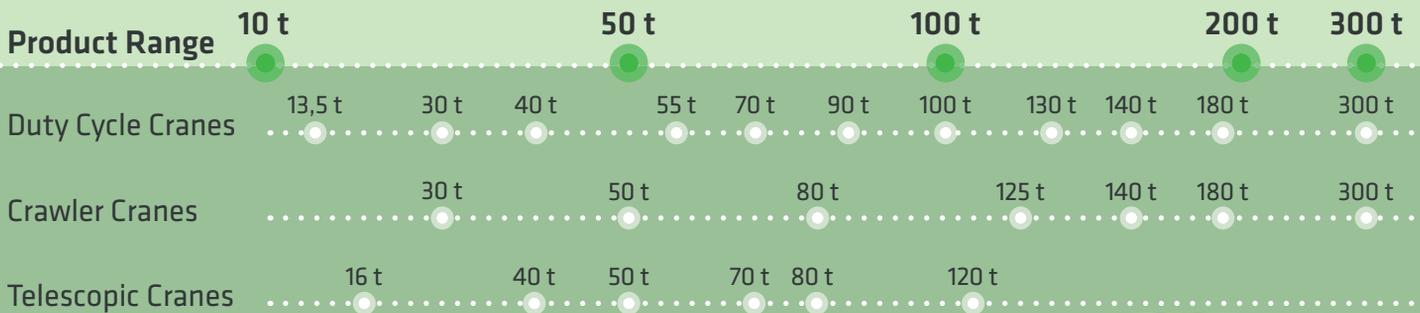
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