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COMMENT

Around this time of year over the last few years there have been major announcements about new cranes, especially news of large ones. A year ago, despite poor economic conditions in much of the world, it was a particularly busy time. For a start there was Lampson's 3,000 tonner and Bigge's AFRD super heavy lifter. In offshore cranes there were Huisman's 4,000 tonne mast crane and Favco's 1,000 tonne capacity PC1000, its largest offshore crane to date.

Then two years ago it was the presentation of the 2,300 tonne capacity Manitowoc Model 31000 in the iron and the announcement of Mammoet's new super heavy lift PTC DS giant cranes. Coming full circle, three years ago it was the unveiling of the first of ALE's super heavy lifters, older brother to the latest 190,000 tonne-metre-rated AL.SK190-2, launched this August. See the full story on this and other ALE news, including an impressive lift at a US refinery, on page 15.

Talking of spectacular lifting jobs, TopLift has come around again. It is time for readers to vote in *IC*'s annual contest to determine their favourite lifting job of the year. The choice of 10 projects is drawn from ones that have appeared in *IC* over the preceding 12 months.

Readers are encouraged to register their votes by completing and returning the voting form on page 46 of this issue. You can send in your vote by post (before the end of October please) or by e-mail to toplift@khl.com or by fax to +44(0)1892 786257. The story will also appear on www.khl.com with links to the entry form.

The TopLift contest has been running for more than 10 years and publisher KHL Group has a new offering in its Special Report series, *Ten Years of Toplift*. It is a compendium that includes winners, runners up and entries. *Ten Years of Toplift* offers a snapshot of what the industry is capable of and illustrates how cranes and other lifting equipment have a fundamental influence on the built environment. For more on the report see www.khl.com/information-store

ALEX DAHM
Editor

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THE QUEEN'S AWARDS FOR ENTERPRISE: INTERNATIONAL TRADE 2010

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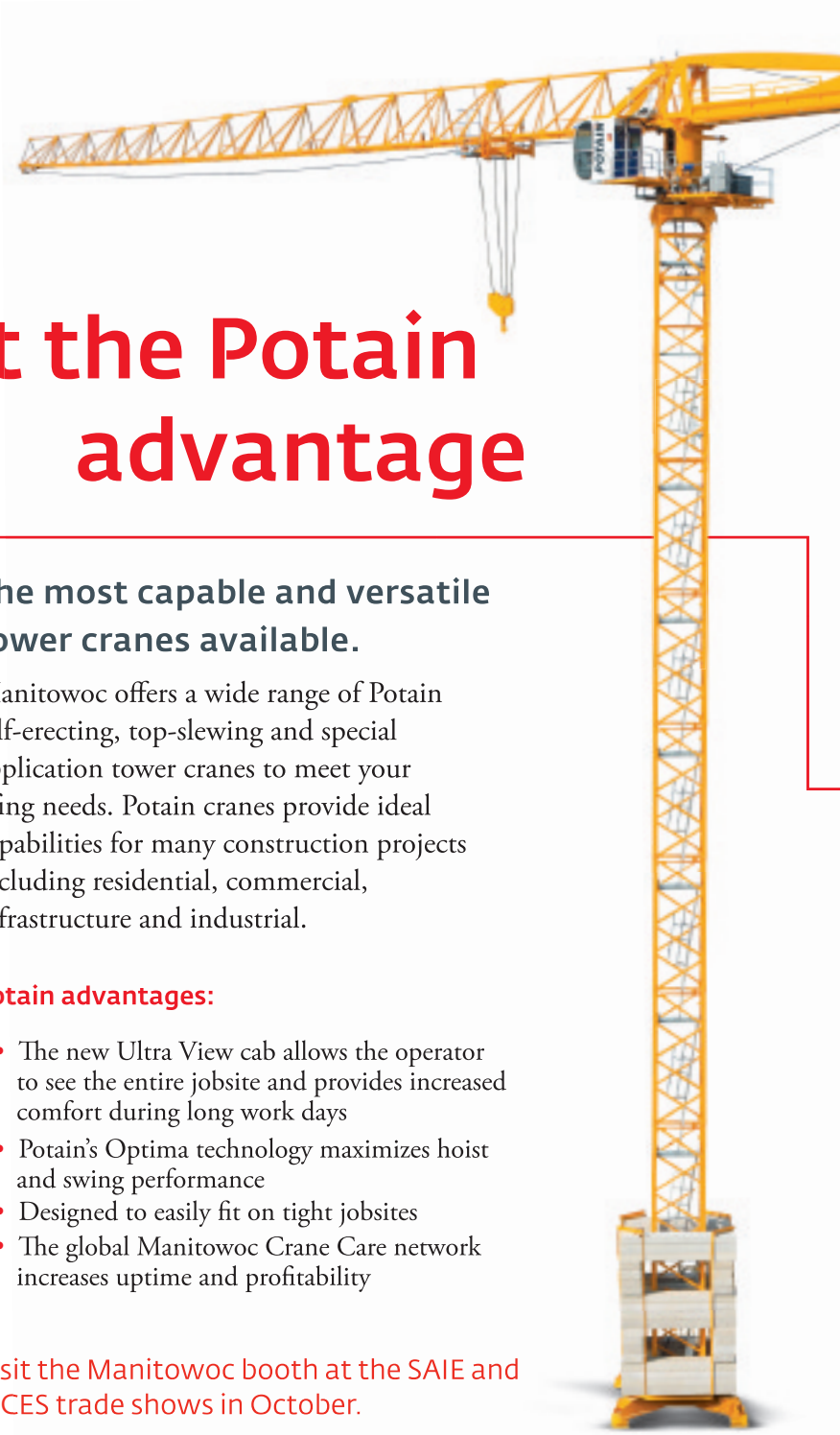

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CONTENTS

ON THE COVER

The second unit of ALE's 4,300 tonne capacity, 190,000 tonne-metre-rated, super heavy lifter. It is pictured undergoing load testing in Breda, the Netherlands. See the full story on developments at ALE on page 15.

SUBSCRIPTIONS

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Manufacturers pull out of Iran

Five international crane manufacturers have stopped doing business in Iran.

The organisation United Against Nuclear Iran (UANI) is running its Cranes Campaign where it publically calls on crane manufacturers to stop selling new equipment and services in the country. The five manufacturers which had stopped doing business in Iran at the time of writing, on 1 September, were Konecranes, Liebherr, Tadano, Terex and Furukawa Unic.

According to UANI, support for the campaign shows that "its economy will continue to suffer unless Iran renounces its pursuit of nuclear weapons, ceases its egregious human rights violations, and ends its sponsorship of terror." Cranes are highlighted because of their prominent use as gallows for public executions.

USA-based UANI executive director is Mark Wallace, a former US ambassador to the United Nations.

HIGHLIGHTS

■ Wolffkran Arabia, a joint venture between Dubai-based Kanoo Group and German crane manufacturer Wolffkran, has agreed to supply Habtoor Leighton Group (HLG) with machines and plant as part of a five-year purchasing and rental deal. Martin Kirby, managing director, Wolffkran Arabia said the deal includes tower crane supply and installation, plant hire and disposal of crane stock. It is believed that the deal could be one of the first of its kind in the GCC. The deal covers HLG's requirements throughout the GCC was formally signed-off at a recent ceremony by executives from Wolffkran Arabia, Wolffkran and HLG.

■ Manitowoc Crane Care has certified the Salt Lake City branch of H&E Equipment for its EnCORE Partners programme in the USA. It is the second H&E location to qualify as an EnCORE Partner. The branch is qualified to remanufacture Manitowoc, Grove and National Crane products. "The Salt Lake City branch has always been very strong in crane sales and service," said John Brockway, vice president of crane sales for H&E Equipment Service.

■ Australia-based GBP Cranes has added a Tadano ATF 220G-5 all terrain crane to its fleet. It is the first ATF 220G-5 to be sold into the state of New South Wales by Tadano Oceania. Operating an 11 crane fleet, GBP is based in the heart of a coal mining region. The crane is aimed at this sector.

HEAVY TAKES HOLMATRO

Belgian company Heavy Lifting & Handling has expanded its horizontal load movement capability by adding a double-acting Holmatro skidding system to its fleet.

Antwerp-based Heavy said it has acquired the new equipment in response to a rapid increase in demand for the movement of industrial objects and installations of exceptional size and weight. The limited space where these loads, for example, generators, transformers and medical equipment, are generally placed, often precludes the economic use of a crane. Via Belgian dealer Vanas, Heavy got Holmatro to design and build the complete skidding system.

A double-acting hydraulic cylinder was built into the push/pull unit of the skidding set. The 26 tonne capacity cylinder can move a 200 tonnne load.

90% revenue rise at Manitex

Manitex International, Inc. announced second quarter 2011 revenues of US$37.1 million, a 90% increase on the previous year. Net income for the second quarter of 2011 was $1 million or $0.09 per share compared to $0.2 million or $0.02 per share for the second quarter of 2010.

Consolidated backlog at 30 June 2011 rose to $51 million, representing an increase of 27% or $11 million from 31 December 2010. Gross profit of $7.5 million was an improvement of $2.9 million compared to $4.6 million in the second quarter of 2010.

"We continued to show progress as demonstrated throughout our second quarter results," said David Langevin, chairman and CEO. "New bookings across our business units resulted in healthy backlog growth, and strong year-over-year increases in sales, EBITDA, and earnings per share. Other equally important measures of our success in the quarter included the finalisation of the CVS Ferrari acquisition, and the expansion and extension of our credit facility, which we believe will be key strategic drivers of our future growth."

Revenue increases were obtained in both operating segments, with Lifting Equipment increasing 81% and the Equipment Distribution increasing 254%. Within the lifting equipment segment, boom truck crane sales increased about 80%.

