

INTERNATIONAL **CRANES** AND SPECIALIZED TRANSPORT

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Volume 27 ■ Number 8 ■ MAY 2019

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GR-1200XL	120 US tons	39.4 ft - 183.7 ft	33.2 ft / 58.1 ft	184.0 ft / 241.4 ft	150.0 ft / 159.0 ft	Approx. 47'4-7/8"	Approx. 28'4-3/4"	Approx. 10'10-1/2"	Approx. 12'5-3/8"
GR-1100EX	110 metric tons	12.0 m - 56.0 m	10.1 m / 17.7 m	56.1 m / 73.6 m	44.0 m / 48.3 m	Approx. 14,450 mm	Approx. 8,655 mm	Approx. 3,315 mm	Approx. 3,795 mm

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INTERNATIONAL CRANES AND SPECIALIZED TRANSPORT

VOLUME 27 ■ NUMBER 8 ■ MAY 2019



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KHL CONTACTS

UNITED KINGDOM

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

USA OFFICE

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

SOUTH AMERICA OFFICE

KHL Group América LLC
Av. Manquehue Sur 520,
of 205, Las Condes, Santiago, Chile.
Tel: +56 9 77987493
e-mail: cristian.peters@khl.com

CHINA OFFICE

Beijing Representative Office,
Room 769, Poly Plaza, No.14,
South Dong Zhi Men Street, Dong Cheng
District, Beijing, PR China 100027.
Tel: +86 10 6553 6676
e-mail: cathy.yao@khl.com

UK/GERMANY/SPAIN/AUSTRIA/ SWITZERLAND/NORDIC NATIONS

Mike Posener, sales manager
Tel: +353 (0)86 0431219
e-mail: mike.posener@khl.com

THE NETHERLANDS

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

FRANCE/BELGIUM/LUXEMBOURG

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

ITALY

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

KOREA

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

TURKEY

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

CHINA

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

JAPAN

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

USA/CANADA

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

Bev O'Dell

Tel: +1 816 8861858
e-mail: bev.odell@khl.com

MARKETPLACE

John Austin
Tel: +44 (0)1892 786245
e-mail: john.austin@khl.com



What a spectacular and impressive event this year's Bauma construction equipment exhibition was in Germany last month. As a mammoth effort by all concerned, all records on attendance, number of visitors and so on were once again broken. Somewhat miserable weather did little to dampen spirits as multiple equipment handovers and order signings suggested some buoyant markets around the world.

Impressive to me at Bauma was the number of new cranes and pieces of transport equipment that hadn't previously been announced. It was great to get some surprises at the show. Examples included the big new Manitowoc Potain MDT 809 flat top tower, new four- and five-axle all terrains from Tadano with the same upper, plus new similarly sized AT cranes from Liebherr and Zoomlion. See these and other highlights from the Bauma show in our pictorial review starting on page 14. More news will be percolating through over the next few weeks and months.

On the first day of the Bauma show there was also some bad news. I was saddened to hear of the death of CP Sanghvi, founder of Indian crane rental specialist Sanghvi Movers. My first contact with him was back in 1998 when he was instrumental in organising for me a site visit to the massive oil refinery construction project at Jamnagar in Gujarat, North West India.

With a claimed total of more than 1,000 cranes on site at the refinery, it was a record number for a project anywhere in the world at the time. It was also a milestone for Sanghvi as he bought a boat load of cranes and set up a local depot to service the vast Reliance Industries project. Many of them were larger cranes, mostly lattice boom crawlers. I remember seeing models from Demag, Liebherr and American on site, among the hundreds of locally manufactured articulated pick and carry tractor type cranes.

Other features this month include - our first of two this year - hydraulic loader crane updates, the bulk of which was, yes you guessed it, also new and on show at Bauma. See page 19. Our new technology feature, on page 26, is something we will do more often as the pace of development is going at an exponential rate, so work hard to keep up. Hold on to your hats and enjoy the issue.

ALEX DAHM

Editor



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

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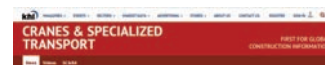


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DEMAG
BY TEREX

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ON THE COVER



A pair of transformers each weighing more than 300 tonnes were a moving challenge for German company Kahl Schwerlast. See page 31 for the full story.

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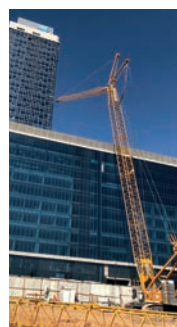
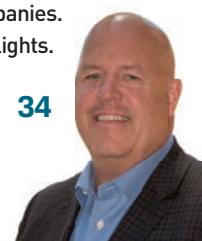
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KHL TEAM

EDITOR

Alex Dahm
e-mail: alex.dahm@khl.com
Tel: +44 (0)1892 786206

DEPUTY EDITOR

Christian Shelton
e-mail: christian.shelton@khl.com
Tel: +44 (0)1892 786208

GROUP EDITORS

Thomas Allen, Lindsey Anderson,
Andy Brown, Steve Ducker,
Mike Hayes, Fausto Oliveira,
Cristián Peters, D. Ann Shiffler,
Euan Youdale

WORLDWIDE CONTRIBUTORS

Graham Brent, USA
Marco van Daal, Aruba
Heinz-Gert Kessel, Germany
Richard Krabbendam, Netherlands
Tim Maughan, Japan
Brent Stacey, Australia
David Weston, UK

SC&RA CORRESPONDENTS

Mike Chalmers, Tim Hillegonds
PRODUCTION & CIRCULATION DIRECTOR

Saara Rootes
e-mail: saara.rootes@khl.com

SENIOR PRODUCTION EXECUTIVE

Anita Bhakta
e-mail: anita.bhakta@khl.com

Tel: +44 (0)1892 786246

PRODUCTION ASSISTANT

Charlotte Kemp
e-mail: charlotte.kemp@khl.com

Tel: +44 (0)1892 786262

DESIGN MANAGER

Jeff Gilbert

EVENTS DESIGN MANAGER

Gary Brinklow

PRINT & DIGITAL DESIGNER

Mitch Logue

DESIGNER

Jade Hudson

VP GLOBAL SALES

Trevor Pease
e-mail: trevor.pease@khl.com

SALES MANAGER

Mike Posener
e-mail: mike.posener@khl.com

Tel: +353 (0)86 043 1219

MARKETPLACE SALES

John Austin
e-mail: john.austin@khl.com

Tel: +44 (0)1892 786245

COMMERCIAL DIRECTOR

Paul Baker
e-mail: paul.baker@khl.com

FINANCE MANAGER

Alison Fittness
e-mail: alison.fittness@khl.com

Tel: +44 (0)1892 786212

CREDIT CONTROL

Carole Couzens
e-mail: carole.couzens@khl.com

Tel: +44 (0)1892 786250

CIRCULATION & DATA MANAGER

Helen Knight
e-mail: helen.knight@khl.com

Tel: +44 (0)1892 786244

DIGITAL MEDIA DIRECTOR

Peter Watkinson
e-mail: peter.watkinson@khl.com

OFFICE MANAGER

Anne Chittenden
Direct tel: +44 (0)1892 786201

e-mail: anne.chittenden@khl.com

EDITORIAL DIRECTOR

Paul Marsden

PUBLISHER

James King



SC&RA ELECTS NEW LEADERS

Tom Bennington was elected the 2019-2020 president of the SC&RA at the organisation's Annual Conference in California, USA.

Bennington, who is president at Kentucky-based Duncan Machinery Movers, took the ceremonial gavel from former president Gary Stang, at Anderson Trucking Service, based in St. Cloud, Minnesota, who moved into the role as chairman of the organisation.

Other officers include: vice president Jay Folladori, Bennett International Group, Georgia; treasurer, Michael Vlaming, Vlaming & Associates, California; assistant treasurer Kevin Johnston, J&R Engineering, Wisconsin; Allied Industries Group chairman Michael Rosendahl, PCE, New Jersey; Crane & Rigging Group chairman, Ingo Schiller, Tadano America, Texas; Transportation Group chairman Ed Bernard, Precision Specialized, Brantford, Canada; and ladies group chairwoman Kimberly Kitchen, Kitchen's Crane & Equipment, Virginia.

SC&RA Job of the Year winners announced

The winners of the Specialized Carriers and Rigging Association's Job of the Year awards were announced during the organisation's closing night Annual Awards & Recognition dinner, part of the SC&RA's 2019 Annual Conference, which took place in Carlsbad, California, USA, on 27 April.

The winners are as follows:

- Rigging under US\$150,000;
EMMERT INTERNATIONAL

- Rigging US\$150,000 to \$750,000; **BURKHALTER CRANE AND RIGGING**

- Rigging US\$750,000 to \$2 million; **FAGIOLI**

- Rigging over \$2 million;
BARNHART CRANE & RIGGING

- Transport under 160,000 pounds; **OMEGA MORGAN**

- Transport 160,000 to 500,000 pounds; **FAGIOLI**

- Transport over 500,000 pounds; **BARNHART CRANE**

AND RIGGING

- Moving job of the year; **FAGIOLI**.

More information to follow in forthcoming issues of American Cranes and Transport and International Cranes and Specialized Transport magazines.

MAMMOET FINALISES FOCUS DESIGN

Heavy lift specialist Mammoet has progressed with development of its new Focus super heavy lift crane announced in 2018.

Mammoet said the crane can be erected vertically in a very small area, as the required assembly and operational space is just 22 metres by 22 metres. Placing the crane's upper structure on a pedestal improves stability and lowers ground bearing pressure to less than 10 tonnes per square metre.

A variable superlift system will have a radius adjustable under load from 16 to 30 m.



Terex sells boom truck business

Terex Corporation has sold its boom truck, truck crane and crossover product lines to Load King, a subsidiary of Custom Truck One Source in the USA.

Included in the transaction are the assets and parts business associated with these products. Terex said it will work closely with Custom Truck One Source to ensure a smooth transition, and will continue to sell parts during a

one-year transition period.

"This transaction completes one of the portfolio actions we announced in February," said John Garrison, Terex president, chairman and CEO.

Fred Ross, Custom Truck One Source CEO, said, "This is an important acquisition that expands our broad specialized truck and heavy equipment solutions offering."

Missouri-based Load King manufactures transport trailers, dump trucks, service vehicles and water trucks.

Following this transaction, along with the sale of Demag mobile cranes to Tadano, Terex will continue to remain in the rough terrain and tower crane business. "We will fulfil global demand for rough terrain cranes from our Crespellano, Italy, facility, including the popular RT 100US and for tower cranes from our Fontanafredda, Italy, facility," said Garrison. "Customers can be assured that we will continue to sell parts and provide support to rough terrain, tower crane and other legacy crane products."

The GR-150XL-3 is a new upgrade of Japanese crane manufacturer Tadano's 15 US ton (13.6 tonne) capacity rough terrain crane.

It has a 24 metre boom and capacity is increased by 70 per cent in terms of single line pull, the manufacturer said. This allows for improved hoisting performance and lifting capacity at most working radii on four parts of line, Tadano said.

Maximum lifting height with boom and jib is 97.5 feet (29.7 m) and the maximum working radius is 85.5 feet (26 m). Tail swing has been reduced to 4.11 feet (1.25 m) from 5.3 feet (1.63 m) to improve working in confined space. Also to help in small spaces is an underslung hydraulically offset jib. Asymmetric outrigger configurations are possible and the AML-E system calculates available capacity.

A new operator cabin is designed to be more comfortable and to offer better visibility. It includes a larger colour screen to replace the black and white display found on the previous model.



HIGHLIGHTS

■ **USA-headquartered** Engineered Rigging has opened an office in Europe. Carlo Karssen, director, is heading up the Engineered Rigging BV operation from an office in Almelo, Netherlands. Karssen has a background in heavy lifting and spent 15 years at Enerpac, previously Hydrospec, in Europe where he was chief engineer. After a year in another industry Karssen was approached by Christopher Cox, CEO at Engineered Rigging.

■ **Sales at Terex Corporation** in the first quarter of 2019 were US\$ 1,136.6 million, up 1.8 per cent on the \$1,116.6 million for the same period a year earlier. Note that these figures now presented by Terex exclude the contribution from the crane segment, largely the Demag crane division, since the announcement was made to sell it to Tadano earlier in 2019. Previously reported first quarter 2018 sales for Terex Corp, including cranes, was \$1,260.9 million where crane segment sales were reported as \$314 million for that same quarter. Crane segment net sales for the fourth quarter of 2018 were \$364.5 million.

Liebherr sales exceed Euro 10 billion in 2018

The Liebherr Group posted a turnover of €10,551 million (US\$11,850 million) for 2018, up 7.5 per cent or €739 million (\$830 million) on the previous year.

Sales of construction and mining equipment were up 10.8 % to €6,833 million (\$7,730 million). Strong performers in this segment were mobile cranes, earthmoving and mining.

Europe saw higher demand, especially with renewed growth in Germany and positive performance in France and the United Kingdom, Liebherr said. Other notably positive contributors were the USA, Australia and China.

Net profit in 2018 of €321 million (\$361 million) was slightly higher than the previous year. Exchange rate fluctuation had a negative impact on the financial result, the company said.

Over the year another 2,300 employees increased the workforce worldwide to 46,169. A €586 million (\$658 million) investment was made in research and development, largely for new products. Production, sales and service facilities received an investment of €829 million (\$931 million), up by €51 million (\$57 million) on the previous year.

Looking ahead, Liebherr said it expects a further increase in

sales revenue for 2019 with no sign of an imminent recession. In a joint statement board members Isolde Liebherr and Willi Liebherr said, "We can look forward to the forthcoming financial year with a great deal of confidence. According to the latest projections, the upswing in the global economy is expected to continue. We kicked off the year with a healthy order book, and we are planning to launch numerous new products and solutions onto the market. In light of all these factors we expect to see further revenue growth, and our workforce is very likely to continue growing."

Seattle tower crane collapse inquiry extended

Five companies are being formally questioned by the Washington Department of Labor and Industries (L&I) following the collapse of a tower crane in Seattle, on the West Coast of the United States, on Saturday 27 April 2019.

Four people were killed and another four injured when the

Five companies are now being formally questioned by Washington state officials

crane collapsed as it was being dismantled in the South Lake Union district of the city.

The five companies being questioned are: main contractor GLY Construction; and sub contractors Northwest Tower Crane Service Inc; Omega Rigging and Machinery Moving Inc; crane owner Morrow Equipment Co; and Seaburg Construction Corp, which employed the tower crane operator.

In a written statement, GLY Construction commented, "GLY and its sub-contractors involved with this tower crane accident are doing everything we can to investigate the incident. We are co-operating fully with investigators and assisting the local authorities. At this early stage of the investigation, we have no further details."