NEEB & SCHUCH TAKES 500 TONNER

Germany-based international crane rental house Neeb & Schuch has added a new 500 tonne capacity Liebherr wheeled mobile crane to its fleet. The new crane is intended for operations in Romania, Bulgaria, Hungary, and Serbia.

The company is a 2011 joint venture between Wuppertal-based Neeb and Speyer-based Schuch. Both are more than 50 years old and have the second generation of the families in management positions. Both founder companies continue to operate as independent concerns, and still run their individual branches in Germany, Spain, France, Luxembourg, Romania, Tunisia, Congo, Algeria, Serbia, and Abu Dhabi.

"The 500 tonner from Liebherr can be put to work in a vast range of situations, and that means it fits in precisely with the orientation of our new company," said Armin Neeb, Neeb & Schuch managing director.

Strong growth at Palfinger

Palfinger recorded high-percentage growth in its 2011 first half year results with a 39.3% increase in revenue, compared to the same period in 2010.

About one third of this increase resulted from acquisitions made in 2010, said the Austria-based loader crane and access equipment manufacturer, while organic growth was generated largely in Europe, although there were positive trends in all regions.

In the first six months of 2011, earnings before interest and tax (EBIT) more than doubled to €36 million (US$51 million), from €14.5 million ($21 million) in the same period of 2010. The consolidated net result was more than tripled, said the company, rising from €7.3 million ($10 million) in the first half of 2010 to €22.6 million ($32 million) in the period under review.

In addition, revenue reached €222.7 ($317 million) in the second quarter 2011, the highest level in Palfinger's history, it claimed.

The takeover of Russian crane manufacturer INMAN is forecast to add revenue of about €20 million ($28 million) in 2011.

"The markets in Asia still only account for a small share of Palfinger's business. The sharp increase in revenue generated in the region demonstrates that these markets are gaining in importance. With production sites in China, Vietnam and, since the end of 2010, also in India, Palfinger is well prepared for further growth," the spokesman continued.

While the outlook for 2011 is optimistic, the massive growth rates achieved in the first half will slow down in the light of expected economic developments and the traditionally weaker summer months, said the company.

HIGHLIGHT

■ Insulatus in the USA is adding a 5 US ton load insulator to its product range. This will become the smallest unit in the range. It is available from September 2011. Insulatus said its technical team worked to ensure the unit becomes available before the change in law on 8 November 2011, which will mandate the use of insulating links when working close to live overhead power lines.

NEW HEAVY LIFTER FROM JUMBO

Jumbo Shipping will launch what it claims is the strongest heavy lift vessel in the world.

The K-class vessel is the next step above the company's existing four J-class vessels for the heavy lift transport market.

While the first unit is under construction at Brodosplit shipyard in Split, Croatia, there is an option for a second unit, said Jack Spaan, Jumbo manager of projects. The vessel will be 153 metres long and 27 m in the beam. It will carry a pair of 1,100 tonne capacity cranes, each with 27.5 m outreach. In tandem the cranes will lift up to 2,200 tonnes.

"To be able to work in Arctic regions, the vessel is to be built under ice class. For offshore operations the vessel will be prepared for future DP2 installation," added Spaan. Estimated delivery date of the new vessel is March 2013.

HIGHLIGHTS

■ AMIR Engineering has been named exclusive dealer for Unic mini crawler cranes in Israel. The company is Israel's leading supplier of aerial work and access platforms, said Unic, with headquarters in Petach-Tikva, near Tel Aviv. It will supply and service Unic's full range of mini crawler cranes for the country. Two Unic cranes have already been sold in Israel by AMIR Engineering.

■ Unic Cranes Europe will present its 1,000th 2.9 tonne capacity URW-295 mini crawler crane at the Apex aerial platform exhibition in September. According to the distributor, it supplied the first URW-295 model in April 2004 and this week confirmed its landmark order placed with manufacturer Furukawa Unic in Japan. The URW-295 is 600 mm wide to fit through standard doorways.

■ The Texas Department of Transportation (TxDOT) has launched the Texas Permitting and Routing Optimisation System (TxPROS). The online permitting programme provides real-time, GIS-based mapping for routes and road restrictions and is available 24 hours a day, seven days a week. www.txdot.gov

Ainscough and ALE partnership

Mobile crane rental company Ainscough and transport and lifting specialist ALE have announced a partnership. The two companies will combine their expertise and equipment on UK-based contracts.

Mark Harries, ALE executive director, said, "This partnership combines the strengths of two market leaders. We're delighted to be amalgamating our plant, expertise and industry knowledge to offer a complete solution to clients. The quality of service we offer is paramount and this working relationship will provide the best available, without a doubt."

Neil Partridge, Ainscough managing director, said, "Ainscough and ALE have worked together in the UK for many years so, making the partnership official, seemed like the next logical step. By collaborating and combining our expertise, we'll be able to offer clients a seamless, full-service solution. We're excited about the opportunities this partnership will bring."

German contractor Greif used a 100 tonne capacity all terrain crane to install thermal storage tanks at a company headquarters in Marburg.

The Grove GMK4100 was used to lift and place 23 thermal storage tanks for a new solar power plant that will supply heat and energy to the office. Greif worked through the night to minimise disruption. The tanks were lifted at a radius of 11 m using 27.8 m of boom and a full complement of 26.1 tonnes of counterweight.

The GMK4100 is the only crane Greif owns. It is a family business based in Lahntal-Sterzhausen and managed jointly by brothers Michael and Frank Greif. Their father, Helmut, founded the company in 1965 and is still involved. The company specializes in prefabricated houses.

Another top speaker at November summit

Shell International's Leon Schopping is the latest senior figure to agree to give a keynote speech at the World Crane and Transport Summit in Amsterdam this November.

Schopping, Shell International's principal technical expert for lifting, will talk about the company's twelve life-saving rules and how they specifically affect cranes and heavy transport suppliers. He will also explain how Shell communicates its rules to everyone involved on site and how they have affected safety.

Schopping joins an agenda containing many top-level speakers from the global crane and heavy transport sectors. The World Crane and Transport Summit will take place on 10 and 11 November 2011 at the Grand Hotel Krasnapolsky in Amsterdam. A gala dinner will be held on the evening of 10 November.

■ For full details please see www.khl.com/wcts

INTERNATIONAL ORDERS FOR ZOOMLION

Zoomlion has made what is describes as a breakthrough in the Indian market with the sale of six 25 tonne capacity TC7053-25 tower cranes to Reliance Industries.

According to Zoomlion it is the biggest single order for tower cranes since the manufacturer entered the South Asian market. They are also the biggest capacity Zoomlion tower cranes in South Asia. The order brings the number of Zoomlion tower cranes in India to 450, said the company. Zoomlion has also exported four TC8039 and TC7052 tower cranes to Azmel Contracting Company in Saudi Arabia.

■ Global Crane Sales, as part of its partnership with Zoomlion, announced the sale of its first 260 tonne capacity QUY260 crawler crane in the USA to Axis Crane. This announcement marks the launch of the company's crawler crane line, now available to the North American market.

ESTA SURVEY

European crane and transport association ESTA is asking end user companies in its member country associations that did not complete its EN 13000 survey to fill it in now. The questions should be answered by crane operators for each crane delivered after 1 May 2010. The questionnaire can be downloaded using the link below in English, German, French, Spanish or Italian: http://www.esta-eu.org/other-documents

Anholt wind farm for Jumbo

Jumbo Offshore has been awarded the transport and installation contract for all 111 transition pieces on the Anholt offshore wind farm in Denmark.

The 400 MW wind farm is being developed by DONG Energy and the contract was awarded by contractor MT Højgaard. The Anholt Wind Farm, in the Kattegat near Anholt Island, will be Denmark's largest offshore wind farm.

A DP2 offshore heavy lift vessel will be used to install the TPs on pre-installed monopiles, starting April 2012. The TPs, each weighing 200 tonnes and 17 m long by 5.5 m diameter, will be loaded at Bladt Industries in Aalborg, Denmark. The vessel will carry nine at a time.

The installation vessel's two 900 tonne capacity Huisman mast cranes will be re-reeved for the project.

MORE CHINA GROWTH FOR CARGOTEC

Cargotec's growth strategy in China has been supported with its first sale of rubber tyred gantry cranes (RTG) into the country in the last five years.

The order for two Kalmar E-One 2 type RTGs comes from Cosco Pacific subsidiary Jinjiang Pacific Ports Development (JPPDC). JPPDC operates a two berth facility in Weitou Port, Fujian Province. The all electric RTGs can stack containers one-over-five high, span six container rows plus a roadway and have a lift capacity of 41 tonnes. Delivery will be May 2012.

The container terminal is in the second phase of expansion. Container throughput is forecast to reach 0.4 million TEU in 2012 and 0.8 million in 2015.

Demag Cranes purchase completed by Terex

Terex Corporation has completed the purchase of shares tendered by Demag Cranes AG shareholders, and now owns 82% of the company's shares.

The shares were bought at €45.50 each. Ron DeFeo, Terex chairman and CEO, said, "We are very pleased with the addition of Demag Cranes to the Terex Group. Demag Cranes AG will add a new business segment to Terex with world-class products in industrial cranes and hoists, port technology and services.

"We are satisfied with the results of the tender process, and continue to believe strongly in the compelling industrial rationale of this deal and the growth opportunities for both companies," DeFeo added.

"Demag Cranes AG's business is highly complementary to the existing Terex business, and the combination has compelling industrial logic, with a strong footprint in Europe and emerging markets," concluded a Terex spokesman.

RESULTS RISE

Demag Cranes Group saw continued growth in the third quarter of its 2010/2011 financial year. The results follow Terex Group's takeover of Demag Cranes in August. "We have been able to continue our growth trend. We are pleased with our business performance and are on target with respect to our guidance figures for the full year," said Aloysius Rauen, Demag Cranes CEO.

Group revenue was €260.3 million (US$370 million), 26.9% higher than the third quarter in 2009/2010. The Industrial Cranes segment generated €123.7 million ($176 million) in the third quarter, 22.1% up on the same period a year before.

In the nine months, segment revenue grew by 6.1% to €335.1 million ($477 million). "The positive trend reflected larger volumes of orders for process and standard cranes in preceding quarters, the revenue from which was recognised during the reporting period," said a company spokesman.

In the Port Technology segment, revenue was €55.2 million ($78 million), representing a substantial 86.3% increase on the previous year's quarter. "The low figure for the previous year resulted from revenue being postponed to the fourth quarter of financial year 2009/2010," said the spokesman.

Revenue in 2011 is forecast to reach €1.06 billion ($1.51 billion) and grow to €1.3 billion ($1.85 billion).

Dock manoeuvres

Detyens Shipyards is operating two Terex SK 415 hammerhead tower cranes at its site in Charleston, South Carolina, USA.

The company specialises in the repair, refurbishment and conversion of government-owned and commercial vessels.

Configured with a 197 foot (179 m) jib and 150 and 189 foot (136 and 171 m) under hook heights, the cranes are placed to serve the pier for alongside repairs and two dry docks. Their main duty is placing supplies and equipment.

Wilmington shut down

Terex Cranes will shut down its fabrication and assembly manufacturing facility in Wilmington, North Carolina, USA by the end of the year, *IC* sister magazine *American Cranes & Transport* learned exclusively. The Wilmington facility is a fabrication and assembly plant for tower cranes and small crawler cranes.

"Terex is always looking to maximise our global manufacturing footprint to get the most benefit, and after a lot of evaluation it has been determined that we can support the tower and crawler crane products at a different facility," said Frank Bardonaro, vice president, Terex. "It was a difficult decision because of the outstanding workforce we have in Wilmington, but it is a strategy to become more competitive and cost-effective in this economic environment."

From a customer standpoint, Bardonaro said the closure will be seamless. "Our customers will be able to support our products through their existing contacts and representatives. This was purely a strategy to do a better job of utilising our existing facilities."

ESSEX GROWTH

Ron Schad, president and CEO at Essex Rental Corp in the USA, highlighted growth and stability at the company following the release of its second quarter results.

Essex Rental Corp includes subsidiaries Essex Crane Rental Corp, Essex Finance Corp, Coast Crane Company (formerly known as CC Bidding Corp) and Coast Crane Ltd. Coast Crane was acquired in November 2010. Schad was comparing results of the quarter ended 30 June 2011 with those of the same quarter in 2010.

"Essex continues to experience steady growth and stability in its three business segments: equipment rentals, equipment distribution, and parts and service. With the exception of our crawler crane fleet, we experienced increases in utilisation rates during the second quarter ended June 30, 2011 for all of the categories of equipment that we rent. Crawler cranes experienced a slight decline in utilisation due to the conclusion of certain levee projects."

Excluding these levee-related crawler cranes, Essex continued to see a steady increase in utilisation on a comparable quarter and year to date basis.

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Panic selling

Turmoil on the stock markets in August saw share prices fall across the board, as investors sold equities in favour of 'safe havens'. CHRIS SLEIGHT reports

August saw stock markets at their most unsettled since the crash of Lehman Bros. in September 2008. Fears over sovereign debt in both the Euro zone and US came to a head. While the difficulty in raising the debt ceiling in the US, and the subsequent downgrade from ratings agency Standard & Poor's grabbed more headlines, the problems in the Euro zone are deeper rooted and will take longer to sort out.

The debt crisis in the US sprung out of the political polarisation between Republicans and Democrats. There is no real concern that this, combined with the display of political paralysis in the run-up to the debt ceiling deadline, is why the agency took the US down one step from the prized AAA credit rating. The response from politicians may have been defiant and even angry but the fact is that AAA countries need to demonstrate that they are in control of their debt and can implement policies to keep spending and borrowing on a sustainable footing.

The compromise reached in early August does not do enough to reduce the deficit in Standard & Poor's eyes, and the shameful squabbling that led up to it has put a massive question mark over US policy making.

In a sense, these are functions of the political system, rather than a massive underlying problem. The Euro zone, however, has a mixture of both. Concerns over unsustainable debts have spread from the three countries to receive a bail out – Greece, Ireland and Portugal – to include Spain and Italy, with France also looking threatened.

This is one aspect of the contagion effect – once debts start to go bad, the crisis spreads to bond holders and other creditors. Even though France is not in trouble itself, if it had to help rescue Spain and Italy, it may be tipped over the edge.

The fears of contagion spooked the markets in August, leading to steep falls. Unlike the Lehman collapse three years ago, markets did not freefall, finding support at key levels. August, however, still saw some of the biggest one-day declines since 2008.

From weeks 30 to 34, net losses for the leading indexes ranged from 6.20% for the Dow to as much as 9.87% for the FTSE. *IC*'s share index fared a little worse in the sell off, with a 10.66% fall in value. In general it was the US and European crane makers that were hardest hit, with a little more resilience among the Chinese and Japanese. Indeed, Tadano and Yongmao managed to gain over the same period.

All this money leaving the stock markets went to safe havens, for example, gold and Swiss Francs.

What happens now remains to be seen but there could well be a rally when investor confidence returns, as many shares look to be very cheap following the sell off. ■

SEPTEMBER *IC* SHARE INDEX

STOCK	CURRENCY	PRICE AT START	PRICE AT END	CHANGE	% CHANGE	PRICE 12 MTHS AGO	12 MTH % CHANGE
IC* Share Index		**76.80**	**68.61**	**-8.19**	**-10.66**	**66.25**	**3.57**
Legacy *IC* Share Index**		342.39	280.21	-62.18	-18.16	298.36	-6.09
Dow Jones Industrial Average		12303	11539	-763.30	-6.20	9985.81	15.56
FTSE 100		5848	5271	-577.19	-9.87	5147.30	2.41
Nikkei 225		9901	8954	-947.45	-9.57	8991.06	-0.41
Hitachi Construction Machinery	YEN	1745	1419	-326.00	-18.68	1703.00	-16.68
Konecranes	€	22.13	18.46	-3.67	-16.58	23.50	-21.45
Kobe Steel	YEN	170	143	-27.00	-15.88	178.00	-19.66
Liugong	CNY	20	19	-1.44	-7.12	23.80	-21.05
Manitowoc	US$	14.49	11.30	-3.19	-22.02	8.61	31.24
Palfinger	€	25.03	17.85	-7.18	-28.67	16.52	8.05
Sany Heavy Industry	CNY	17.22	16.08	-1.14	-6.62	26.26	-38.77
Tadano	YEN	471	472	1.00	0.21	418.00	12.92
Terex	US$	22.34	15.73	-6.61	-29.59	18.12	-13.19
XCMG	CNY	22.79	22.48	-0.31	-1.36	34.60	-35.03
Yongmao Holding	SGD	0.13	0.14	0.02	12.00	0.14	0.00
Zoomlion	CNY	11.49	10.61	-0.88	-7.66	9.80	8.27

**IC* Share Index, 1 Jan 2011 = 100 **Legacy *IC* Share Index, end April 2002 (week 17) = 100

EXCHANGE RATES – US$

CURRENCY	VALUE AT START	VALUE AT END	CHANGE	% CHANGE	VALUE 12 MTHS AGO	12 MTH % CHANGE
CNY	6.44331	6.38103	-0.0623	-0.97	6.78767	-5.99
€	0.6113	0.6106	-0.0007	-0.11	0.6440	-5.19
Yen	77.85	76.65	-1.19	-1.53	84.42	-9.19
UK£	0.6922	0.6906	-0.0016	-0.23	0.7878	-12.34

Period: Week 30 – 34

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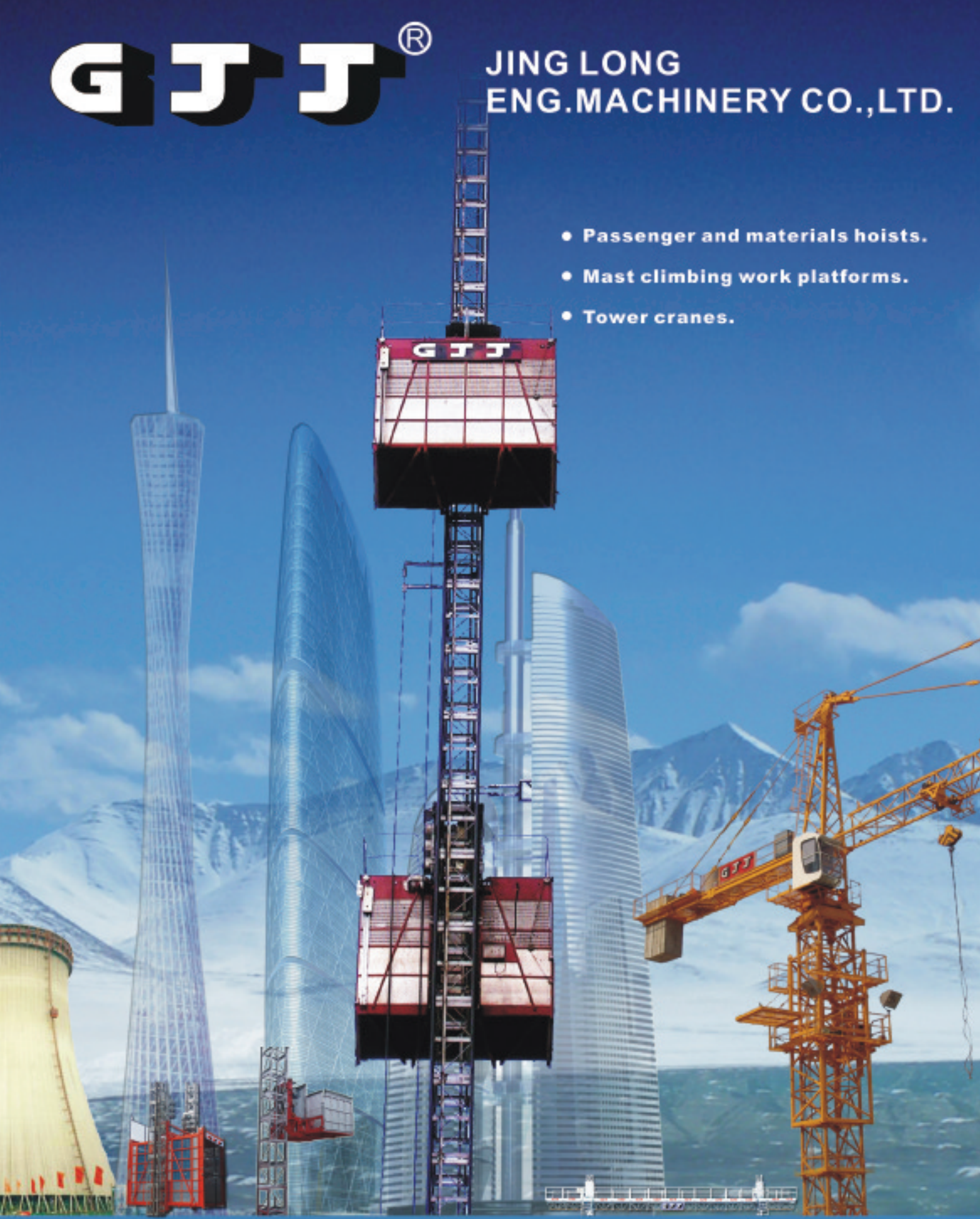