Dutch crane manufacturer Huisman has won a contract to supply a high capacity leg-encircling crane for the new offshore installation vessel Voltaire. With its twin boom lattice design the crane will have a capacity of more than 3,000 tonnes, Huisman said. The jack up wind turbine installation vessel owned by Jan de Nul Group will be built by COSCO Shipping Heavy Industry in China. Huisman will build the crane at its yard in Xiamen, China. It is designed to cater for the next generation of offshore turbines.

HIGHLIGHT

■ **Tower crane companies** Arcomet and Matebat are to merge under the new name Uperio. Belgium-based Arcomet and Matebat from France are both controlled by major shareholder LFPI Group. Arcomet is a specialist in tower crane rental and manufacture while Matebat is a distribution and rental company. Combined as Uperio the fleet will be 2,200 cranes, 550 employees with 23 depots in eight countries.

HIGHLIGHT

■ USA-based Industrial Training International (ITI) is opening in the UK, headquartered in Birmingham. The move was driven by the large percentage of skilled labour leaving the workforce on reaching retirement. Younger generations replacing their older counterparts need training and opportunities, to ensure there is no drop in skill level, said ITI. Trainers, office and sales staff will be sought for the new venture. ITI's former director of operations, Christina Lanham, has been appointed as managing director of the UK subsidiary.

Modulift spreader beams and a Liebherr LTM 11200-9.1 were used by Guay Cranes on the Turcot Interchange project in Canada.

Quebec's largest and third busiest interchange was built in 1967 and is undergoing redevelopment. The 1,200 tonne capacity crane helped construct the three-level stack freeway. According to Modulift, a crucial stage of the project required spreader beams to install two girders weighing 90 tonnes each. Along with rigging gear provided by Modulift's Canadian distributor Equipment Corps, the MOD 110H beam, which can lift up to 170 tonnes at 11.5 metres, was used at its maximum 18 m length. The 1,200 tonner was rigged with 59 m of main boom and 200 tonnes of counterweight to lift the first girder into position.



Palfinger up nearly 12%

First quarter sales at loader crane manufacturer Palfinger were €440.9 million, up 11.8 per cent on the €394.2 million in the same quarter a year earlier.

North America and the Europe, Middle East, Africa regions were the main contributors to the increase, Palfinger said.

Since the beginning of 2019 the Austria-headquartered company has implemented a new organisational structure and changed its segment reporting. The Land segment has been divided into Sales & Service Land and Operations Land. In the

former the main contributors to the growth were given as cranes, timber and recycling equipment and the Hooklift range. Sales in this segment were €360.5 million.

The marine crane business comes under the Sea segment. The company reported a recovery in the offshore business but that its impact on revenue and earnings will not be noticeable before 2020.

Commenting on the figures Andreas Klausner, Palfinger CEO, said, "Orders on hand are still high and incoming orders remained strong in the first quarter. Even in the marine

business, the recovery of the oil and gas industry has been reflected in our order book. With our new organisational structure, we are now able to be faster and more focused in our actions."

In outlook, the company said it forecasts total 2019 revenue will increase to €1.7 billion and that the earnings before interest and taxes (EBIT) margin will be 9 %.

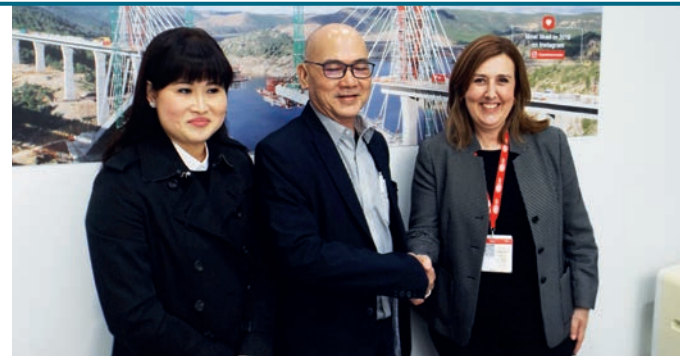
FURTHER BOOST FOR ECOL SCHEME

Three more major crane manufacturers - Manitowoc, Tadano, and Terex - have joined Liebherr in agreeing to align their training operations with the European Crane Operator Licence (ECOL) developed by European crane and transport association ESTA.

Like Liebherr, Sarens has also applied to qualify its Belgian training facility under ECOL, and Comokra, from Belgium, plus Fagioli, from Italy, are expected to follow suit, ESTA reported. Already qualified are the Mammoet Academy in the Netherlands and EUC-Lillebælt from Denmark.

This additional manufacturer backing further boosts the operator scheme, which took another step forward in April with the inaugural meeting of the ECOL Committee of Experts.

Ton Klijn, ESTA director, said, "This may seem like a bureaucratic change, but it is very important. This - and other similar developments that we will be announcing in the coming months - will place ECOL on a professional, stable and long-term footing. It will help to ensure that we build into the ECOL system the necessary expertise, transparency and accountability so that the industry at large can have faith in our work and standards."



From left to right: June Koh, general manager, Crane World Asia; Roger Poon, director, Crane World Asia; and Amaia Susperregui, Jaso MD

Jaso towers for Crane World Asia

Singapore-based tower crane sales and rental firm Crane World Asia has signed an order for four new J1400 slewing tower cranes from Spanish manufacturer Jaso.

The J1400 is part of Jaso's H series, with a low tower top. The 64 tonne capacity crane can have a jib up to 80 m. It has a tip load of 10.5 t at 80 m. Its shortest boom is 25 m. Capacity is still 36 t at a 40 m radius. Increasing the hook height to 150 m only reduces capacity by 1.4 t to 34.6 t, despite the extra weight of the steel hoist rope.

A particular target application for this model is Prefabricated Prefinished Volumetric

Construction (PPVC) housing, which is what Roger Poon, director, Crane World Asia, intends to use the cranes for. "We specifically wanted a tower crane with a jib that doesn't over sail to comply with Singapore's strict standards," he said.

The crane's transport dimensions were also important to Poon, making the cranes easy to import and then, once they've finished service in Singapore, easy to then export to other markets. A crane with a hook height up to 56.5m and the full 80 m boom can travel in standard 40 foot ISO shipping containers with no special open top or flat racks required.

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HIGHLIGHT

■ Terex Cranes has implemented a new cab design for all new Demag all terrain cranes in the AC 55-3 to AC 300-6 series. The biggest change in the cab, Terex said, is the cockpit display in the superstructure cab. It used to be installed on the instrument panel but is now integrated into it so that the operator has a better view of the front right area while operating the crane. The display can also be tilted to avoid glare.

SMIE and Smart Jobsite in merger deal

Site safety specialist SMIE has merged with technology company Smart Jobsite at the shareholder level. While stakeholders at both French companies will transition to form a single body, SMIE will still remain a privately-owned company.

The two companies will continue to operate as distinct organisations, with SMIE founder Jean-Louis Olivier becoming

chairman, and Jean-Charles Delplace, Smart Jobsite CEO, becoming CEO of both companies.

Delplace said, "There is a natural similarity between the two companies. It makes complete sense for our organisations to work together, supporting each other as we aim to achieve a common goal which is to create safer, more efficient, more productive construction and building sites through the design and implementation of digital solutions."

According to SMIE, the merger coincides with its commitment to extend its technologies and solutions to support the entire



SMIE and Smart Jobsite teams together

building process, as well as the lift management sector. It said the merger would enable it to further develop its existing systems and create new products, and that the support of Smart Jobsite's advanced solutions would facilitate more effective management, monitoring, and reporting.

SMIE said each company would continue to focus on its respective markets.

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The final line-up of speakers for the forthcoming 6th International Tower Cranes (ITC) conference in Vienna, Austria on 26 and 27 June has been announced.



JEAN-CHARLES DELPLACE, CEO at Smart Jobsite and SMIE, and **STEVE BRADBY**, technical and engineering leader at Select Plant Hire are the last two speakers to be confirmed. Delplace and Bradby will give a joint presentation on how tower cranes can be transformed from lifting machines into smart site tools. Their topic will complement the other digital construction presentations being given by representatives from Wolffkran, BAM International and Strabag. The full line-up of topics and speakers is as follows:

- Keynote: The changing environment for tower crane operations: **JÖRG HEGESTWEILER** (BKL Baukran Logistik)
- A digital approach for successful jobsites and tower cranes optimisation: **DR. -ING. MOHAMED ABOUELEZZ** (Wolffkran) & **DEREK BOURKE** (BAM International)
- Transforming tower cranes: from lifting machine to smart site tool: **JEAN-CHARLES DELPLACE**, (Smart Jobsite & SMIE) & Steve Bradby (Select Plant Hire)
- Fibre ropes for tower cranes: **THOMAS HERSE** (Liebherr Tower Crane Division)
- Topic to be confirmed: **HENRIK NIELSEN** (Krøll Cranes)
- Using drones to inspect industrial structures: **PATRICK RICKERBY** (Terra Drone Europe)
- Construction activity trends and forecasts: **MARTIN SEBAN** (IHS Markit)
- Construction and BIM: developments at Strabag: **THEODOR SANSKRIT** Strohal (Strabag)
- What is it worth? Determining the residual value of tower cranes: **TOMAS VACEK** (JVS Cranes)
- Round-table: tower crane inspections: **STEVE BRADBY** (Select Plant Hire), **NIGEL BREWIS** (Safety Check Engineering), **PETER JUHREN** (Morrow Equipment).

The event starts with a tour of tower crane sites on the afternoon of 26 June (limited availability), followed by an informal reception in the conference hotel in the evening. The full-day conference takes place on 27 June. For more information, visit: www.khl-itc.com

Bylor buys Grove RT for Hinkley Point

Bylor, a joint venture between UK engineering company Laing O'Rourke and French engineering company Bouygues TP, has bought a new Grove RT550E rough terrain crane made by Manitowoc and supplied by UK Grove dealer Crowland Cranes.

The crane will be used to aid construction of the Hinkley Point C nuclear power station project

in Somerset, UK.

John McCoppin, Bylor general plant manager, said, "The Grove crane has been a welcome addition to our growing fleet. In this lift range, it is very flexible and because of its driver friendly operation our crew love it. Crowland Cranes have ensured a seamless hand over from sale to onsite familiarisation."



The Grove RT550E will be used at Hinkley Point C

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It's more good news for most of the companies in our *IC Share Index* between weeks 12 and 16

Surging forward

Between weeks 12 and 16, the *IC Share Index* shows continued positivity with only two companies, Japanese construction machinery manufacturer Hitachi and Chinese tower crane manufacturer Yongmao, showing any decline in share price.

Hitachi construction machinery shows a negative percentage change of minus 5 which is surprising given the company said it had a very successful Bauma show. Perhaps the positive effect of the triennial trade show will filter through next month.

Loader crane and access equipment manufacturer Palfinger showed an

improvement of 13.5 % in its share price. This echoes its first quarter sales figures which were €440.9 million, up 11.8 % on €394.2 million in the same quarter a year earlier. North America and the Europe, Middle East, Africa regions were the main contributors to the increase, Palfinger said.

Since the beginning of 2019 the Austria-headquartered company has implemented a new organisational structure. Commenting on the Q1 figures Andreas Klauser, Palfinger CEO, said, "Our orders on hand are still high and incoming orders remained strong in the first quarter. Even in the marine business, the recovery of the

oil and gas industry has been reflected in our order book. With our new organisational structure, we are now able to be faster and more focused in our actions."

The company forecasts total 2019 revenue will increase to €1.7 billion and that the earnings before interest and taxes (EBIT) margin will be 9 %.

Terex's first quarter results also reflect the positive trend its share price is showing on last month's figures.

Sales at Terex Corporation in the first quarter of 2019 were US\$ 1,136.6 million, up 1.8 per cent on the \$1,116.6 million for the same period a year earlier. Note that these figures now presented by Terex exclude the contribution from the crane segment, largely the Demag crane division, since the announcement was made to sell it to Tadano earlier in 2019.

Previously reported first quarter 2018 sales for Terex Corp, including cranes, was \$1,260.9 million where crane segment sales were reported as \$314 million for that same quarter. Crane segment net sales for the fourth quarter of 2018 were \$364.5 million.

John Garrison, Terex chairman and CEO, said, "Our improving financial results, with adjusted operating margins greater than 9 % and adjusted EPS increasing over 50 % from what we presented in our Q1 earnings release in May 2018, demonstrate the impact of executing our Focus, Simplify and Execute to Win strategy."

APRIL *IC* SHARE INDEX

STOCK	CURRENCY	PRICE AT START	PRICE AT END	PRICE CHANGE	% CHANGE	PRICE 12 MTHS AGO	12 MTH % CHANGE
<i>IC</i> Share Index*		68.35	71.64	3.28	4.81	62.10	15.36
Legacy <i>IC</i> Share Index**		283.09	287.76	4.67	1.65	387.61	-25.76
Dow Jones Industrial Average		25,963	26,450	487	1.88	24,787	6.71
FTSE 100		7,298	7,447	149	2.04	7,278	2.32
Nikkei 225		21,627	22,090	463	2.14	22,158	-0.31
Hitachi Construction Machinery	YEN	3,030	2,878	-152	-5.02	4,075	-29.37
Konecranes	€	32.78	36.55	3.77	11.50	34.57	5.73
Kobe Steel	YEN	865	874	9	1.04	1,116	-21.68
Liugong	CNY	7.85	8.21	0.36	4.59	8.99	-8.68
Manitowoc	US\$	17.11	17.70	0.59	3.45	29.09	-39.15
Palfinger	€	25.55	29.00	3.45	13.50	33.00	-12.12
Sany Heavy Industry	CNY	12.87	13.16	0.29	2.25	8.36	57.42
Tadano	YEN	1,039	1,170	131	12.61	1,671	-29.98
Terex	US\$	32.77	33.88	1.11	3.39	39.64	-14.53
XCMG	CNY	4.50	5.02	0.52	11.56	4.04	24.26
Yongmao Holding	SGD	0.36	0.30	-0.07	-18.06	0.50	-41.00
Zoomlion	CNY	4.57	5.33	0.76	16.63	4.16	28.13

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

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

EXCHANGE RATES - VALUE OF US\$

CURRENCY	VALUE AT START	VALUE AT END	VALUE CHANGE	% CHANGE	VALUE 12 MTHS AGO	12 MTH % CHANGE
CNY	6.713	6.704	-0.0090	-0.13	6.29	6.66
€	0.8845	0.8881	0.0035	0.40	0.8084	9.86
Yen	110.51	111.88	1.36	1.23	107.26	4.30
UK£	0.7634	0.7675	0.0041	0.53	0.7045	8.94

Period: Week 12 - 16

bauma

As expected, the Bauma 2019 construction equipment show in Munich, Germany, broke all records.

ICST reports some highlights

Showstoppers

Dull weather during the week didn't dampen the spirits of the 620,000 people at the world's largest trade show last month. The record attendance was seven per cent higher than the previous show in 2016.

While many of the visitors were from Germany, more than 250,000 were from other countries, primarily Austria, Italy, Switzerland, France, Netherlands, Russia, Sweden, Czech Republic, Poland and Great Britain. More than 5,500 visitors were from China.