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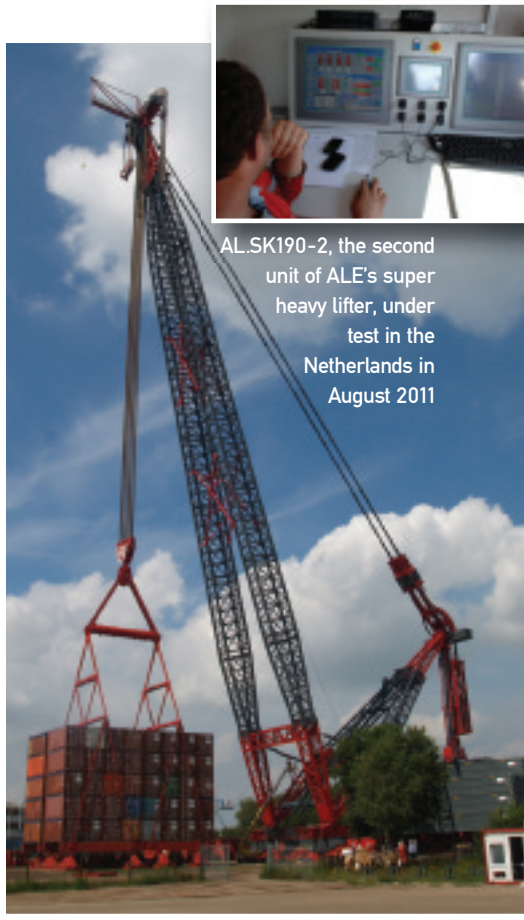
Second ALE AL.SK190 super heavy lifter

ALE claims its AL.SK190 and SK350 as the world's highest capacity land-based cranes. The 4,300 tonne capacity, 190,000 tonne-metre AL.SK190 can be converted into the 5,000 tonne, 350,000 tonne-metre AL.SK350 by adding extra structural sections

Global heavy transport and lifting company ALE has unveiled the second unit of its 4,300 tonne capacity super heavy lifter, writes ALEX DAHM

The 190,000 tonne-metre-rated ALE AL.SK190-2 is undergoing testing at the UK-based company's facility in Breda, the Netherlands. It is the same site where the first unit was assembled, tested and first shown in 2008 (*IC* October 2008, page 15).

As pictured, the boom is 118 m long and the test load is 1,500 tonnes at 65 m outreach. In that configuration it ships in around 130 containers. The main lift, at up to 10 m an hour, is by strand jacks and there is a 600 tonne auxiliary hoist by winch for faster lifting of lighter loads.



AL.SK190-2, the second unit of ALE's super heavy lifter, under test in the Netherlands in August 2011

Following completion of the testing, it will join its older brother for lifts around the world. ■

MEGA JACK SIGNED UP TO WORK

ALE has signed up the first customer for its latest innovation, the Mega Jack.

The heavy lift system, which can lift 50,000 tonnes to a height of 25 metres, will go to work on its first project, in South America, in 2012. Mega Jack was developed by ALE to meet the increasing demand in the offshore industry to jack up larger and heavier oil and gas platform modules and other large structures.

It comprises jacking towers, each with a capacity of 5,200 tonnes. Each tower consists of four jacking bases that contain an hydraulic jack with a stroke of 1,250 mm. A temporary support on top of each jacking base is also an hydraulic turntable. Jacking speed is two to three metres an hour. Each raising operation increases height by one metre.

With the starter beams in position above the jacking bases and the jacks fully retracted, the system can make its first stroke. In this position the starter height is just below 3.5 m. Two of four integral feed-in systems automatically insert the first set of jacking beams through the temporary supports. Once in place, the jacks extend and raise the beams above the temporary supports, which rotate to hold the load while aligning their open sides with the other two feed-in systems, ready to repeat the process.

ALE's Mega Jack can be configured to lift 50,000 tonnes to 25 m. It will go higher with some additional engineering input, the company said

It is scalable in that the number of towers can be increased according to the size, weight and balance of the structure. Tower footprints consist of 2.5 x 2.5 m, 2.5 x 5 m and 5 x 5 m jacking base centre distances. By combining jacking bases in different configurations, jacking points with 5,000, 10,000 and 15,000 tonne capacities can be built.

"The Mega Jack has been built to fill a huge gap in the market," explained Ronald Hoefmans, ALE executive director. "Its ability to jack up complete structures also cuts the requirement for multiple load-outs, offering significant time and cost savings for clients as well as minimising the need to work at height," Hoefmans continued.

Following testing of a single tower, a four-tower system is due for commercial operation by December 2011 and a ten tower system in 2012. Mega Jack is being developed to lift heavier loads to 50 m.

Testing the Mega Jack using containers filled with ballast. The four jacking bases are arranged in 5 x 5 m configuration

>

AL.SK190 shines on first job in USA

The ALE AL.SK190 preparing to lift, in one piece, the complete derrick assembly with triple drill towers and cutting deck at 54 m outreach

The six coker drums that were exchanged below the derrick each weighed up to 471 tonnes

The first unit of ALE's AL.SK190 super heavy lifter has completed a series of record-breaking lifts on its first project in the USA.

ALE said it demonstrated the key benefits of having an extended lifting radius on the oil refinery project in Port Arthur, Texas. The heavy lifting machine completed a two stage project that involved lifting 1,338 tonnes at 54 metres outreach.

In the initial phase, the AL.SK190 was used to exchange coker drums. Six old drums were removed and replaced with six new ones weighing up to 471 tonnes each. The crane first lifted a 1,400 tonne derrick structure, which was positioned on top of the existing coker drums at a height of 100 metres, and set it on the ground. The coker drums were then exchanged, and the derrick structure replaced.

The derrick lift performed by the AL.SK190 was the first time a complete derrick assembly, consisting of triple drill towers and cutting deck, had been removed and replaced in a single piece, ALE said. The lift required a complex tackle arrangement with a 12 point pick up. This was only possible with the AL.SK190, ALE said.

To complete the project without shutting down the coker, the AL.SK190 was rigged outside the coker pit. This also allowed completion of the project without having to dismantle any of the permanent equipment in the refinery. The coke pit wall remained untouched.

"This project clearly demonstrated the benefits of the AL.SK190's lifting radius – we were able to rig the crane off plot, meaning key aspects of the refinery remained operational during the installation. No other crane in the world had the capacity to lift the derrick structure in one piece," said John Trafford, ALE operations manager.

The crane was then relocated to the refinery's hydrocracking unit (HCU), where it was used to lift and install eight pieces, including a 625 tonne, 71 metre tall fractionator and three reactors ranging from 550 to 1,382 tonnes.

"Because of the AL.SK190's outreach we were able to use existing foundations for the HCU aspect of the project, achieving substantial time and cost savings as any other crane would have required new foundations to be laid," Trafford commented.

In addition to the AL.SK190, ALE used an 850 tonne tailing gantry and 60 axle lines of self propelled modular transporter to complete the HCU installation. ALE also supplied all the engineering calculations and related support.

The 4,300 tonne capacity AL.SK190 won the Innovation and Development Award for End Users at the 2010 ESTA Awards of Excellence. Its maximum load moment is 190,000 tonne-metres and it has a 141 m main boom and 32.1 m ballast radius. A 600 tonne capacity quick winch system is used for lifting smaller loads quickly. ■

Into the night the 1,338 tonne derrick assembly being slewed 100 m in the air

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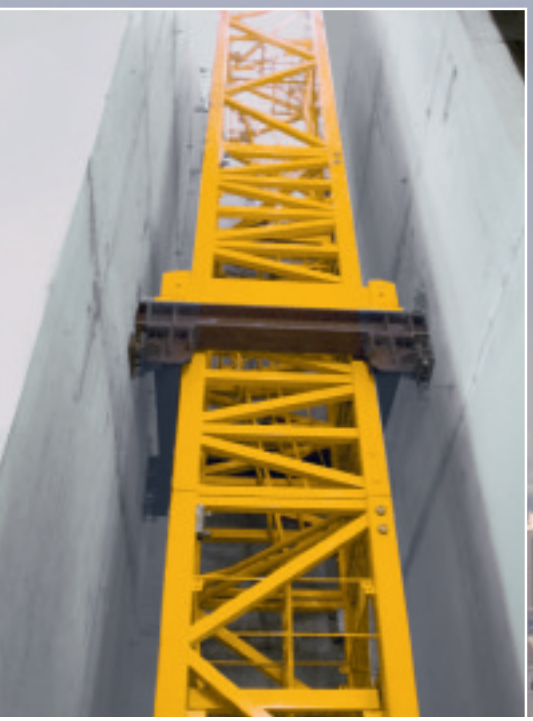

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Wilbert WT175L e.tronic ready to dismantle a WT205L e.tronic using the same rail track

When you have finished

Removing a tower crane at the end of a completed project can be a bigger challenge than the earlier stages of planning and executing its installation. HEINZ-GERT KESSEL investigates the alternatives in Europe

It can be difficult enough to get a climbing tower crane properly planned and installed, let alone removed from the top of a tall building when construction is completed.

In the not too distant past the customer was often left alone with the task of removing climbing tower cranes. It led to individual solutions being found in the application of self-built hoisting devices or modified derricks. A number of crane manufacturers now offer sophisticated purpose-built mini cranes and derricks. Each tall building project, however, still asks for its own customer orientated solution.

The most flexible and basic concepts to remove internal climbing tower cranes are in demand. In Europe two German manufacturers follow different design paths. Wilbert prefers the method well established in Asia, using roof top mini cranes. Liebherr opts for the more American tradition in providing a stiff leg derrick. At the same time, however, it adds versatility to this service crane. Design features allow transformation into a free slewing mini luffing jib crane.

Regardless of which design track is followed, recovery cranes are to be specified as follows:

They have to be split down into components that are as small and light as possible. The intention should be that >

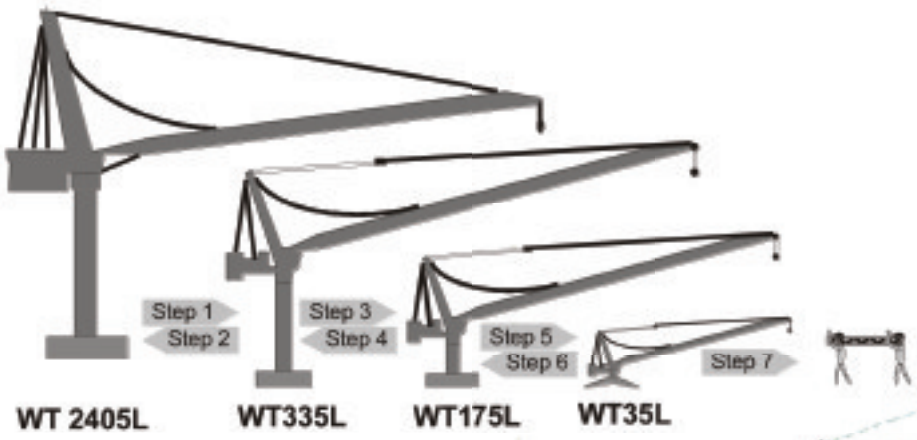
the heaviest component can be moved by hand into an elevator. Satisfying this requirement, however, often means several steps to dismantle and remove a large internal climbing tower crane. For a 500 to 900 tonne-metre class crane at least three steps are usually necessary. Smaller lifting devices are brought in at each stage, before the last unit can be removed by hand, meaning that its maximum component weight is not more than 200 kg.

Flexible solutions

System integrated self rigging and dismantling devices are in demand because the recovery crane is often the last and only hook on the roof. Reaction forces to the building's roof should be minimised and a number of undercarriages and foundation bases should be available to adapt the crane to the requirements of the building. An adjustable system with outriggers is appreciated.

Hoist drum capacity should be as great as possible to cope with the rising height of the building. In the early days 200 metres was enough but today 600 m hook height should be attempted as a standard feature.

Sophisticated safety devices should be comparable to modern tower cranes while the recovery crane structural design code could be different from tower cranes.



Wilbert-engineered dismantling steps for a 2,400 tonne-metre class crane using in-house built recovery cranes

A recovery crane is not used in constant operation at its maximum load moment throughout its life. Also in demand is a compact design as space on the building's roof is often restricted.

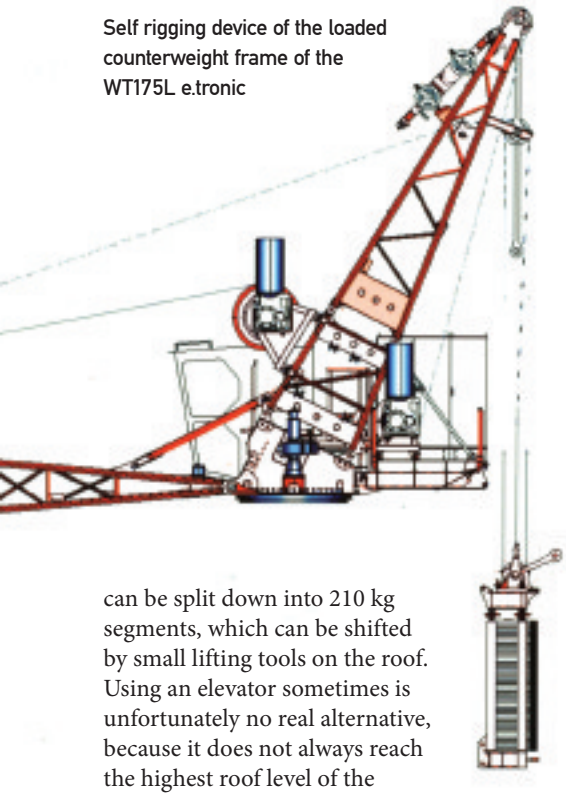
Wilbert owns a full line of recovery cranes to dismantle even its largest luffing jib crane, the 2,400 tonne-metre class WT2405L e.tronic. The company has used its new WT175L and the WT35L to bring down the two roof travelling WT205L e.tronic cranes from the two boiler houses of the Neurath power station in Germany. The the WT175L e.tronic was installed on a cruciform 6 x 6 m travelling cross base with light weight bogies on the same rail track as the WT205L. Placed at the edge of the roof, the WT175L e.tronic could lower the components of the WT205L to the machinery house where they were picked by a 500 tonne capacity wheeled mobile crane at a height of 62 m.

The WT175L e.tronic then used the same rail track to move to the position of the dismantled WT205L e.tronic to make space for a fixed WT35L installed using the WT175L e.tronic. This method meant no extra area of recovery crane foundation on the roof area. Small and light bogies for the WT175L e.tronic were essential to bring component weight in the lifting capacity range of the WT35L. Its components were lowered to the 62 m level where they were picked up by the mobile crane. The WT35L e.tronic dismantled the remaining rail on the boiler house roof before it was dismantled by a helicopter.

Wilbert WT35L lifting a boom section of the WT175L e.tronic over the edge of the boiler house roof of the Neurath power station in Germany

Break it down

As Mr Kronewitter, sales manager at Wilbert points out, specially for power station projects the dismantling of the WT35L with a small helicopter turned out to be a very economical method. Even the 6 tonne capacity recovery crane



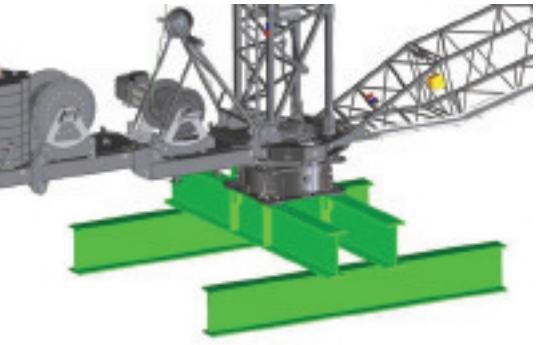
Self rigging device of the loaded counterweight frame of the WT175L e.tronic

can be split down into 210 kg segments, which can be shifted by small lifting tools on the roof. Using an elevator sometimes is unfortunately no real alternative, because it does not always reach the highest roof level of the building.

A special self rigging device for the WT35L can be found in the boom erection by its own means, reducing the required roof area for crane installation. The boom is put in the upright position and boom intersections are inserted corresponding to the way a tower crane mast is climbed. As Kronewitter recalls, however, that feature had never previously been used.

The bigger WT175L e.tronic was shown at the last Bauma exhibition in Munich, Germany, April 2010. Depending on the number of falls of rope, 24 tonnes can be lifted using this mini tower crane with only 4 m counter radius and maximum component weight of just 1.5 tonnes.

In addition, this Wilbert development includes some sophisticated self-rigging



Custom-built steel frames can be directly bolted under the slewing ring support of the Liebherr 200DR 5/10 to spread the load in free slewing mode. In addition, the slewing ring support can be connected with a Liebherr standard tower system to transform the roof mounted crane into a small luffing jib tower crane.

WT35L used as a mini tower crane for a cladding project in Darmstadt, Germany, on a standard 2 x 2 m Wilbert tower system

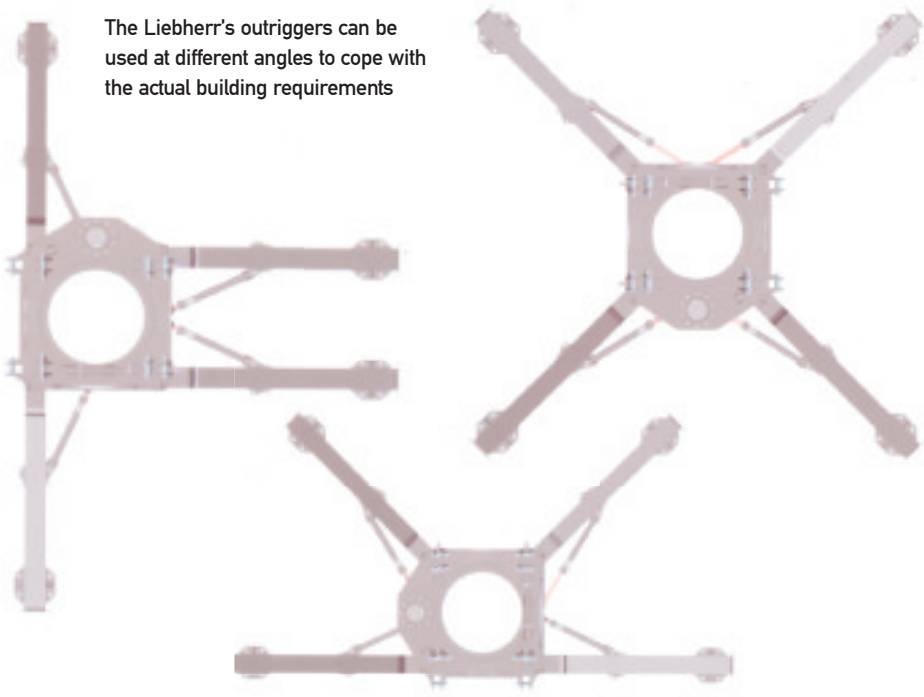
features. The counterweight can be lifted into place by the hoisting winch in a single lift up to 250 m. On higher work sites the 500 kg ballast blocks can be packed piece by piece into the ballast frame.