Another record was the number of exhibitors: around 3,700 from 63 countries.

Andreas Böhm, a member of the Board of Directors at Bauma exhibitor Liebherr-International AG, said, "We took orders from all parts of the world and made a whole lot of new contacts."

A major buyer celebrating several crane order signings and handovers during the show was Bigge Crane and Rigging from the USA. Deals included crawler and tower cranes to be added to help form what Bigge terms its "perfect fleet."

Liebherr handed over the keys to Bigge for 16 crawler cranes, including 15 units of the LR 1300 and one LR 1800. Bigge also ordered two LR 11000s and already has more than 100 Liebherrs. The California-headquartered company has had a long relationship with Kobelco and added an order for 19 crawler cranes from the Japanese manufacturer. At Link-Belt Bigge participated in a handover of TCC-2500 telescopic crawler cranes. On the Manitowoc stand Bigge celebrated the

purchase of additional Potain MDT219 city class cranes for its rental fleet in North America. From Tadano Bigge has ordered more than 100 rough terrain cranes in the last 12 months alone.



The ATC960 is a 60 tonne capacity all terrain designed and produced in Italy, said manufacturer Zoomlion. It has a 51 metre, six-section boom and a three-axle carrier



Above: The new Grove GMK5250XL-1 boasts the longest boom on five axles, said manufacturer Manitowoc. The 250 tonne capacity all terrain has a 78.5 metre boom



The first unit of Liebherr's new LTM 1650-8.1 wheeled mobile telescopic crane was handed over to German crane rental company Riga Mainz. Capacity is 700 tonnes and there are 54 and 80 metre boom options



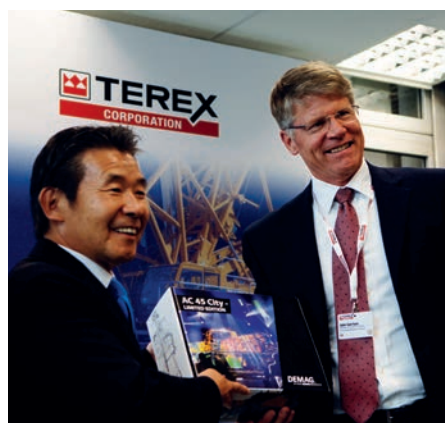
Enerpac's new Cube Jack generated strong interest. Capacity per stack is 50 tonnes and multiple units can be combined



Manitowoc's new Potain MDT 809 flat top tower crane was bought by Lambertsson Kran and will be available for rental in the fleets of Lambertsson and Norwegian crane sales and rental company Kranor AS. At 40 tonnes capacity, it is Potain's largest flat top



Weldex chairman Dougie McGilvray, left, and Mark Hollett with the 150 tonne capacity SCX 1500A-3 lattice boom crawler, which is the third machine of its type to join the fleet from manufacturer HSC



Celebrating Tadano's acquisition of Demag are Koichi Tadano, Tadano CEO, left, and John Garrison, Terex president and CEO

Kazuhide Naraki (left), president and CEO at Kobelco Construction Machinery, handing over the keys for the first 300 tonne capacity Kobelco CKE3000G crawler crane to be delivered in Europe. It was bought by UK-based telescopic and lattice crawler crane rental firm SECH Crane Hire



On the Terex stand was the 600 tonne capacity Demag CC 2800-2 update of the CC 2800-1 lattice boom crawler crane. Its main boom can be up to 102 metres and in Superlift LSL configuration the boom is increased to 138 m



A pair of new Tadano all terrain cranes share the same upper but have four (ATF 100-4.1) and five (ATF 120-5.1) axle carriers with 100 and 120 tonnes capacity respectively. Both have 60 m booms



Grove's new Vision Cab 2020 concept updates the current similar design



Colin Cleary, left, and Ivan Bolster from European Kato distributor Rivertek Services with the new 100 tonne capacity Kato KA-1000Rx four-axle all terrain crane



Goldhofer's Bladex allows the tip of wind turbine blades to be raised and lowered to avoid obstacles during transport



Link-Belt and HSC cranes complemented each other with a joint display stand

Faymonville BladeMax with MSPE self propelled trailer for wind turbine blade transport



Scheuerle demonstrating its SPMT Light series of modular platform transporter. Pictured are 6 x 2.4 metre platforms on four axles with built in power pack units

The new Wolff 133B hydraulic luffing jib tower crane is available in 6 and 8 tonne capacity versions



Raimondi's new LR273 18 tonne capacity luffing tower crane. The jib goes to 60 metres



A highlight from Netherlands-based manufacturer Nootboom Trailers was its biggest ever low-loader, the Euro-PX



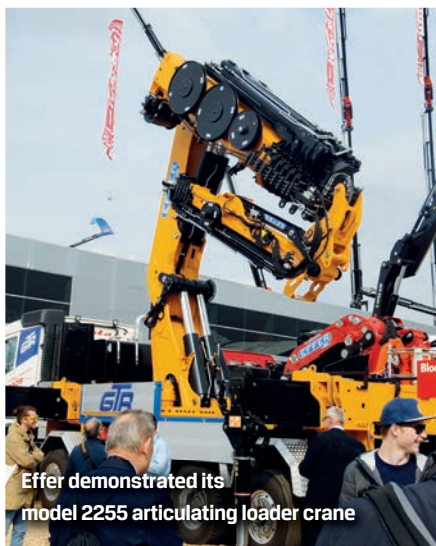
Liebherr's new EC-B flat top towers, which includes 10, 12 and 16 (in development) tonne capacity models, have been optimised to make the most of synthetic fibre hoist rope. Weight saving on the hook block is 150 kg. Tip loads are typically 20 % more and capacity is around 8 % higher along the jib with fibre rope models



The 50 tonne capacity Comansa 21LC1050, joining the fleet of rental specialist BKL after the show, will be Germany's largest flat top



A full range of crawler mounted telescopic mini cranes was shown by Dutch manufacturer Hoefleon



Effer demonstrated its model 2255 articulating loader crane



Demonstrating a steep jib angle on the hydraulic flat top luffing jib tower crane from Spanish manufacturer Saez



The new CC1908S-1 is the largest mini crawler to date from Japanese manufacturer Maeda. The crane has a capacity of 8.1 t at 2.7 m. The five-section boom has a maximum lifting height of 20.1 m (or 26 m with a fly jib)



ICST publisher KHL Group once again held its well-known Champagne & Strawberries reception

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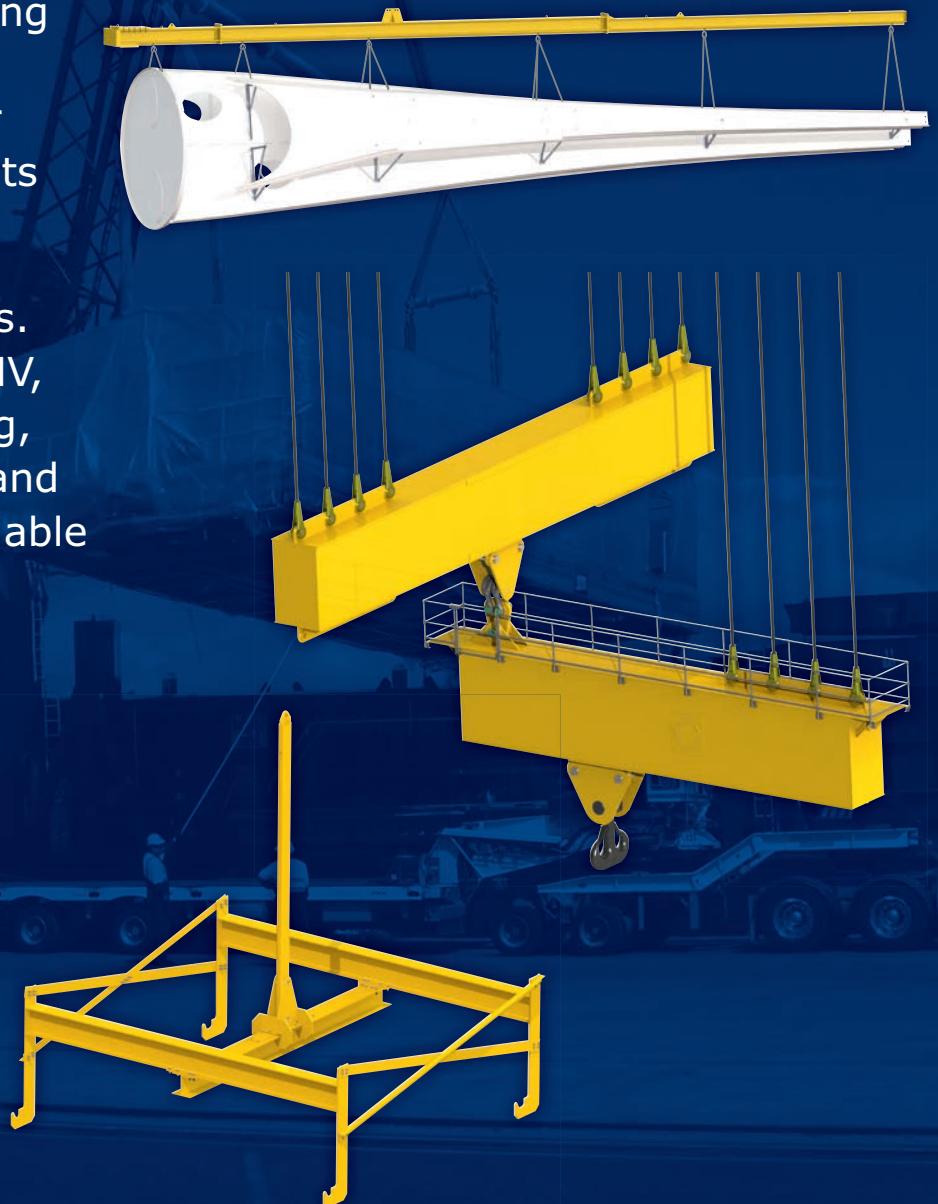
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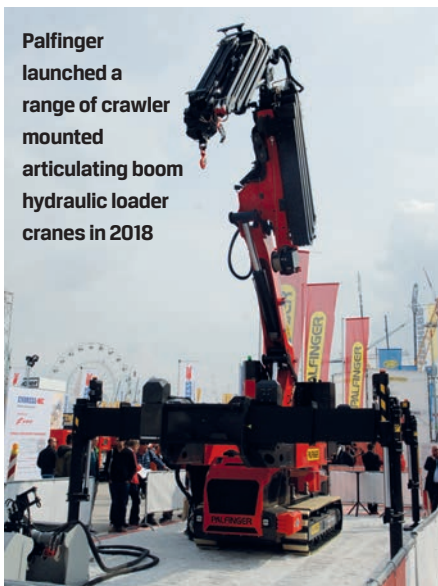
Sennebogen's new 6133E tele boom crawler



An interesting new telescopic crawler crane, shown in model form, was the Demag TCC 160. It will fit a gap in the market between 130 and 220 tonne capacity models offered by competitors. The TCC 160 has a lifting capacity of more than 150 tonnes and a maximum load moment of 590 tonne-metres



Liebherr's new LTM1110-5.1 wheeled mobile telescopic crane was a surprise launch. It is a five axle 110 tonner with 60 m boom which is a first in its class, the company said



Palfinger launched a range of crawler mounted articulating boom hydraulic loader cranes in 2018



Demag launched the E-Pack to allow its AC 45 city crane to work with zero exhaust emissions and reduced noise. It powers the crane's electrical and hydraulic systems

Liebherr's new concept cabin for its wheeled mobile telescopic cranes is quite a departure from the current design



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The articulating loader crane sector is, well, loaded with new developments.

CHRISTIAN SHELTON

takes a look

Hyva says its Edge Line represents the company's core values

Elegantly articulated

With the opportunity for original equipment manufacturers to showcase their latest product ranges to the rest of the world at the triennial Bauma trade show in Germany having just passed, it's perhaps no surprise that there are plenty of new products on the market.

Some manufacturers used Bauma as a platform to launch complete crane series, such as Netherlands-founded hydraulic crane maker Hyva which launched its new Edge Line series. The series comprises 40 crane models ranging from 9 to 66 tonne-metres with five boom configurations available. Telescopic models are designated as the HT series. HB denotes basic articulated

models. HC series models have a double linkage. HC-K models have a short retractable secondary boom to lift heavy loads close in to the column. The fifth configuration is continuous slewing and up to eight extensions can be specified, depending on the model.

Edge Line cranes incorporate stability control systems and load limiting devices, while a Magic Touch function can automatically fold and unfold the crane.

Hyva offers an extended warranty of three years overall and, specifically on structural elements, it is five years.

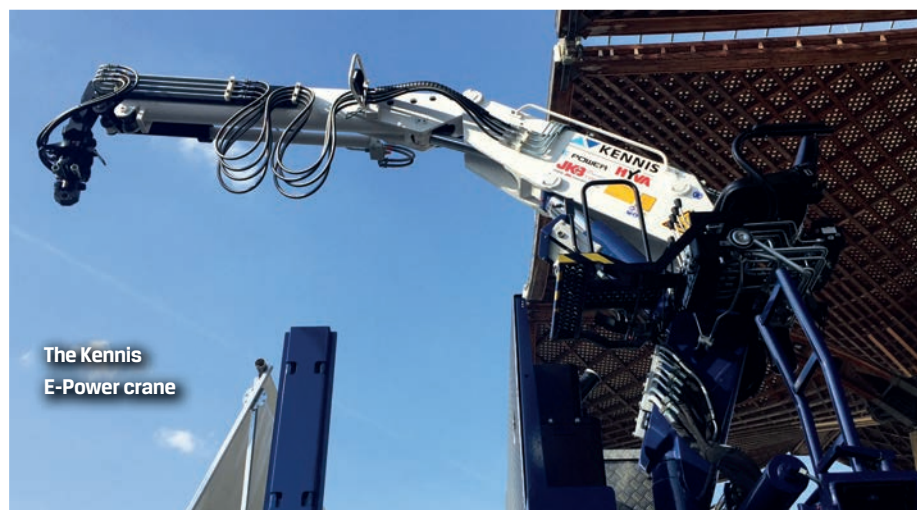
"The Edge Line represents an important milestone for Hyva," said Davide Catellani, line of business director, cranes.

"We're committed to the delivery of first-class products that meet the needs of our customers and partners and help them grow their business. The Edge Line reflects Hyva's core values of innovative engineering, robustness, light weight, ergonomics and aesthetics which perfectly match the latest automotive design trends, and – ultimately – adds continuity and value to truck investment."

Sustainable solutions

Hyva sister brand Kennis showed an electrically driven roll loader crane called E-Power. Kennis claims the crane offers better energy efficiency and no engine exhaust or noise pollution. Light and heavy-duty versions will be available, each with stationary plug-in or on-board mobile charging options.

According to Kennis, it developed the articulating boom truck mounted crane in response to customer requirements and market trends for increased sustainability. Instead of a diesel engine driving a hydraulic pump, the Kennis E-Power uses an electric motor (with a battery pack), an electronic control system to optimise the power supply and a display showing the battery status. It is »



The Kennis E-Power crane

NEW MODULAR INSTALLATION SYSTEMS FOR TRUCK BODIES

Swedish on-road load handling equipment provider Hiab has two new modular installation systems for truck bodies: Hiab BodyWorks – for heavy cranes; and Hiab T-Body – for Hiab T-series light range cranes.

According to Hiab, both modules are pre-manufactured and designed to reduce body installation times and costs. Both have a weld-free bolted construction with parts that are easy to remove and replace, Hiab added.

Hiab explained that its BodyWorks concept is based around three key modules – headboards, wheelarch modules, and rear sections – and that by using it, vehicle body installation time can be reduced by 75 percent. The system is light and includes all mandatory parts such as side rails, crossmembers, lashing points, and floor. In addition, it can be specified with toolboxes, mudguards, drop steps, working lights and wide load signs. Hiab said customers can choose between three packages depending on which add-ons they want.

Hiab BodyWorks is only compatible with Hiab FrameWorks, a pre-manufactured ready-to-install subframe which Hiab claimed also reduces the installation time of the frame by up to 75 %.

Installation of the BodyWorks system is carried out at Hiab's factory installation centre in Meppel, the Netherlands, which serves customers from all over Europe.

Hiab described its T-Body system as 'a ready-to-go kit' for dealers and bodybuilders which can be installed in around four hours. The T-Body can be used for the installation of any T-009 to T-038 cranes on L2 and L3 length chassis. The T-crane can be installed on any corner due to the subframe, which includes an integrated stabiliser beam.

Commenting on the systems, Marcel Boxem, director of heavy loader cranes at Hiab, said, "When customers buy a crane, they want it on the road as soon as possible, while body-makers want to serve as many customers as possible. Our new modular installation systems for truck bodies reduce installation time significantly and their weld-free construction makes them quicker to install and easier to maintain."



Hiab's BodyWorks system

an MRT Powertrain system from Italian electric mobility solutions developer IET. IET also supplied a high-density battery pack with thermal management. Operation is possible with the truck engine switched off, making it suitable for urban areas, for night work and for indoor use, says Kennis.

Multiple models

Another company with a large number of new loader cranes on display at Bauma 2019 was Austrian hydraulic loader crane manufacturer Palfinger, with the company announcing ten new TEC models and five new SLD models for 2019.

The company describes its TEC cranes as being best-suited to specialised crane operations, while the SLD models are more for everyday operations. TEC range cranes have a teardrop-shaped, polygonal P-shaped boom profile, while SLD range cranes have an extension boom system with a conventional hexagonal profile.

The TEC cranes range between 25 and 37 tonne metres and four of the ten new models

will have a continuous slewing system. The new PK 37.002 TEC 7 and PK 30.002 TEC 7 models are equipped with Palfinger's Mext and Tool assistance and comfort systems and can be operated using Palfinger's PALcom P7 radio remote control. In the TEC 5 line-up, the PK 35.502 TEC 5 and PK 28.502 TEC 5 models have a selection of assistance systems, and radio remote control also comes as standard.

The new models in the TEC range have an outreach of up to 21.6 metres, which can be extended using a fly jib. Palfinger has also developed two new P profile fly jibs, the PJ090 and the PJ075, which can be used with all new TEC 5 and TEC 7 models.

Palfinger's six new TEC rack and pinion slewing cranes will be launched over



Palfinger's PK 37.002 TEC 7



HMF's 9520K8-RCS

the course of 2019. The TEC 3, TEC 5 and TEC 7 will all have a slewing angle of 410°, says Palfinger.

The five new SLD cranes range between 20–25 tonne metre class. The most basic model is the PK 21.501 SLD 1, which is a manually-controlled crane without overload protection or CE certification. The PK 21.501 SLD 3 has the same lifting capacity as the SLD 1 but has a Paltronic 40 control system, making it CE-compliant. The PK 22.501 SLD 3 is Palfinger's second non-CE market crane; it has a manually-controlled high-power lifting system. The PK 24.001 SLD 5 has Palfinger's A HPLS system to increase lifting capacity when required. It is also equipped with radio remote control as standard. The PK 24.001 SLD 6 is the top of the range and is the first SLD model to be available with Palfinger's state-of-the-art Paltronic 150 electronic control system.

Palfinger also displayed a PK 18502 SH loader crane. This crane can be operated with a plug-in electric drive as well as fully autonomously with a battery pack, which can in turn be supplied either by the power grid or via a generator.

Medium duty cranes

Italian articulating loader crane manufacturer Fassi debuted the F345RB six-extension medium-duty crane at Bauma 2019. The crane's boom is decagonal in shape and is part of the

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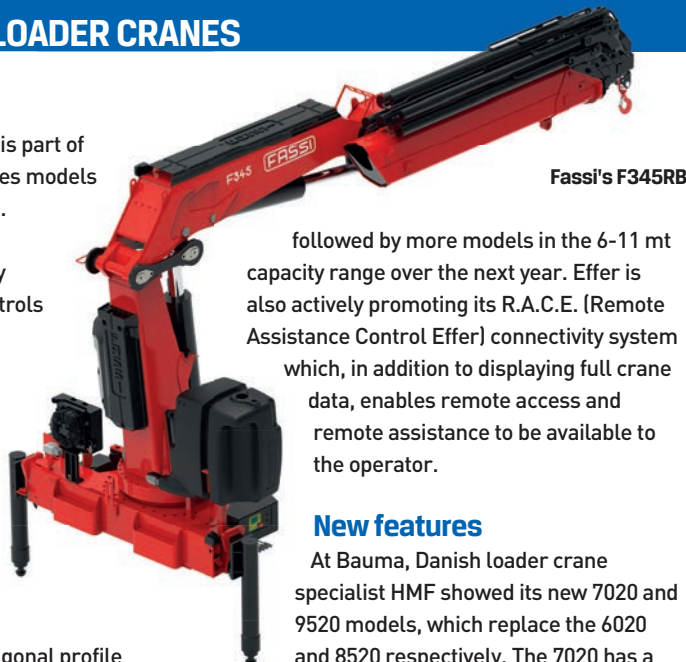
33 tm lifting category. It is part of Fassi's XE-dynamic series models with continuous slewing.

According to Fassi, it comes with a full array of electro-hydraulic controls including Automatic Dynamic Control, a D850 digital hydraulic distributor, an RCH/RCS radio control unit, an FX500 control unit, Fassi Stability Control, and Crane Position Monitoring, among others.

The crane has a decagonal profile extension boom which Fassi says allows the boom's thickness, and thus the crane's overall weight, to be reduced. It also says the decagonal boom results in a better distribution of forces between the guide shoe and the beam. It also enables maintenance of the guide shoes without removing the arms or adjusting the side runners.

Two more models, in the 29 and 31 tonne metre classes, will follow, Fassi says.

Italian brand Effer, owned by Hiab, has announced it will launch a new light range of cranes. The first will be the 105 and the 120,



Fassi's F345RB

followed by more models in the 6-11 mt capacity range over the next year. Effer is also actively promoting its R.A.C.E. (Remote Assistance Control Effer) connectivity system which, in addition to displaying full crane data, enables remote access and remote assistance to be available to the operator.

New features

At Bauma, Danish loader crane specialist HMF showed its new 7020 and 9520 models, which replace the 6020 and 8520 respectively. The 7020 has a rating of 50 tonne-metres and the 9520 has a rating of 75 tonne metres.

With eight extensions the 9520K8-RCS can lift 2,860 kg at a horizontal outreach of 20.1 metres. The 7020K8-RCS with eight extensions lifts 2,050 kg at a maximum horizontal outreach of 20.4 m. Fly jibs are available on both.

New features include: PowerHoist, which winds in the wire rope on winch-equipped cranes as the crane folds in; PowerSwing, which proportionally distributes hydraulic oil so that outrigger functions can be operated

at the same time; and a new colour screen called PowerDisplay.

A new two-speed slewing system offers better speed control and more precise positioning, the Danish manufacturer said.

And finally, German hydraulic loader crane and excavator manufacturer Atlas has launched the N series of models for sale outside Europe. Designed to be simpler, they have no electronics and only enough basic electrics to allow the addition of a radio remote control system. The N-Series versions available to date are 57N, 88N, 116N, 152N, 186N and 292N.

The company has also launched a new construction crane: the 262V ST. It is a 26 tonne-metre model available in A11, A12, A13 and A14 versions aimed at the brick and block market in Germany.

Existing behind-the-cab models 256.3 and 226.3 have been redesigned and updated, saving up to 400 kg in weight per crane over their predecessors, Atlas said. Part of the change is that there is more folded steel and fewer welds, the structure has been optimised using finite element analysis and there is more use of 900 grade high strength steel. They have different electronics and there is a higher level of safety, Atlas said.

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HEGMANN'S MEGA NOOTEBOOM INVESTMENT



German heavy haulage and transport company Hegmann Transit has increased the size of its fleet with a large number of Nootboom Euro-PX low-loaders and Manoovr semi low-loaders.

A partner of the Bigmove group, Hegmann's fleet already comprised dozens of Nootboom trailers, but this is the first time the company has invested in Manoovr semi low-loaders.

Intended for the transport of heavy machinery, Hegmann's new units include several four axle Euro-PX low-loaders with two-axle Interdolly, type Euro-95-24ICP and five-axle Manoovr extendible semi low-loaders, and type MPL-85-05(V) with excavator trough and 80 tonne ramps.

Nootboom said the combination of a low load floor with an excavator trough and 80 tonne ramps, makes it possible for Hegmann to transport most of the heavy construction machinery with this semi low-loader, where before Hegmann had to use a 2 bed 4 low-loader.

Mammoet moves rock crusher in one load

Heavy lift and transportation specialist Mammoet transported a 690 tonne granite rock crusher and a primary conveyor across the A.R. Wilson Quarry mining site in Aromas, California, USA.

Mammoet was commissioned by mine owner Graniterock to move the equipment from the top of the quarry approximately 1,200 metres further down the mine. Graniterock had previously attempted to drive the rock crusher downhill itself; however, the crusher experienced a loss of braking power and the operation could not be completed safely, Mammoet said.

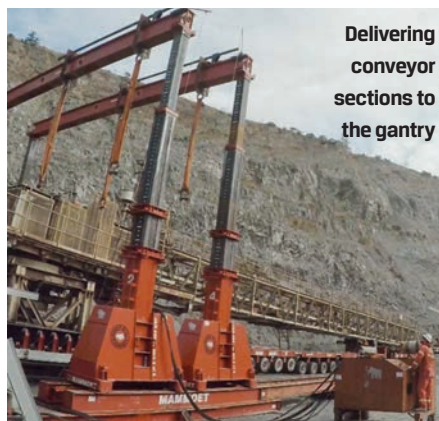
Mammoet said it won the commission due to its previous experience in transporting



Transport of the 690 tonne rock crusher on SPMT

mining equipment and because it proposed to transport the crusher in one piece on SPMT. According to Mammoet, the advantage of this over other methods proposed, including dismantling it, was that it could remain active until just hours before the move. Mammoet said this reduced the equipment's downtime and avoided any unnecessary wear and tear on the machine.

Both were transported on SPMT down slopes with a gradient of up to 10 per cent in muddy conditions. According to Mammoet, using SPMT allowed for a controlled move as the SPMT's rugged tyres provided the necessary traction. A video of the job can be seen here: <https://bit.ly/2L0hJrZ>



Delivering conveyor sections to the gantry

WETTENHALLS ACQUIRES HEAVY TRANSPORT FIRM



Australia-based transport company Wettenhalls has acquired heavy haulage company Allied Transport Services (ATS).

Wettenhalls, which transports food and provides specialist bulk and container logistics on Australia's eastern seaboard, said the acquisition would not result in any job losses.

In 2009 ATS streamlined its operations to focus on transporting construction machinery. According Wettenhalls said it oversees an estimated 18,000 transport moves a year with a fleet of 40 vehicles.

The new division formed by the acquisition of ATS will be named Wettenhalls Heavy Haulage and Specialised Services and will offer end to end transport and employ up to 400 staff.

Hämmerle conquers steep terrain with Faymonville

Austria-based Hämmerle Spezialtransporte relied on its Faymonville 2+4 VarioMax low-bed trailer to get a 55 tonne drilling rig to its destination in a mountainous region.

The heavy haulage company, part of the BigMove network, had to transport the drilling rig from Bludenz to Alberschwende in the Bregenz Forest, Austria. The company was forced to abandon its original route when a road was closed by authorities.



Hämmerle Spezialtransporte moving a 55 tonne drill rig in Austria

Fabian Hämmerle said, "The route we had to travel has never been used to move equipment like this. Due to construction works on a bridge near the unloading site, the usual route was blocked." He added, "The detour via the 'Bödele' was especially challenging. Ahead of us laid very narrow turns and significant inclines. And at the end of the day, we were moving a total weight of around 100 tonnes."

Hämmerle added, "Once, it was only thanks to the trailer's suspension stroke that we were able to drive over the curb stone and make it around a hairpin turn. Without this feature of the low-bed trailer, the transport wouldn't have been possible."

The family-run business is experienced in transporting excavators, wheel loaders and industrial goods using its fleet of specialized vehicles.

From autonomous cranes to brain-computer interfaces, **CHRISTIAN SHELTON** looks at the cutting-edge of construction technology.

Reality warp

VR, AR, BIM, IoT, AI, UAV, ML, big data, autonomous machines, telematics, holographics... the world is changing fast, along with the language we use to describe it. New tech was abundant at the recent Bauma 2019 trade show; from major crane OEMs showcasing state-of-the-art telematics, control and training systems to independents pioneering the edge of possibilities. Even the biggest technophobes amongst us have to admit that the tech revolution is real. So, what could the future hold for our industry?

One area that has long been discussed is that of the autonomous crane. According to French-headquartered crane anti-collision expert SMIE, the reality of this idea is now one step closer following tests it conducted using an adapted version of its ProSite anti-collision

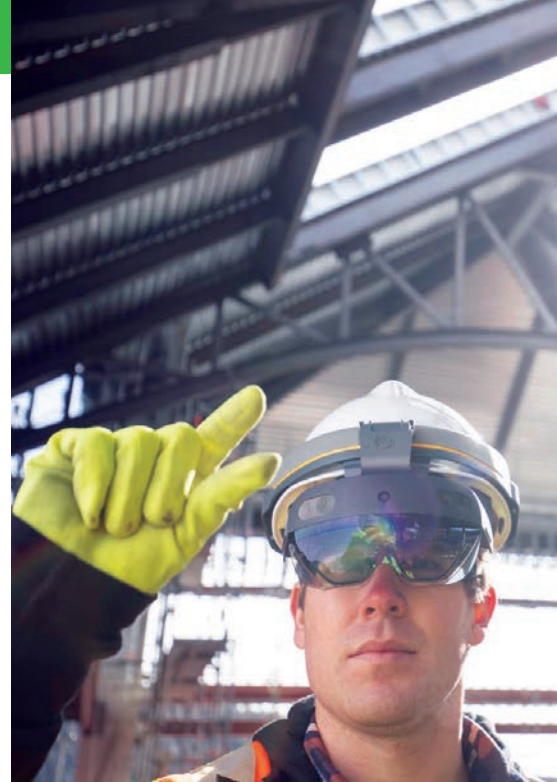
and jobsite monitoring system. SMIE says it carried out a series of tests during the first quarter of 2019 which demonstrated great potential and moves the industry closer to effective crane automation.