The WT175L e.tronic incorporates all proven safety devices of the Wilbert luffing jib tower cranes and can have remote control or be operated from the standard Wilbert cabin. Both recovery cranes, the WT35L and WT175L e.tronic can be installed on any Wilbert tower system and undercarriage. This means that the recovery cranes can be operated as top slewing tower cranes.

As a non-climbing unit the larger of the two can be used as a lightweight city crane on 4.6 x 4.6 m city cross base and Wilbert E20 mast system. The WT35L was originally designed to be fixed to a foundation by screws so the building must cope with the tension reaction forces. The larger unit was designed with a cruciform base which can be loaded with ballast if required. The building roof only has to carry the upload of the crane. A pair of standard 40 foot containers are needed to transport the WT175L e.tronic with 36 m jib.

Derrick crane

Liebherr's 200DR 5/10 Litronic has unique versatile design features by combining the traditional stiff leg derrick concept with that of a roof mounted free slewing boom crane. By using stiff legs the load moment doubles from 108.78 to 201.88 tonne-metres. In the free-slewing pedestal crane version it can lift 9.8 tonnes at 11.1 m. With stiff legs the same crane can handle 9.8 tonnes to 21 m radius in two fall configuration.



The Liebherr's outriggers can be used at different angles to cope with the actual building requirements

In comparison, the Wilbert WT175L lifts 9 tonnes in three fall operation mode up to 12 m radius. While the Wilbert alternative has a much steeper load moment curve, the Liebherr offers substantial more outreach for a 9 tonne load in the derrick version. It ensures an ability to lower heavy parts from great height at a safe distance from the building. The capacity is generally suitable to lower components of 300 to 500 tonne-metre class tower cranes.

In contrast to the Wilbert, which offers 12 to 36 m jib length, the Liebherr just offers a jib length of 21 and 25 m. Depending on one or two line reeving, 5 or 10 tonne capacity is provided.

The Wilbert alternative offers more than double the lifting capacity but only at small outreach up to 8 m and in seven fall configuration. The heaviest part of the Liebherr is 1 tonne, which is comparable to other typical derricks of just 5 tonnes capacity.

Depending on site conditions, using the Liebherr means that one step in the crane line used to dismantle a large internal climbing tower crane can be omitted. For optimum adaptation to site conditions, the 200DR 5/10 Litronic can be installed as free slewing unit on outriggers pin connected to the slewing ring support. They can be positioned at different angles. As an alternative the slewing ring support can be directly bolted to a custom-built steel frame.

In contrast to the very compact tail radius of the Wilbert WT175L e.tronic, the

On the Liebherr test ground the 200DR 5/10 demonstrates its self dismantling ability

A high-lift truck as part of the package of assistance equipment delivered by Liebherr to dismantle the 200DR 5/10 into parts that fit into a standard building elevator

self dismantling features. The jib, for example, is used to remove the legs and struts of the derrick version.

The crane then turns into a free slewing unit. After lowering the jib the mast head section can be used as a boom to dismantle the jib into sections and lift them down to the ground. Using its mast at 5.6 m radius, 250 kg can be lowered from a 300 m building. When the mast is lowered onto the building roof only simple hoisting equipment is needed to dismantle the base crane.

For this purpose Liebherr sells the 200DR 5/10 Litronic with a package consisting of a small high lift truck, forklift truck and a collapsible monorail workshop crane. Under these conditions the crane can be split down in two to four days depending on space. The remaining components can be lowered in a building's lift. To do this the parts can be no more than 2.20 x 1.30 x 1.10 m.

Personnel protection is granted by catwalks and safety cables on all accessible parts of the crane. It may even be possible to remove the jib in the air over the edge of a building. While Wilbert has realised special jobs with its recovery crane on top of standard tower sections, this application of the Liebherr 200DR 5/10 Litronic pedestal crane is designed and calculated but up to now not realised.

With special stiff-legs the Liebherr 200DR 5/10 can also be installed under cramped site conditions on lower parts of a building

Liebherr has a larger counter radius. Space requirements for the crane rise when the derrick version is chosen. Corner pressure, however, can be reduced by about 20%. As derrick crane version the struts and stiff legs again can be adapted in many ways to the actual connection points of the building. In contrast to the mini roof crane concept, an optimum distribution of the support forces can be easily obtained.

Self dismantling

Special safety features should be required for removing tower cranes from tall buildings. Liebherr monitors all crane movements using its well known systems from the standard luffing jib crane range. In addition to wind speed and operating condition, overload or pre-overload warning are indicated. The 200DR 5/10 Litronic offers many

De-rigging

Worldwide six units have been sold by Liebherr, showing that the special crane is finding its niche market as a serial product. Contractor Al Rostamani Pegel (ARP), supported by the engineering department of Liebherr-Werk Biberach, used a 200DR 5/10 Litronic to dismantle a pair of Liebherr 160HC-L 8/16 Litronic internal climbing cranes from the 160 m Latifa tower in Dubai.

In this case the building design had been changed during construction and the roof conditions were unclear when the tower cranes were already raising the building. A flexible de-rigging device was needed for the internal climbing cranes. After topping out it turned out that through the building's design change the proposed location on the roof for the derrick to dismantle the tower cranes would have been too low.

ARP decided to build a concrete strip foundation on which the crane was placed to gain additional height. In addition, all forces from the outriggers and the slewing >

ring support could be transmitted to suitable supporting points. Alternatively a custom steel frame pedestal would have also been an appropriate solution.

First tower crane number one was dismantled before tower crane number two placed the Liebherr derrick opposite the old location. Within a short time tower crane number two was lowered to the ground. Originally it was planned for the Liebherr Derrick to dismantle itself and to lower the parts using the installed material hoist. The material hoist, however, was no longer available due to delay in the tower construction. ARP installed a small baby derrick to lower down the main derrick's parts, in addition to speeding up the dismantling of the Liebherr derrick 200DR 5/10. ■

The Liebherr recovery crane installed on one of the lower roofs of the Latifa Tower in the Middle East, removing a Liebherr 160HC-L internal climbing crane. Just the tower has to be lifted out of the building shaft. The A-frame of the 160 HC-L is stored on the building roof beside the 200DR 5/10 which has been set up as a pedestal version due to the restricted space conditions. To gain the necessary overall lifting height for the recovery crane its outriggers are based on a concrete foundation

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Liebherr models 130 EC-B and 154 EC-H used to install formwork shuttering

Topped out

United Equipment Group helped top out eight towers on the Business Park project in Doha, Qatar, UAE. It provided Six Liebherr tower cranes for the project. *IC* reports

The 23,000 square metre Business Park project features eight low-rise towers up to a maximum nine floors. It includes the Crowne Plaza hotel and an eliptically-shaped conference hall as its centrepiece.

Excavation of the site was carried out by main contractor Redco Almana Construction, excavating to a depth of 15 metres in the hard and abrasive limestone and coral ground.

The six Liebherr tower cranes came from the rental fleet of United Equipment Group. They were strategically located on site to maximise lifting capacity and utilisation.

Two 280 EC-H 12s were positioned to allow double handling of steel beams weighing up to 10 tonnes for the construction of the conference hall.

According to Mamoun Eng. Al Fara, construction manager, the loading capacity of the project's access road was insufficient to accept the steel beams. "They are, therefore, off-loaded one-by-one from the main road by one of the Liebherr 280s and lowered close to the site perimeter. The second 280, featuring a 50 m jib, is then able to lift and position the beam in place."

For the remaining towers the Liebherr cranes were used for lifting and positioning reinforcement and formwork shuttering. Redco opted for smaller Liebherrs, comprising two 130 EC-B and two 154 EC-H models, with 60 m and 55 m jibs, respectively.

Two 280 EC-H 12s handle steel beams

"The Liebherr cranes were frequently working 24/7 and, in the rare event of a minor breakdown, the crane was back in action within a few hours," said Eng. Al Fara.

The cranes helped to complete a floor cycle of five days per slab, measuring up to 800 square metres, and using two sets of shuttering. This allowed Redco to top out all eight towers 60 days ahead of schedule.

A quick turnaround time was aided by features of the cranes, including Liebherr's LiConnect jib connection system, a removable pin-down crane cab and electric plug connections to the drive units and switchgear.

Client for the project is Trans Orient Hotels and the consultant is Arab Engineering Bureau. ■

Artist's impression of the Business Park project

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Maiden manoeuvres

ALE used its new 20 tonne per square metre *ALE 300* barge for the first time to transport two 830 tonne de-methaniser vessels in the United Arab Emirates. *IC* reports

One of the two de-methaniser vessels being lowered onto SPMT at Mina Zayed Port

The 98 m long de-methaniser vessels, part of the Integrated Gas Development Project in Abu Dhabi, UAE, were transported by sea from Mina Zayed Port to Ruwais and onwards by land to the Habshan 5 Process Plant.

ALE received the two vessels at Mina Zayed Port using two self-propelled modular transporters (SPMT) in 4-file, 12-axle and 4-file, 14-axle split trailer configurations. Measuring 98 x 8.5 x 8 m (L/W/H), they were the largest vessels to have been handled at the port. Each vessel was lashed down, then loaded out directly to the *ALE 300* barge and lashed and secured.

"A special feature of *ALE 300* is its above-standard deck loading capacity of 20 tonnes per square metre," commented Richard Peckover, ALE executive director Middle East. "This maximises load capacity and minimises load spreading requirements, setting a new standard for efficiency in barge loading operations."

Following load-in at the Ruwais Industrial Area Services Harbour, the de-methaniser vessels underwent a 'jack and pack' operation. Using the SPMT's integral jacking stroke, each vessel was jacked up from 1.6 m under the saddles to 3.1 m to change to a bolster, or turntable configuration. The SPMTs were then fitted with heavy-duty bolster turntables and load spreading for land transportation along Highway E11.

"Transporting the vessels from Ruwais to the first parking area 12 km from the city required a purpose-built road, which was constructed in co-ordination with Ruwais authorities, as well as a purpose-built section of the central reservation on the highway," said Cameron Waugh, ALE general manager. "Once we reached the first parking area we then had to change the SPMTs to a split trailer configuration to meet Department of Transport guidelines for the remainder of the journey along the highway."

The 100 km journey to Habshan took seven nights and required ALE to negotiate road works, bypasses, overhead gantries and sign boards. On reaching the final parking area, the transport configuration was changed back to a bolster configuration to meet site access restrictions and manoeuvring requirements for the remaining 20 km.

"The final transport through the site, in co-ordination with Abu Dhabi Critical National Infrastructure Authority, was conducted in daylight hours with a total of three kilometres negotiated along a purpose-built route to the delivery position and foundation," said Cameron. The entire transport took 21 days. ■

The first de-methaniser successfully loaded out to the *ALE 300*

SPMTs manoeuvre the second unit onboard the barge

Both vessels in position aboard the *ALE 300*

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Prevailing in Pakistan

Deugro Logistics, based in Germany, transported 11 diesel generators to a power plant in Pakistan using Goldhofer equipment.

The transport volume comprised 2,158 cubic metres with a gross weight of 1,773 tonnes. Four 18-axle heavy-duty Goldhofer THP/SL modular trailers were used. The modules were pulled by three MAN and one Mercedes-Benz Actros truck tractors.

Six of the generators posed a particular challenge. They weighed 295 tonnes each and were 6.2 m high. This meant transporting 1,268 kilometres across Pakistan on predominantly unpaved hilly roads. Despite this, the Deugro team accomplished the project on schedule.

The journey lasted more than two weeks because the convoy could only travel by day and on the only main traffic route between the southern Pakistani province of Sindh and Punjab in the north. Even during the day, the road had to be expanded and by-pass roads created to accommodate the transport.

PIONEERING WITH HANJIN

Korea-based Hanjin has taken delivery of a new self-propelled barge, the Hanjin Pioneer.

Designed to carry super-heavy cargo, such as evaporators for a desalination plant, mega ship blocks and rail mounted quayside cranes (RMQC), the vessel completed its maiden voyage carrying two ship blocks from China to India in May 2011.

The company has also invested in 60 axles of Scheuerle SPMT, and now operates 128 axles with five power pack units.

The Hanjin Pioneer demonstrates its heavy cargo capabilities

The TJ-S2.43 on show

TJ-S2.43 undergoing static 125% load test with a payload of 450 tonnes

THI Fulangjie launches SPMT

Specialized transport equipment manufacturer THI Fulangjie (also known as Tiandi) in China has a new self propelled modular transporter (SPMT) optimised for transport in containers.

The TJ-S2.43 offers a capacity of 40 tonnes per axle line. It is designed for sale worldwide and has CE marking, the manufacturer said. The increase in capacity over the usual 36 tonnes per axle line is achieved with a stronger chassis design using Q690 grade high strength steel, according to the manufacturer. Each of the four wheels per line carries a Continental 355/65-15PR24/80 tube tyre.

The first 10 axle lines of TJ-S2.43 have been combined, with one 4 axle line module and one 6 axle line module, for testing. They passed the static 125% load test with a payload of 450 tonnes, and also passed a dynamic load test to 110% with a payload of 400 tonnes, THI Fulangjie said.

The SPMT, with its 390 kW (523 hp) MTU-engined power pack unit (PPU), has computerised electronic multi-way steering controlled wirelessly. Maximum steering angle is +/- 90 degrees and the available steering patterns include normal, diagonal, crab and carousel. Its standard loading height is 1,500 mm and the hydraulic suspension offers a stroke of +/- 350 mm.

The first order, for more than 300 axle lines, was from a Chinese heavy transport and lifting company. Delivery will be in time to be used on a project to construct a 12,000 tonne offshore platform. The first 100 lines of TJ-S2.43 will be delivered at the end of 2011, THI said.

THI has received enquiries from South America, Europe and the Middle East for projects related to offshore platform, oil & gas, and shipbuilding industries.

THI Fulangjie may also be recognised under the names Tiandi and Tianjie Heavy Industries.


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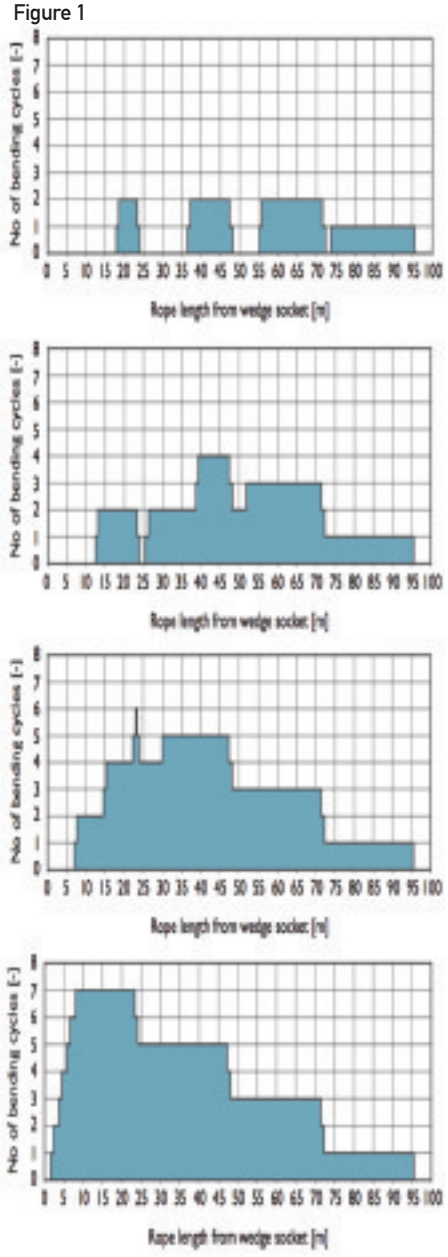
Learning from experience

Roland Verreet specialises in wire rope failure analysis using instruments, including scanning electron microscopes and modern digital microscopes. He talked to EUAN YOUDALE about rope failures that could and should be predicted

Figure 1



One of wire rope specialist Roland Verreet's adopted techniques in his work is known as stacking. It involves taking many pictures of the rope at different levels to create a complete three-dimensional colour image. Once the object is scanned it can be rotated and inspected on the computer screen.

"Having worked in this field for 36 years, I have seen a lot of wire rope failures. Last year I analysed 60 ropes that failed in service; some of these accidents go to court, with others settled out of court. So, on average, I look at more than one broken rope a week."

Another sobering truth is that wire rope is "born to die" and will fail one day if it is not taken out of service, "That is why we have the discard criteria," continues Verreet, "I was involved in a court case in the USA a few years ago where the damage from a rope failure on a 4,000 tonne offshore lift in the Gulf of Mexico was several hundred million dollars – it was the biggest claim in wire rope history."

Verreet sought to re-enact the failure with a used 82 mm diameter wire rope inserted in a pull tester. He placed a video camera inside the machine to record the noise. Played back, the strains and snaps of individual ropes can be heard, accompanied by low banging sounds at increasingly shorter intervals. This is followed by a long, thunderous boom as the rope snaps.

"If you count the bangs during the full length of the test you find there are more breaks than wire in the rope. When there is a break, it only reduces the strength of the rope locally, so when you pull wire rope to destruction a wire can be broken several times along its length. A 200 m long rope could still be working with 10,000 wire breaks, even though it is made up of 300 wires. If the machine operator had understood the warning signals, in many cases he would have had plenty of time to stop the lift."

In the first of a two-part feature, Verreet shares his expertise on rope failures that can be predicted.

Predictable failures

If no corrosion, excessive heat, mechanical or chemical damage is involved, the rope is going to fail in the zone which has been subjected to the greatest amount of fatigue and abrasion. For many applications this means that the most likely zone where a rope failure is going to occur can be predicted.

The fatigue distribution along the rope length depends both on the design and the mode of operation of the reeving system.

Figure 1 shows the bending fatigue distribution per lifting cycle (1 x lifting, 1 x lowering) of four different 4-part overhead cranes which always lift loads from the ground to 25%, 50%, 75% and 100% of the maximum lifting height, respectively.

If the rope of the second crane is not taken out of service in time, it will one day fail at about 40 to 46 m away from the wedge socket.

If the rope of the fourth crane is not taken out of service in time, it will one day fail at about 8 and 24 m away from the wedge socket, on the so-called 'dead fall'.

Inspection

Steel wire rope inspections must be carried out at regular intervals to be able to discard the rope before it reaches an unsafe state. Still many accidents happen, either because the rope was inspected at the wrong locations or because the rope had failed from the inside out.