As well as adapting ProSite, SMIE has added new features to aid autonomous functionality. Using ProSite, SMIE believes crane operators will be able to simply select a location and instruct the crane to automatically move to that location without requiring any manual operation. All other anti-collision and zoning features of ProSite remain, SMIE explains. This system can also be configured and managed remotely from any connected location, removing the need to climb multiple cranes to make simple parameter changes, SMIE adds.

SMIE says the technology highlights the significant shift taking place within the building and construction industries from manual processes to automation. "Digitally supported solutions are becoming an increasingly vital aspect of site safety and efficiency, and are expected to completely transform the sector," says CEO Jean-Charles Delplace.

Drone power

Another part of the inspection industry, aerial inspections, is also being shaken up by the use of new technology, with drones and



unmanned aerial vehicles (UAVs) becoming key tools.

Data acquisition specialist Texo DSI says it has been working in the construction industry to maximise the operational benefits that derive from world-class drone surveying combined with traditional surveying and inspection services.

High-definition 3D laser scanning combined with UAV imagery and modelling allows for seamless capture and monitoring of construction progress, providing 3D documentation at every stage, it claims.

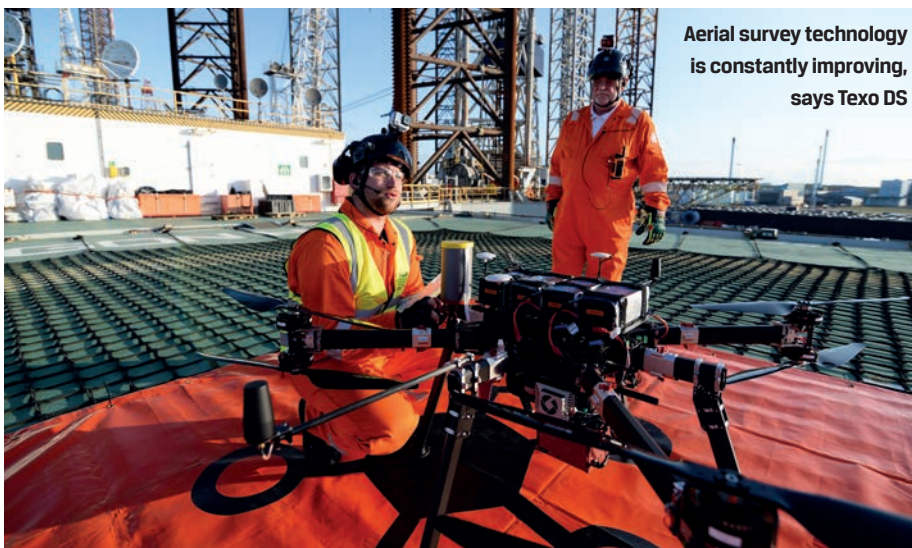
Aerial survey technology is constantly improving as a result of R&D and investment, Texo DSI says. In the last few months it has deployed in-flight focus functionality on its 100MP high resolution aerial metric cameras. This allows lenses to be focused while in-flight, enabling a number of new uses for inspection applications where the focusing distance can be carried out in real time.

Tower crane inspection

The role that drones could potentially play in inspecting tower cranes is also an area being explored by Terra Drone Europe. The company is one of the largest drone specialists in the world with 250 staff working in 15 countries. It has extensive experience of providing visual and other inspections of structures in the oil and gas sector – both on and offshore – as well as wind turbines and other onshore industrial structures. One recent application was to carry out carry out inspections on structural steel on offshore platforms with a view to extending their working lives. Now the possibilities of tower crane inspection have come to their attention and the company is keen to articulate these. "Drones can be used to provide a wide range



Above: Autonomous crane trial by SMIE



Aerial survey technology is constantly improving, says Texo DS



Trimble holographic glasses bring mixed reality to the job site

of data on structures,” says Patrick Rickerby, technical director of Terra Drone Europe. “For example, high quality photography coupled with computer analysis techniques can help identify defects in steel... Drones may not be able to replace all traditional means of inspecting and maintaining tower cranes, but they can certainly help tower crane owners in their operations.”

Rickerby will expand on this in a presentation at the forthcoming International Tower Crane conference, organised by *International Cranes and Specialized Transport* that will take place in Vienna, Austria in June. For more information see: www.khl-itc.com.

Mixed reality

UK based Xcell Aerial Surveys is another of the new generation of companies challenging traditional surveying and data collection techniques in the construction industry with a technology-led approach that it says delivers results faster than traditional techniques. The company was founded in 2014 by tech-savvy entrepreneur Blayne Jackson and specialises in the acquisition of advanced data via the use of UAVs (drones) and other techniques. “XCell Aerial specialises in mixed reality,” explains Jackson. “We blend fact with fiction. With the use of drones, cameras, professional measuring kit, insanely powerful computers and software packages we can accurately map any topology and insert proposed new build housing estates, tower blocks, roads, cell towers, pylons etc.”

This blend of fact and fiction is also evident in the simulator market where. In the construction industry, simulators are primarily being used for operator training purposes and, according to a new report by research company Global Market Insights,

the operator training simulator market will be worth \$20 billion by 2025.

The research company attributes the growth of the market to an increasing adoption of robotic technology in industrial sectors, and the resulting reduction in financial costs. It also said increasing government and health and safety regulations are expected to augment demand in the operator training simulators market.

Tomorrow's world

Another example of mixed reality can be seen in the development of new technology utilising holographic glasses by software developer Trimble. The XR10 with HoloLens 2, for example, fits onto a hard hat and enables workers in safety-controlled environments to access holographic information on the jobsite, Trimble explains.

Trimble believes this provides greater accessibility to 3D models for front-line workers, and that its use could help improve efficiency, productivity and quality of work on the jobsite.

Trimble said that the continued development of its cloud-based collaboration platform, Trimble Connect for HoloLens, will enable workers in the field to get more value from constructible 3D models and transform daily work, such as assembly and inspections.

Director of Trimble's mixed-reality programme, Aviad Almagor, said, “We're excited to extend our collaboration with Microsoft, producing a safety-first mixed-reality solution that can be used in production environments such as construction, where

workers are building, monitoring and inspecting products and services that deliver tangible value every day.”

As if that's not mind-blowing enough, Trimble has also announced that it is collaborating with brain-computer interface (BCI) software developer Neurale to develop BCI technology to solutions for the transportation and construction industries. According to Trimble, Neurale's technology can provide hands-free and voice-free interactions, as well as cognitive analytics on behaviour for insight-driven and data rich immersive experiences. Trimble says it will work with Neurale to leverage bio signals, such as brain activity combined with eye tracking technology, to improve training efficiency, driver safety and high-risk front-line worker safety.

“Collaborating with Neurale is another step forward in our mission to transform the way our customers consume, interact and communicate information,” said Aviad Almagor, director of the Mixed Reality Program at Trimble. “A new interaction paradigm is required to efficiently merge the digital and physical environments. We believe that BCI technology can play a major role in achieving this future.”

Although many of the developments covered in this feature may sound like they are from the pages of a sci-fi magazine, the reality is that they either already exist or are in the process of being developed. Technology moves fast and exactly which areas will go on to become key industry tool only time will tell. We can't wait; warp speed ahead! ■

NEW OPPORTUNITIES

In February 2019 Austrian manufacturer of hydraulic lifting, loading and handling systems, Palfinger, announced that it has set up a joint venture (JV) with high-tech engineering firm Vienna Consulting Engineers ZT and surveying and photogrammetry specialist Angst Group to launch Palfinger Structural Inspection (Strucinspect).

According to Palfinger, the Vienna-headquartered joint venture was borne out of its railway systems interests. By using UAVs, multispectral sensors, artificial intelligence and three-dimensional data processing Palfinger says the time needed by Strucinspect for inspecting buildings and structures is considerably shortened and that it will no longer be necessary to close these areas to traffic. It hopes this will revolutionise the maintenance of infrastructure.

“We have identified great opportunities for Strucinspect in Austria and Germany alone,” said Andreas Klauser, CEO of Palfinger. “After all, more than 40,000 road bridges and over 25,000 railway bridges have to be inspected on a regular basis to guarantee road safety.” The current market value of bridge inspections in Europe comes to at least EUR 100 million, Palfinger says.



From left to right: Peter Furtner (VCE), Philipp Smole (PALFINGER), Andreas Klauser (CEO, PALFINGER), Albrecht Karlusch (STRUCINSPECT)

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Careful planning was required by specialist contractor Kahl Schwerlast to transport a pair of transformers, each weighing more than 300 tonnes, to their destination in Germany. STEFAN JUNG reports



The whole thing trackside

By rail then road

Havy transport specialist Kahl Schwerlast from Germany started 2019 with a particularly challenging heavy-duty project.

Two new power station transformers had to be transported to a new substation in Bacherach, Germany. They travelled by train from Krefeld to Stromberg to the unloading point. Before this could be done, however, a part of the railway line had to be reactivated.

The rail transport arrived in Stromberg on a 32-axle Schnabel type heavy transport rail wagon. Both the 305 tonne transformers were then transferred from rail to the road vehicles. For the next stage of the journey, Kahl used its 600 tonne capacity Goldhofer side girder bridge type G²IK 600.

The finished transport unit included the maximum 2 x 24 axle lines of heavy duty transporter from Goldhofer.

Motive power

Forward traction and pushing power was provided by Mercedes-Benz/Titan and MAN heavy tractors. In the course of the transport route a gradient of 10 % had to be negotiated so four tractor units up front and one pushing from behind were brought in.

Bad weather prevailed during the transport but didn't affect the 646 tonne and 99 metre long combination. The 15 km route was routinely managed by the team from Kahl. Twice along the way a bridge crossing


The Goldhofer type G²IK600 side girder trailer

JOB DETAILS

COMBINATION LENGTH: 99 metres

TOTAL WEIGHT: 646 tonnes

LOADS CARRIED: Two transformers, each weighing 305 tonnes

EQUIPMENT USED: 48 axle lines Goldhofer with girder bridge type G²IK600

TEAM: 20 Kahl employees and more than 10 support trucks

system was used because of the low load-bearing capacity structures. In addition, about 3 km before reaching the destination, the combination was rebuilt as a 2 x 16 axle line format of Goldhofer type PSTE self propelled transporter with power packs. Without this measure the transport would not have gone any further.

Around two years of planning was



Heavy duty Mercedes Actros 4165 V8 tractor unit

needed and extensive route planning and engineering work was carried out. Kahl needed three days for the 12 km route and ten people were assigned for the road transport. Another ten people were added to build up and dismantle the bridge crossing system. The project was completed over a period of 11 days in early 2019.



MAN tractor type TGA-41660



The transport rebuilt as a self propelled combination with power packs for the final 3 km of the journey

Bright sparks

Impressive lifting and transportation jobs for the energy industry are continually being conducted around the world. CHRISTIAN SHELTON selects some current highlights

The energy sector continues to be a steady and diverse source of work where heavy lift and transport companies can find themselves working on a wide range of jobs. This article alone covers: wind farm work; generator and rotor transport; topside installation lifts; transition piece installation; jacket load-outs; and a wind turbine blade installation system.

Belgian-headquartered heavy lift and transportation multinational Sarens has long been active in the energy sector, enjoying a diverse array of commissions. This year has seen continued engagement by the energy sector with jobs including installing 12 wind turbines at the Dam Nai 2 Wind Farm in Vietnam, which Sarens says is now the largest of its kind in the country, and installing the tallest wind turbine towers in Australia at the Sapphire Wind Farm in Glenn Innes, New South Wales.

The company also installed a 450 tonne generator at Black Point power station in

Hong Kong. According to Sarens, Black Point power station is one of the planet's largest gas-fired combined-cycle power stations and is owned by the Castle Peak Power Company Limited (CAPCO) - a joint venture between CLP Power Hong Kong and China Southern Power Grid International.

To transport the generator Sarens used two lines of 16-axle SPMT. A six-person crew then used an NTL 900-tonne floating crane to move it to the final lift site, working within the confines of a small site with heavy traffic, Sarens says. The generator, which measured 13.6 x 4.5 x 5.6 metres, was then transported to the lifting position and lifted and rotated into place using two 250-tonne overhead cranes, and a Demag CC 6800 crawler crane. The equipment was mobilised by barge from Belgium, and transportation took about

one month. Assembly of the CC6800 took about one week, says Sarens. In all, 20 crew members were involved in the operation.

Topside testing

Remaining with super heavy lift cranes, international heavy lift and transportation specialist ALE has completed the lifts of three topside modules for an oil and gas project in Ingleside, Texas, USA using its AL.SK350. The last module to be lifted was the living quarter module which weighed 2,234 tonnes (including the cost of the block and tackle). For this lift the AL.SK350's installation outreach was 42.8 metres and it was rigged with a 124 m (406 ft) main boom, a 49 m (160 ft) ballast radius, a heavy winch system, and 4,000 tonnes (4,409 tons) of ballast.

The lifts were used to check the modules fitted to avoid any delays when the topside is finally installed using a heavy lift vessel off the coast of Israel.

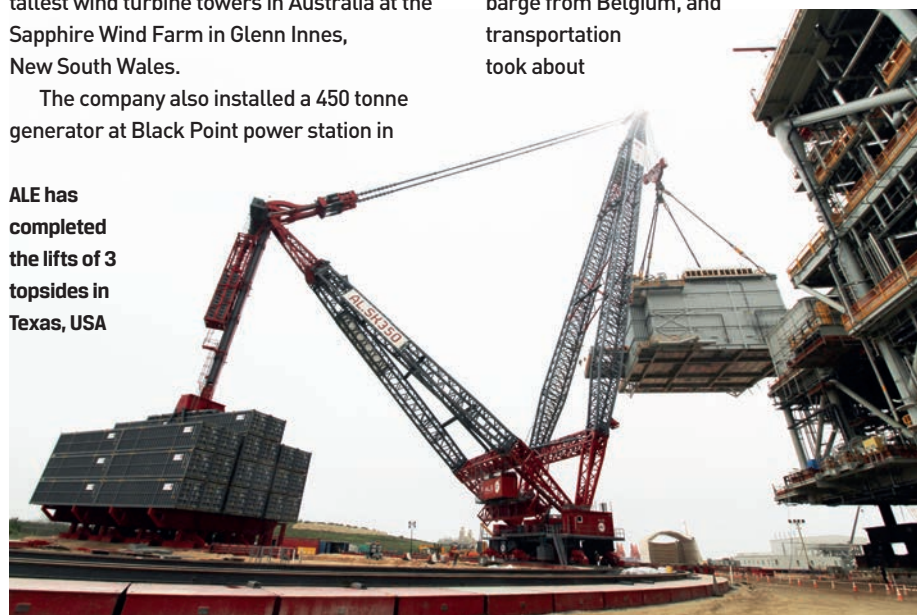
ALE has also completed its scope of work on one of the biggest offshore wind farms in the world: Ørsted's Hornsea Project One. ALE was contracted by marine engineering company GeoSea to provide the specialist offshore engineering alongside the marine transportation, sea-fastening, load-out and ballasting of over 100 transition pieces (TPs) in the UK.

Award-winning work

Italian heavy lift and transportation company Fagioli won two awards for energy sector-related jobs at this year's ESTA Awards of Excellence, which took place during the Bauma show in Munich.



ALE has completed the lifts of 3 topsides in Texas, USA



Sarens transporting a generator to Black Point power station



The first win was in the 'transport with a trailer and load more than 120 tonnes gross weight' category. Fagioli won this for transporting two 170 tonne rotors a distance of 450 km - from Genova to Premadio, Italy. The rotors had to be delivered to a powerplant up in the mountains, at a height of 1,250 metres above sea level.

For the job Fagioli first used two 11-axle modular trailer lines with 180 tonne girder beams, creating a convoy length of around 61 m. The journey started easily enough, covering 230 km in three nights, primarily on main roads and motorways. However, as the convoy got closer to its destination more and more challenges presented themselves. These included sharp bends, steep gradients and weak bridges. The bridges had to be reinforced before crossing and over bridge structures were also deployed. When the rotors arrived at the powerplant, the challenges continued as they had to be

Fagioli transporting two rotors to a power station in the Italian mountains



transported along a 500 m tunnel with restricted room.

More than 35 people were involved in the transport of the convoy each night and, over the course of the work, mobile cranes and a gantry crane were used to help modify the convoy's configuration, which was changed three times. Six trucks (to aid convoy transport and for loading and moving operations over bridge structures) and SPMT (to aid bridge reinforcement) were also used.

Fagioli's second energy-related ESTA Award of Excellence was in the SPMT category; it won for a load-out project in Spain, moving 42 jackets for the renewable power sector. The jackets weighed up to 950 tonnes so Fagioli used a tailor-made jacket on 46 axle lines of SPMT to move them. In addition, climbing jacks, support towers, winches and mooring equipment were utilised.

As well as being heavy, the jackets were large in size, with the bigger ones measuring 66 m high, 32.6 m long, and 25.9 m. In order to be able to lift the jackets Fagioli designed the frame structure with retractable edge main beams with movable stoppers. This, it says, allowed flexibility in handling the different configurations of the.

Fagioli then used SPMT to lift the frame structure and jackets and they were move to the load-out quay.

Wind safety system

Fagioli was not the only company to win an ESTA award this year for its work relating to the energy sector; Liebherr-Werk Ehingen won the safety category with its single line guiding system (SLGS) developed in-house to make it easier to install wind turbine blades without the use of conventional tag lines.

Liebherr says the system is designed to work with rotor blade yokes from various manufacturers. Rotor blade yokes are used to install blades on the latest generation of wind turbines. According to Liebherr, to stabilise long rotor blades in the wind, helpers have had to be used on the ground with vehicles and, in some cases, even rope winches, to control the blades using long ropes. This, it says, requires a great deal of space on the ground as the force needed can only be generated if the ropes are spanned at an adequately low angle.

For erecting wind turbines in forest areas, this means that more trees have to be felled to accommodate this. However, claims Liebherr, its SLGS avoids these issues.

The system comprises three key elements: a winch, a fix point on the top of the boom and a roller sheave and assembly is easy, says Liebherr. For assembly the single-line guiding system is attached to the main boom on the side facing the load. A rope is then secured at the top of the boom head and tensioned using a rope winch below in the pivot section. A cable pulley with two connections to the outsides of the rotor blade yoke runs along the boom rope during the hoisting process. With its own power supply in the yoke, the two connections to the SGLS are tensioned so that the blade is stabilised in the wind and can also be moved into the correct angle for installation on the hub. Since the horizontal application of force on the blade by the main boom is perfectly aligned, the SLGS improves the load control during the blade installation, Liebherr claims. Safety is increased, says Liebherr, because only the crane driver and yoke driver need be present.



Liebherr's SLGS system won an ESTA Award of Excellence in the safety category

Incoming SC&RA president
TOM BENNINGTON talked to
MIKE CHALMERS about how
he created a career and a
company he looks forward
to working at every day

Saturday evening, 27 April, the 2019 SC&RA Annual Conference Closing Night Ceremony in Carlsbad, California, USA, saw outgoing Association president Gary Stang hand over the gavel to incoming president Tom Bennington.

Already familiar with the role of president – at Duncan Machinery Movers in Lexington, Kentucky, – Bennington travelled a non-traditional path to SC&RA leadership. Born in Pennsylvania, his family moved around the Mid-West as his salesman father navigated the corporate ladder. Bennington graduated from the University of Cincinnati with a degree in management and marketing while juggling a full-time job.

A sucker for numbers, he also took a fair share of accounting classes while in Cincinnati, gravitating toward the banking industry after school where he landed at the Ohio Division of Banks. Though banking wouldn't be his final destination, he feels it laid the groundwork for perspective and a continued analytical mind that serves him well today.

I had a chance to meet Bennington and unpack those early chapters, discussing how it shaped his journey and paved the road for a career and a life that he literally looks forward to every day.

MIKE CHALMERS: YOUR MOTHER PLAYED A PIVOTAL ROLE IN NOT ONLY WHERE YOU FIRST STARTED WORKING, BUT HOW YOU WORKED.

Tom Bennington: She did. When I was growing up, she worked in the banking industry, and was ahead of her time for women succeeding in the workplace. She was an executive VP for her bank long before that was the norm, and always the first woman at her position wherever she was. I get a lot of my work ethic from her. I saw how hard she worked, and it inspired me.

BANKING WASN'T ULTIMATELY FOR YOU, THOUGH IT DID SET THE STAGE FOR THINGS TO COME.

It absolutely did. And I still use so much of what I learned, because in this industry, we're always analysing and examining numbers. I eventually worked for Fifth Third Bank, and

Life lessons:



Bennington and his family spend a lot of time outdoors. Together they enjoy boating, hunting, rock climbing and all University of Kentucky sports

from there I worked with Visa and Mastercard processing for large retailers. I travelled from Cincinnati north to Michigan, all the way to D.C. and up to Boston, calling on a range of large accounts. I did that for about three years before leaving the industry and taking a job with a local commercial builder working in marketing and sales.

THIS WAS A CAREER PIVOT FOR YOU, BUT ALSO A PRODUCTIVE STEP IN A DIRECTION THAT WOULD DEFINE THE REST OF YOUR LIFE.

For sure – it was with a commercial construction company in Cincinnati, and my specialty was 'large industrial boxes' – focused on the industrial side of it. I did that for three years and then had an opportunity to work with The Roger Staubach Company in corporate real estate. My specialty there was also industrial boxes, and part of our services after the property was acquired was the move-in and installation of equipment. I should backup and say that I met my wife while at Fifth Third Bank, and her dad, Bill Heron, owned a small rigging company in Lexington, Kentucky. Though I was immersed in commercial real estate, I got to know Bill and understand his business – which actually helped me in my industrial sector because I could talk intelligently about equipment.

WHEN DID YOU KNOW YOU WANTED TO OWN YOUR OWN BUSINESS?

Pretty much from high school. But to put it into context, Bill was thinking about selling his company (this would have been the late

1990s), so I made him an offer, and he said no. Said my price was too low.

BUT THAT DIDN'T CHANGE THE EVENTUAL OUTCOME.

Well, he entered into a deal with someone who ended up not being able to get it financed. While that was happening, Bill was going through the SC&RA chairs. We got invited to San Antonio – the meeting where he became president. At that time, I gave Bill a letter of intent and met the new price – with terms closer to his. So, as he became president of SC&RA, it was my first SC&RA meeting. That was 1997, and that's when I entered SC&RA.

SO, YOU WERE ESSENTIALLY TAKING ON TWO NEW CHAPTERS: ONE AS THE NEW PRESIDENT OF A COMPANY AND ALSO MEMBERSHIP WITH SC&RA.

Indeed – as Bill was assuming his new role, I was sort of on the sidelines looking in. But I met a lot of very special people during that time – Alan Barnhart, Bill Sterett, Terry Emmert, to name a few. Bill, of course, passed away, but Alan and Terry are still my friends today. I knew from being in a fraternity in college that you get out what you put in. That's especially true at SC&RA. So I joined every group I was able to join, sat in on every meeting – got in on the committees that I thought were right for me, where I would learn and have something to offer. I've been on the SC&RA Safety Education and Training Committee since the early years.

HOW WAS DUNCAN EVOLVING AT THIS TIME – WHAT WAS YOUR PLAN?

When I took over, we were basically a heavy rigging company that did work in the Mid-West and travelled into Michigan, Indiana, Ohio,

Love what you do

Kentucky, Illinois, Tennessee, West Virginia. We did these large projects, and around 1990, started installing machinery. When I became president, the company had evolved so much, there was a bunch of equipment that really needed to be sold. So, I started updating the technology as well as the fleet of equipment that was tailored more toward what we did.

AFTER MORE THAN TWO DECADES RUNNING DUNCAN, WHAT CONTINUES TO GET YOU UP IN THE MORNING?

I simply love what I do. I love that fact that every day is different – every job, from one to the next. I love watching our guys work, love watching what we accomplish on a daily basis. Everything keeps getting bigger, heavier, further-reaching – you're constantly scratching your head trying to figure out how you're going to do this.

WHAT WAS ONE OF THE MOST DIFFICULT THINGS YOU'VE EVER DEALT WITH AT DUNCAN?

Around 2008–2009 we had to make some really tough decisions during the recession years. Those were tough years for all of us, the industry, everyone. But I can say that Duncan is better for it.

HOW HAVE SC&RA RELATIONSHIPS HELPED YOU DEVELOP YOURSELF?

Not enough can ever really be said about the professional benefits. And as a financial guy, I attended an Association financial seminar in Palm Springs in my early years. I got teamed up to play golf with Dick Conklin and George Bragg, and from that day, until the day George passed, he and I were very good friends. I would call him out of the blue and just ask him questions. He would always point me in the right direction.

I also got to be good friends with Bill Sterett and George Young. My relationship with George was neat because I would call him for machinery moving and rigging questions, and he would call me for financial questions and to talk about family. Those guys can't be

replaced. I still have George Bragg's funeral brochure above my desk and, in my office, I have a picture of George Young and myself. Present day, I've got a core group of guys in the Association who I really enjoy spending time with. We get together when we can. SC&RA becomes like a family in certain ways.

WHEN DID IT START MAKING SENSE TO YOU TO CONSIDER THE CHAIRS?

After my son entered high school, it made more sense for me personally to consider that nomination process. As you get approached by certain folks, and they ask you if you're ready for this or interested in that, my answer would have always been yes.

GIVEN THE NAMES THAT HAVE COME BEFORE YOU, WHAT DOES THIS APPOINTMENT MEAN TO YOU?

Well, even though Bill was my father in law, you want to talk about mentors. With a tear in my eye, I assure you he was a great mentor and human being. I'm honoured to be considered in that group of illustrious men who've come before me. I didn't grow up in the industry; I came through a little differently. I try very hard every day to be as kind and considerate and generous as I can – in the model of my mentors. It's an honour to be president of this great association.

WHAT IS A PERSONAL GOAL OF YOURS AS PRESIDENT LOOKING AT THE YEAR AHEAD?

The highest priority on my list is the transition from one industry-endorsed insurance company into the next evolution. If it's done right, it's still going to be very beneficial for everyone.

Obviously, SC&RA has done a fantastic job not only addressing current industry challenges but looking ahead and constantly working to pull together resources and build off the strength of its membership in looking for answers to challenges. I look forward to being a part of that process during my time as president.

WHAT EXCITES YOU ABOUT THE FUTURE OF BOTH THE SC&RA AND THE INDUSTRY?

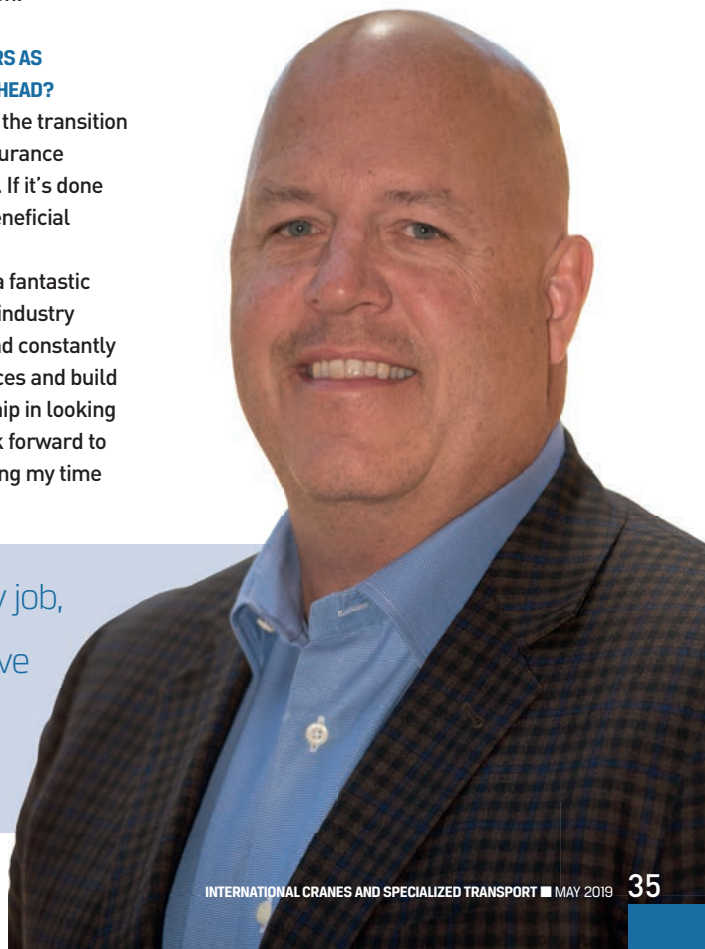
Industry for me is always changing. That has always excited me and always will. It's really interesting to see how this ripples through the Association. These days, I'm part of the older crowd, so to speak, and it's really neat to see what the younger people are bringing to the table. To see how the membership is evolving, and how the Association is cultivating its future leaders programmes. The next generation is starting to step up – you're seeing members' kids coming into the industry, many of them in leadership roles.

FINALLY, WHEN YOU'RE NOT WORKING, WHAT DO YOU DO FOR FUN?

I don't even know where to begin. I spend a lot of time outdoors, and we try to get to Lake Cumberland [Kentucky] as much as we can. We do all the University of Kentucky athletics – season tickets to football, basketball, baseball. Boating is also a big pastime for me, and I spend a lot of time at our family farm. My children and I go hunting; I'm going to teach my daughter how to rock climb this year. My wife and I just really enjoy our kids and the special life that we have. And I can't forget my dog (I love animals) – she comes to work with me every day.

“ I love the fact that every day is different – every job, from one to the next. I love watching our guys work, love watching what we accomplish on a daily basis ”

TOM BENNINGTON, SC&RA president



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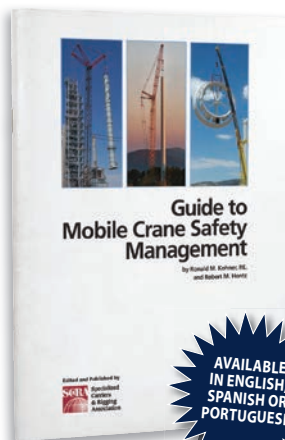


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Following an accident when taking down a tower crane, the pressure was on to ensure the dismantling of a second tower crane on site went to plan. CHRISTIAN SHELTON reports

Fail to prepare, prepare to fail

Yousef Mousa is the managing director of Jordanian crane rental firm Yousef Mousa Crane Company. The company also carries out crane testing, inspection and certification work and belongs to LEEA (the Lifting Equipment Engineers Association - UK), SC&RA (Specialized Carriers & Rigging Association - USA), and IPAF (International Powered Access Federation).

The company's inspection services were commissioned by the Arab Towers Contracting Company (ATCCO) following the collapse of the boom of an all terrain crane while dismantling a tower crane on an ATCCO

jobsite. The company still had to dismantle a second tower crane on the same site and didn't want anything else to go wrong.

The site was a 38-floor hospital in the city centre called Clemenceau that ATCCO built on the former headquarters of the Jordanian army. To build the hospital, ATCCO used two ten-tonne capacity Potain MC235 tower cranes. When it came to dismantling the tower cranes, ATCCO first commissioned a local contractor with a Grove GMK 6250 all terrain crane. The Grove was erected with a luffing jib. According to Mousa, a lifting plan was not offered and no proper inspection of

the tower crane undertaken.

The GMK 6250 had been used to take down the tower crane's jib, in two sections, and the counter jib. As it was lowering the tower crane's turntable and cabin to the ground, however, the boom of the mobile crane collapsed and, along with the tower crane cabin, fell and hit some parked cars below. Fortunately, because it was the weekend, the area was quiet so there were no fatalities.

Necessary precautions

Due to this accident all precautions were taken during the dismantling of the second tower crane and ATCCO bought in the expertise of Yousef Mousa.

To dismantle the second crane, ATCCO used its own 280-tonne capacity Liebherr LR 1280. The crane was rigged with a main boom of 55.1 metres and a luffing jib of 59.0 m. This, said Mousa, provided a capacity of 10.5 tonnes at a radius of 54 m. "The Potain's cab weighed ten tonnes, so it was clear we would be right on the limit," explains Mousa.

"All necessary precautions were taken," he continues. "We prepared a method statement and worked with ATCCO's engineers to develop a lift plan. We also carried out a compaction test for the ground beneath the crawler and subsequently used 30 mm thick plates to reinforce it. We also inspected every item on the LR 1280, even load-testing it up to ten tonnes prior to using it to dismantle the second tower crane."

Following approval from the local authorities, the second tower crane was ready to be dismantled. During the dismantling Mousa says that everything went to plan. "It's a lesson for everyone," Mousa concludes. "Proper planning is the key for a successful lift. Always be sure that your crane is in good condition, your LMI is operational, all safety features are in good order and ensure proper crane inspection by experienced inspectors."



Yousef Mousa



The Liebherr LR 1280 was rigged with a 55.1 m boom and a 59 m luffing jib



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Investing in people

According to a recent Federation of Master Builders (FMB) survey, 25 percent of British parents would prefer their children pursue an apprenticeship, slightly higher than the 24 percent that would prefer a university degree.

The numbers represent a cultural shift of sorts – and hopefully signify a change in attitude towards the trades as a plan B or even C for young people after high school. Ever-rising university fees across the UK are likely one factor influencing this emerging attitude, alongside the reality that an apprenticeship allows young people to earn a wage while they learn a valuable skill.

An increasingly tech-savvy industry is also a more attractive career option for today's young workforce. Interestingly enough, the FMB survey also found that 41 percent of people in search of a builder would be more likely to engage one that trained apprentices – giving companies who boast training programmes a distinct advantage when it comes to winning work.

But parents and kids are two decidedly different groups – a notion strengthened by research from the Chartered Management Institute



(CMI) that came out in late 2018, suggesting that, while 57 percent of respondents thought that apprenticeships offered a better chance of getting a good job and nearly half of parents (49 percent) would encourage their child to start an apprenticeship rather than apply for university, apprenticeship participation in 2018 decreased by 31 percent compared to 2016-17.

Traditionally, academically driven teenagers have opted to start university degrees, while those keen to make an early start in the workplace have chosen jobs in their local area. But “degree apprenticeships” combine the two approaches, by allowing students to get work experience in thriving companies while engaging in degree-level classroom teaching. The programmes see them awarded a qualification after three years.

Majority consensus

Support for degree apprenticeships over the last two years, both from employers and education providers, has led to a growth in awareness among parents – from 13 percent in 2016 to 32 percent in 2018.

Industry insiders say that degree apprenticeships are transforming how we perceive apprenticeships and vocational education – pointing to their potential to become that long sought-after vocational gold standard the UK needs. To that end, more than 10,000 people are enrolled on CMI management apprenticeships in the UK, offering work placements with major corporations and partnerships with a dozen universities.

While this information could suggest that next-gen workers are beginning to see and comprehend the value of a career path through the trades, parents are concerned that quality apprenticeships are still largely unavailable. Nearly 40 percent told CMI they believe employers are not providing enough apprenticeships. And nearly 75 percent believe that employers should cover the costs of both training and paying apprentices. An additional 75 percent believe that employers should have to take on apprentices by law.

The majority consensus seems to hover around the notion that, if government leaders won't listen to businesses, perhaps they will listen to parents. After all, employer investment in skill, both current and future, seems to be in demand, according to the public. With productivity and pay having stalled for a decade – including Brexit's potential negative impact on the skills gaps – it should be a cause for concern that UK employers invest only half as much as the EU average.

Ultimately, as the worker shortage evolves into a new decade – even amid industry-wide efforts to mitigate it – employer investment in talent might be one of the few onsite strategies companies can initiate immediately to not just grow their own ranks, but convince a generation that a career in the trades is as worthwhile as it's ever been.

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Association recognises its rising stars and celebrates the future with its 4 Under 40 programme. MIKE CHALMERS reports

Leaders of tomorrow

Even amid a persistent worker shortage affecting members around the world, SC&RA understands the value of recognising when things are going right. Particularly, four member companies boast employees who landed on this year's prominent 4 Under 40 list.

No matter where they live and work around the world, SC&RA leaders exemplify the Association's core values and long-term mission. As the industry embraces its next generation of leadership, the Association celebrates four individuals who embody the experience, dedication and ambition that will strengthen the industry for years to come.

Finger on the pulse

Ryan Long, regional operations manager at Irving Equipment Limited in Saint John, New Brunswick, Canada – where he was born and raised – was the first in his family to attend

college, and graduated from the University of New Brunswick with a bachelor's degree in science (biology), later receiving his master's certificate in project management, as well as an MBA in 2015. He did it all while working.

As it happened, his mother was working a temporary receptionist position at Irving in 2003 when she let Long know about a dispatch helper position that had recently opened up. He was just 20, and still in school, but quickly devised a resume and got the gig.

"When I arrived, the dispatcher couldn't be happier to see some relief and probably only trained me for a week," he admitted. "I learned by the 'sink or swim' method."

Long was offered a full-time position upon graduation and started on the Monday after his last exam. His first exposure to SC&RA was through reading KHL Group magazines as a junior employee. "I loved reading about the incredible jobs and new equipment," he said. "After reading for many years, I saw the ad looking for applicants into the 2018 Leadership Forum and just went for it. When I got accepted into the Forum, I was thrilled but also nervous and really didn't know what to expect."

The event in St. Louis, Missouri, USA, had an indelible impact on Long. "It was unlike anything I've experienced in the past. I was really impressed with the calibre of heavyweight industry mentors that volunteered to take part. I really love the industry; if there is some way that I can help to make it even better, and make a bit of a mark, I'm all for it!"

Given its close proximity to the USA, Long indicated that Irving's location gives him an opportunity to keep his finger on the pulse on what's happening in the industry next door. "Typically, any new regulations in the US find their way to Canada in some



RYAN LONG, regional operations manager, Irving Equipment Limited

“ Face-to-face meetings have helped me out of jams more than once, and I'm honoured to be a part of SC&RA moving forward. Having those relationships and moving the industry forward is an irreplaceable opportunity ”

WILL HAYMONS, heavy haul project manager, Bennett International Group, USA



way very shortly after. By networking with US members, we get an early understanding of how the regulations are affecting their businesses and can make preparations."

On a more practical side, added Long, "...we recently took advantage of SC&RA's crane operator evaluation templates while on-boarding our operators in our new Houston, Texas, USA, branch. With the Texas branch now ready for operation, we stand to benefit more every day from our membership in the Association."

Face to face

Like Long, Will Haymons, heavy haul project manager at Bennett International Group in McDonough, Georgia, USA, grew up near his place of employment. Haymons arrived at Bennett in 2011 and attended his first



SC&RA event at the 2018 Specialized Transportation Symposium in St. Louis, Missouri. Also, like Long, he participated in the Leadership Forum.

"The networking opportunities at meetings are second-to-none; there's no other place where you can get in there and talk to state officials, talk to law enforcement," Haymons stressed. "Those face-to-face meetings have helped me out of jams more than once, and I'm honoured to be a part of SC&RA moving forward. Having those relationships and moving the industry forward is an irreplaceable opportunity, and you can't have those relationships without SC&RA."

But Haymons isn't blind to the challenges at hand for both his employer and his industry. "The biggest challenge I see from my vantage point is qualified drivers," he added. "We're doing our part at Bennett, but it's the biggest thing we face here."

People in place

Anthony Garcia echoes Long and sees the Association as a vehicle for members who want to keep their finger on the pulse of the industry while developing key relationships. As VP of operations at Mammoet, he is also "getting his feet wet" on the SC&RA Transportation Safety, Education and Training Committee.

"Their member base often has unique challenges," he pointed out. "The Association understands this very well and puts that to use through its advocacy."

Garcia spent the majority of his youth in Texas and attended the Air Force Academy preparatory school before graduating from Texas A&M University with a mechanical engineering degree. He entered the industry by chance, meeting Mammoet at a Texas A&M career fair.

Similar to Long, Garcia started with Mammoet right out of college. "I've been here ever since," he confirmed. "My team and I are



“Willingness to discuss these challenges openly is a first step, and SC&RA is a collaborative environment for that. I was unaware of the reach that SC&RA had within the industry”

ANTHONY GARCIA, vice president of operations, Mammoet USA

responsible for Mammoet's North American branch activities."

He believes that putting people in place within a specialized industry is an ongoing challenge. "Willingness to discuss these challenges openly is a first step, and SC&RA is a collaborative environment for that. I was unaware of the reach that SC&RA had within the industry until I started taking a more active role. All the companies who are actively involved here really believe in contributing for the greater good."

Lasting impact

Cynthia Loza grew up on the outskirts of Los Angeles, California, USA, where her youth was cultivated by the image of a father working in the trades. It wasn't long after she graduated from Whittier College that an opportunity to prove herself emerged – and for a young woman who'd grown up sharing the dinner table with blueprints, she was eager to roll up her sleeves.

"I landed my first job as a social compliance auditor for UL [a global safety certification company]," she said. "For three years at UL, I conducted factory audits across the USA, and internationally."

It was during this time that Loza, currently the safety manager at Buckner Heavylift Cranes in North Carolina, USA, was drawn into the industry. "In July of 2017, I came across Buckner – through their safety co-ordinator position posting," she explained. "After looking into the company, I knew this would be a great place to start a career."

While overseeing the safety programme at Buckner, Loza has also earned an associate of science degree in occupational health and safety from Columbia Southern University. "I truly enjoy working with everyone here, all of whom have been eager to participate in every new safety endeavour we've presented," she said.

In August 2018 Loza attended the SC&RA Crane & Rigging Workshop. "I was blown



The 2018 Leadership Forum in St. Louis, Missouri, inspired both Ryan Long and Will Haymons

away; SC&RA has made so many incredibly helpful resources available to me and, without a doubt, has impacted my professional and personal growth."

To that end, Loza plans on returning the favour. "I look forward to joining the Crane & Rigging Group Safety Education & Training Committee and seeing what opportunities are available to make a positive and lasting impact in the Association as well as the industry." ■



“I look forward to joining the Crane & Rigging Group Safety Education & Training Committee and seeing what

opportunities are available to make a positive and lasting impact in the Association as well as the industry”

CYNTHIA LOZA HAYMONS, safety manager, Buckner Heavylift Cranes, North Carolina

SC&RA networking opportunities are superb, says Will Haymons, Bennett International





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**What is it worth? Determining the
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More than 530 crane and specialized transport professionals attended the annual ESTA Awards of Excellence 2019

The 2019 Awards of Excellence winners



Winning in Munich

For many the culmination of the Bauma trade show week was the ESTA Awards of Excellence 2019, which was held at the Westin Grand hotel in Munich, Germany. Organised by ESTA and International Cranes and Specialized Transport magazine, the drinks reception, dinner and ceremony provided a much-needed respite from the hustle and bustle of the trade show, enabling leading crane and transport figures to relax and celebrate industry highlights from the last 12 months.

Sarens, Mammoet Europe and Fagioli were all double award winners, while Spierings Mobile Cranes won the manufacturer innovation award for the second year in succession. The following photos show who won what on the night...

PETER KLANDERMAN, MD at HEAVY LOAD SERVICE (HLS), collected the award for transport trailer and load under 120 tonnes gross weight from ESTA director Ton Klijn. HLS won the award for a project to transport a train for Swiss railways using SPMT by road



JAN SARENS (left), SARENS' group equipment trading director, collected the combined techniques award from ESTA director Ton Klijn. Sarens won the award for a project in Rotterdam to load in and load out transition pieces and monopiles weighing up to 1,100 tonnes



MARC SARENS (left), SARENS board director, with host Alex Taylor, collected the award for cranes, telescopic, lifting capacity more than 120 tonnes. Sarens won for a job involving a trio of cranes working on a quayside to lift a 55-metre-long ship's hull weighing 244 tonnes





SPIERINGS MOBILE CRANES won the innovation, manufacturer award for its new concept for crane stabilisers, called Intelligent Footprint Outrigger Technology, which allows a larger base for a 50 per cent lighter construction. Koos Spierings, commercial director, collected the award



AMMOET EUROPE won the cranes, telescopic, lifting capacity up to 120 tonnes category for mounting a folding tower crane on a platform on top of a 20-metre-high gantry to allow component exchange work at a live oil refinery in the Netherlands. Raymond Langelaan (left), project manager, collected the award

FAGIOLI won the SPMT category for a load-out project from Spain, where it moved 42 jackets weighing up to 950 tonnes using a tailor-made jacket on 46 axle lines of SPMT. Fabrizio Ferrari, global head of sales, technological division, collected the award



WAGENBORG NEDLIFT won the innovation end user award for a special lifting frame used for installing façade columns on a new education complex in the Netherlands. Jan Holland, project manager, collected the award



AMMOET EUROPE won the cranes, lattice boom category for using a PTC 35 super heavy lift crane to launch a 600 tonne battleship replica in St Petersburg, Russia. Aleksey Slabikov, managing director Mammoet Russia, collected the award



Christoph Kleiner, managing director of sales at **LIEBHERR-WERK EHINGEN**, collected the safety award. Liebherr won for its single line guiding system (SLGS) developed in-house to make it safer to install wind turbine blades

FAGIOLI won the transport trailer and load more than 120 tonnes gross weight award for transporting two 170 tonne rotors 450 km to a power station up in the Italian mountains. Enrico Frigni, operations manager, collected the award



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Diederick Nelissen, partner, McKinsey & Company

NEW CHALLENGES FOR HEAVY LIFT AND TRANSPORT IN THE GLOBAL ENERGY MARKET

Gert Hendrickx, sales director Projects, Sarens NV

CASE STUDY IN MAKING SAFETY A TOP PRIORITY

Ainscough Crane Hire (speaker to be confirmed)

GLOBAL CRANE MARKETS: AN OVERVIEW

Chris Sleight, managing director, Off Highway Research

SPECIALIZED TRANSPORT IN EUROPE: PRIORITIES FOR ACTION

Iffet Türken, chief networking officer & board director, Kässbohrer Group, and vice president - Transport Section, ESTA

CHALLENGES WITH EXISTING STEEL WIRE ROPES ON LARGE CRANES AND FEASIBLE SOLUTIONS

Dr Oliver Fries, vice president European engineering and technical services, WireCo WorldGroup

LEARNING FROM THE AIR: APPLYING AIRLINE SAFETY PRACTICES IN LIFTING AND TRANSPORT

Blanca Claeysens, general manager, ASA France

ROUND-TABLE: NEW DEVELOPMENTS IN WIND TURBINE CONSTRUCTION

Klaus Meissner, director competence center engineering systems, product safety, Terex Cranes

• Other participants to be confirmed, see the website for more information

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Reid Lifting bought by Pure Lifting

Chepstow, Wales-based Reid Lifting, a manufacturer of lightweight gantry and davit cranes, has been purchased by Pure Lifting, a holding company

ELED MONITOR FROM ORLACO

Netherlands-headquartered camera and monitoring systems specialist Orlaco has launched the new Ethernet ELED monitor. It has a full front glass coating and a capacitive keypad. The monitor is dust and watertight (IP69K) and can operate in temperatures from -40°F to +185°F (-40°C to +85°C). The monitor will be available in two sizes (7" and 10") and is suited for both Fast Ethernet as well as automotive (BroadR-Reach) EMOS cameras. The new Ethernet monitors have a direct input for radar without the need for an interface. This is especially important for proximity detection applications. The monitor does not have to be an ELED as the system can also be connected to a third party HMI.

■ For more information see: www.orlaco.com

formed to create a global portfolio of portable equipment businesses. The value of the transaction, effective 5 March 2019, is undisclosed.

The acquisition includes all staff and assets but not the company's buildings and land, which will remain in the ownership of Nick Battersby, former owner of Reid and outgoing managing director.

Simon Luke, who has worked extensively in the fall protection sector, has taken up position as incoming managing director with immediate effect.

Luke commented, "Reid has done a fine job of maximising revenue from European markets... but we have earmarked a number of regions that represent growth potential, including the US, Canada, and South America. We understand the requirement to localise the product offering and deliver to Stateside users, for example, unrivalled solutions through a vibrant distributor network."

■ For more information see: www.reidlifting.com

Nick Battersby (left) and Simon Luke



Brevini winches from Dana



Dana will supply Brevini winch drives to Link-Belt

USA transportation systems specialist Dana will supply USA crane manufacturer Link-Belt Cranes with Brevini winches for several of Link-Belt's crane models.

According to Dana, the Brevini winches will be used on Link-Belt's 100 RT and 200 RT rough-terrain cranes, its TCC-2500 telescopic crawler crane, and its 175 AT all terrain crane.

Dana said that the Brevini winch drives have a compact and modular design that enables vehicle manufacturers to specify gear ratios and select the optimal transmission size,

while meeting application needs for line speed, line pull, and braking capability.

Aziz Aghili, president at Dana Off-Highway Drive and Motion Technologies, commented, "Dana's line of technologically advanced heavy-duty winches offers a superior blend of performance, size, and safety to help Link-Belt expand the capabilities and global market reach of its mobile cranes."

■ For more information see: www.dana.com
www.linkbelt.com

CAN GUAGES FROM VEETHREE

Veethree Technologies, a technology company based in the UK, has developed a round, edge-to-edge touchscreen display.

Providing real-time data from an engine's management system, the R Series of CAN displays have CAN bus and RS485 connections, analogue inputs, and digital outputs.

According to Veethree, the R Series is suited to a variety of applications including instrumentation for plant machinery.

Veethree said the R series modernises traditional gauges and offers a customisable screen with capacitive touch abilities, providing the styling of a traditional analogue gauge with the ability to change its looks. James Cope, Veethree Technologies sales & market manager, said, "All similar products on the market use rectangular LCDs in a round housing. The R Series are the first truly round, edge-to-edge LCD gauges to be made available."

The company claims the R Series gauge is the first ever fully round CAN display and said it would also offer customised software applications for the device.

■ For more information see: www.veethree.co.uk



VTC EXCLUSIVE RECOM DEALER

Crane salesman Bill Brandt and Recom Moritsch managing director Mariano Moritsch have formed Vertical Tower Cranes (VTC) with the aim of providing new tower cranes built and engineered by Recom Moritsch.

Bill Brandt, president of VTC, said, "VTC will not be competing as a crane rental business but will solely be representing its customers to ensure that all products are ordered and delivered to their market place flawlessly." VTC is now the exclusive dealer for Recom cranes in North America, providing crane sales, parts, and service. The new company will retail several of the manufacturer's cranes including the RTT low top and the RTL luffing boom.

■ For more information see: www.recomcranes.it



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ASSOCIATION CONVENTION

15 and 16 May 2019

Madrid, Spain
www.erarental.org

EUROPEAN RENTAL AWARDS

15 May 2019

Madrid, Spain
www.khl.com/rentalawards

LIFT & MOVE USA

30 May 2019

Ontario, Canada
(Hosted by Matcom Group)
www.liftandmoveUSA.com

PLANTWORX 2019

11 to 13 June 2019

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www.plantworx.co.ukINTERNATIONAL TOWER
CRANES (ITC) CONFERENCE

26 and 27 June 2019

Vienna, Austria
www.khl-itc.comSC&RA CRANE AND
RIGGING WORKSHOP

18 to 20 September 2019

Arizona, USA
www.scranet.org

DIESEL PROGRESS SUMMIT

30 September 2019

Louisville, KY, USA
www.dieselprogresssummit.com

CONEXPO LATIN AMERICA

2 to 5 October 2019

Santiago, Chile
www.conexpolatinamerica.comINTERNATIONAL RENTAL
CONFERENCE (IRC)

22 October 2019

Shanghai, China
www.khl-irc.comWORLD CRANE AND
TRANSPORT SUMMIT

13 and 14 November 2019

Amsterdam, Netherlands
www.khl-wcts.comPICTURE OF
THE MONTH

This old Coles 615 s, built at the long-gone Grantham factory in the UK, was photographed by crane industry veteran Søren Jansen in a corner of the Port of Copenhagen, Denmark. Jansen reports the crane as still active moving small shacks and fishing boats. Notice the hook block, wrapped in a blanket or old mattress, to protect loads against damage. Coles started building cranes in the late 19th Century and continued for more than 100 years before being acquired by Grove in 1984.



PEOPLE NEWS



■ Engineering manager **PETER SOUTHERDEN** has retired from crane monitoring

systems specialist RaycoWylie after 50 years of service. Peter started at RaycoWylie in August 1969 when it was The B & A Engineering Company. He saw it evolve into Wylie Weighload, then Wylie Systems, and now RaycoWylie. Southerden started as a drawing office assistant and soon became a popular and respected member of the team. He took on complex mathematical tasks that others were reluctant to handle.



■ **ALAN JOHNSON** is the new managing director at crane distributor

Palfinger UK. His appointment follows the retirement of **MARK RIGBY** in March. Johnson joined the company in 2017 as

OBITUARY

■ With regret *ICST* reports the death of **CHANDRAKANT SANGHVI**, founder of Sanghvi Movers Limited (SML) in India. He died on 8 April at 65 years.

CP Sanghvi was born in 1954 in Pune, India, where he gained an engineering degree in metallurgy from the College of Engineering, Pune (COEP), and a masters degree in chemical engineering from Columbia University in the USA.

Sanghvi founded SML in 1989 with the purchase of his first crane, a new Tadano TG 700E truck crane. He took SML public in 1995, using the proceeds to buy a Demag CC 2400 crawler and other cranes. In 1998 he chartered a barge from Singapore to India and bought 36 cranes which gave him a breakthrough at the massive Reliance Industries Limited petrochemical refining complex under construction in Jamnagar, Gujarat. SML now has 1,500 employees and 17 depots around India.

He is survived by his wife Mina, two daughters Ruchi and Niyoshi, son Rishi, and grandson Avyan. Rishi Sanghvi is now SML managing director, working closely with Sham Kajale, SML joint managing director and CFO.



development projects manager before being appointed general manager in May 2018. His experience in the loader crane industry extends to more than

30 years, including 11 years at HMF (UK), five years at SJB CraneCo and seven years as technical director at the UK lorry loader trade association ALLMI.

■ 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. Entries for Picture of the month should include: the month and year taken, the place, type of crane, owner and project, plus any other relevant information.

OR REGISTER ONLINE AT: www.khl.com/subs/ICST

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- Demolition & Recycling International* ☐
- International Construction* ☐
- International Construction Turkey (Turkish)* ☐
- International Rental News* ☐
- Cranes & Project Transport Turkey (Turkish)* ☐

2 CHOOSE YOUR E-NEWSLETTER/S

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- KHL Crane Market* ☐
- Access International* ☐
- Access, Lift & Handlers* ☐
- Construction Latin America* ☐
- Demolition & Recycling International* ☐
- World Construction Week* ☐
- International Construction China (Chinese)* ☐
- International Rental News* ☐

3 ORGANISATION TYPE

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MARKETPLACE

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into easy to read colour
coded sections
to help you
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51

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.

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CRANES AND EQUIPMENT FOR SALE OR RENT

52

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

CAREER OPPORTUNITIES

Employee recruitment and job postings.

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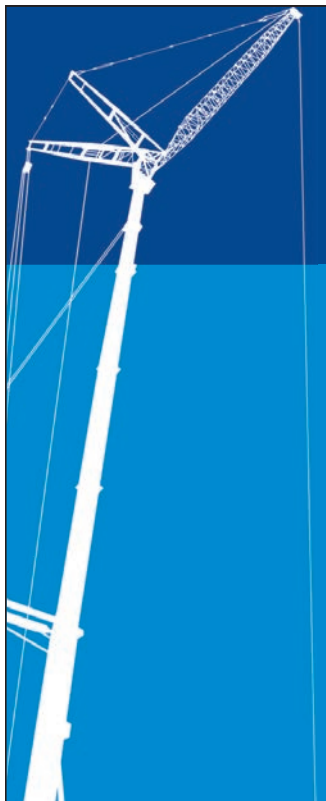
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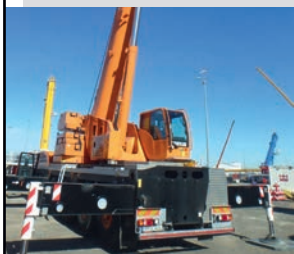
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Kilometers	12,000 km
Condition	Checked
Year	2017

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ALL TERRAIN-CRANES

Make / Type	y. o. m.	Drive	Boom / Fly Jib
30 t Liebherr LTM 1030-2.1	2010	4x4x4	30,00m + 15,00m
40 t Terex-Demag AC 40 City	2010	6x6x6	31,20 m + 13,00m
45 t Faun ATF 45-3	2006	6x6x6	34,00m + 15,00m
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-Demag AC 55 City	2006	6x6x6	40,00m + 13,80m
60 t Terex AC 55 L	2008	6x6x6	44,00m + 15,00m
60 t Faun ATF 60-4	2005	8x6x8	40,00m + 16,00m
60 t Faun RTF 60-4	1991	8x6x8	39,00m + 9,80m
60 t Liebherr LTM 1060/2	2004	8x6x8	42,00m + 17,00m
60 t Liebherr LTM 1060/2	2005	8x6x8	42,00m + 17,00m
80 t Terex-Demag AC 80-2	2004	8x6x6	50,00m + 17,60m
80 t Terex-Demag AC 80-2	2006	8x8x8	50,00m + 17,60m
80 t Terex-Demag AC 80-2	2007	8x8x8	50,00m + 17,60m
100 t Liebherr LTM 1100-4.1	2004	8x8x8	52,00m + 19,00m
100 t Terex-Demag AC 100	2005	10x8x8	50,00m + 17,00m
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
160 t Tadano Faun ATF 160G-5	2005	10x8x8	60,00m + 5,40m
160 t Tadano Faun ATF 160G-5	2006	10x8x8	60,00m + 31,20m
200 t Grove GMK 5200	2006	10x8x10	60,00m + 22,00m
200 t Liebherr LTM 1200-5.1	2013	10x6x10	72,00m + 19,20m
350 t Terex-Demag AC 350 SSL	2002	12x8x10	58,00m + 18,10m + 49,10m + 71,50m

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PRICE: 2.075.000 €



DEMAG TC 2800

MODEL: 2006
CONF.: 72m(S) + 72m(W)
PRICE: 2.000.000 €



LIEBHERR LG 1750

MODEL: 2010
CONF.: 105+6 m (SL8HS)
PRICE: 2.900.000 €



LIEBHERR LTM 1800

MODEL: 1995
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