Reeving systems which repeat the same operation over and over again are critical with respect to the rope inspection. If, for example, the rope of the first crane shown in Figure 1 is always inspected at 10 m and 30 m away from the wedge socket, because these rope sections are perhaps more accessible than others, an increasing rope deterioration at 20 m, 40 m and 60 m will never be detected. Then one day the rope will fail, for example at 20 m, without the >

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inspector having detected one single wire break before.

In a multi-part reeving system many, if not most, rope failures occur on the so-called 'dead' fall. The rope falls further away from the wedge socket travel faster than the dead fall. But if the block is typically travelling to great lifting heights, the slow dead turn is going to see the greatest amount of fatigue.

This alone would not be a major problem; the rope deterioration could be detected during a proper rope inspection. But most rope inspectors think that the slowly travelling dead fall will not be subjected to a great amount of fatigue. They will, therefore, spend their time inspecting the fast falls where, as the fourth crane in Figure 1 shows, much less fatigue damage is accumulated. Dead fall means, death is waiting here.

Wrong location

The two points of entry into the equaliser sheave in overhead cranes are the single most critical locations for a steel wire rope failure on cranes. Figure 2 shows a schematic drawing of a twin drum crane with such an equaliser sheave.

During a typical lift, these two sections at the equaliser sheave will not be subjected to a bending cycle. That is

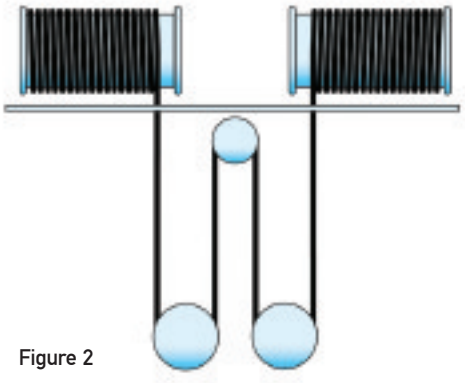


Figure 2

why crane designers think they should be allowed to make the equaliser sheaves smaller than the other sheaves in the reeving system.

During the crane travel between lifting the load and lowering it again, however, the load will swing under the crane bridge. This load swing will force the critical sections to continuously enter and leave the equaliser sheave and thereby subject them to great number of bending cycles.

During the same load swing other rope sections located at points of entry into the other sheaves of the crane will also be subjected to the same number of bending cycles. Because of the ever changing lifting height, however, different rope sections will be affected each time, whereas it will always be the same sections at the equaliser sheave.

The fact that the equaliser sheave is often smaller in diameter than the other sheaves in the reeving system increases the amount of fatigue damage in this area, and the fact that the equaliser sheave is often the least accessible sheave makes the detection of a coming rope failure in this location even more unlikely.

Internal breaks

Ropes subjected to a great amount of tension-tension fatigue and comparably little or no bending fatigue have a tendency to fail from the inside out.

Figure 3 shows 14 of the 49 wires of a simple rope design (7 x 7). In such a rope one centre wire is straight, 12 wires form a helix and 36 wires form a helix around a helix.

If this rope was lengthened by, for example, 1 cm, the straight centre wire would have to get 1 cm longer whereas all other wires would adapt to the new length by partly stretching and by partly simply changing their angle. The helixes would normally stretch more than the double helixes.

In a typical wire rope the load elongation chart (Figure 4) is characterised by a non-linear zone where the shorter elements carry the greatest amount of the

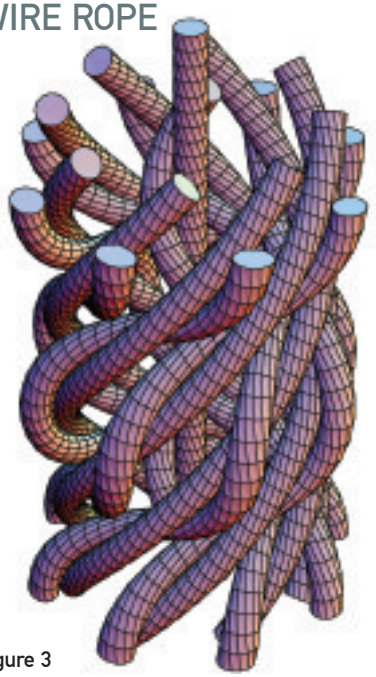


Figure 3

rope load (0% of the minimum breaking strength to about 11%), a linear zone where all rope elements share the load (about 11% of the minimum breaking strength to about 55%) and another non-linear zone where more and more rope elements yield (about 55% of the minimum breaking strength until the rope failure).

If the rope is subjected to tension-tension loads lower than about 11% of its minimum breaking strength it will be most likely to fail from the inside out.

This means that especially in 'very safe' installations, operating with relatively low line pulls or high safety factors, the rope inspector will not have any chance to detect an increasing rope deterioration.

Rope twist

A steel wire rope is normally designed in a way that the core and the outer strands share the load in proportion to their metallic cross sectional area. Twisting of the rope during production, installation,

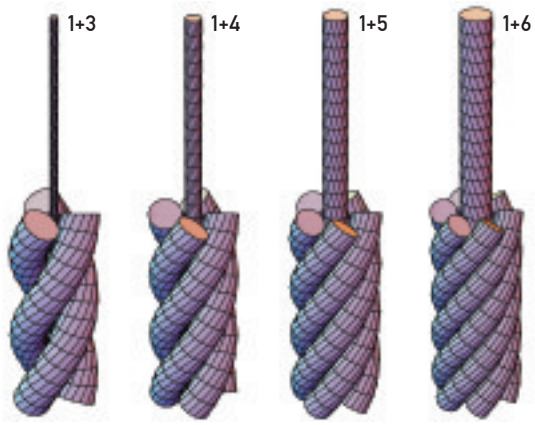


Figure 5

by the machine or by the weight of the rope itself, however, can lead to a load shift which will overload the core.

This effect is even more pronounced in rotation resistant ropes. Because the rope core (IWRC) is closed in the opposite direction of the outer layer, a rope twist in the lengthening sense of the outer layer will shorten the IWRC and lead to a load transfer to the core. Therefore, a load shift between the outer strands and the IWRC is more likely to occur in rotation resistant ropes.

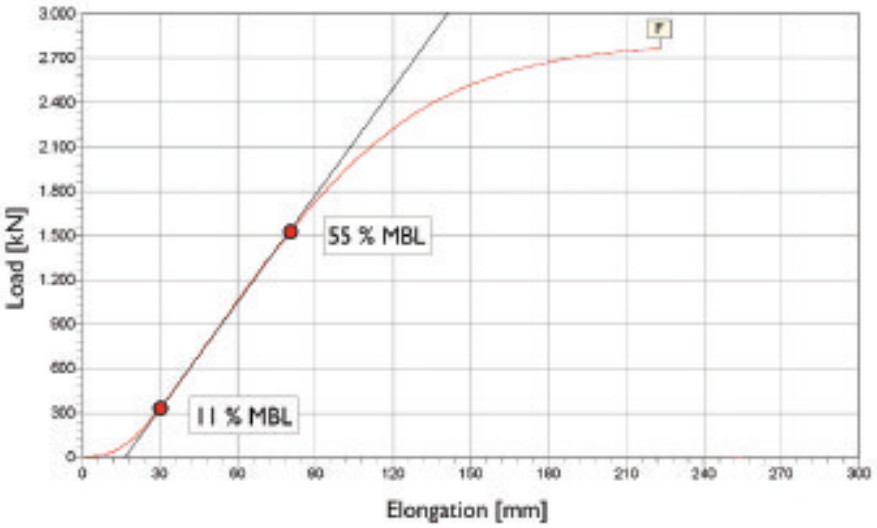
The great number of rope failures in, especially rotation resistant ropes, having 12 outer strands indicates that the number of outer strands of the rope has a great influence on whether this load shift will lead to wire rope failure or not.

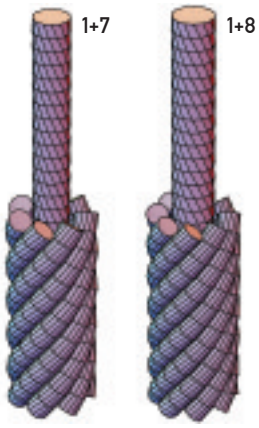
With an increasing number of outer strands, the share of the outer strands on the cross section of the rope will decrease and the share of the core will increase (Figure 5).

Figure 6 shows the percentage of the metallic rope cross section represented by the core of the rope.

Let us now suppose the rope is operating with a design factor of 4. This

Figure 4





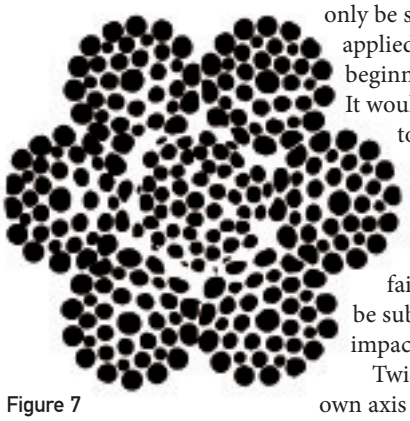


Figure 7

means the rope cross section will be subjected to a line pull representing 25% of the breaking strength of the rope.

THE 4 STRAND ROPE

If, due to twist, the outer strands of a 4 strand rope are unloaded and the core, which represents 4% of the cross section of the rope, had to hold the full load, it would immediately fail. But nothing serious would happen: the rope force will now be transferred to the outer strands, and these remaining 96% of the rope cross section will safely hold the load.

THE 18 STRAND ROPE

If, due to twist, the outer strands of an 18 strand rope are unloaded and the core, which represents 55% of the cross section of the rope, had to hold the full load, the core would be twice as strong as the applied load and therefore it would not fail. The outer strands would become loose and over time form a birdcage, but that would not lead to a fatality.

THE 12 STRAND ROPE

In a typical 12 strand rope the core contains between 33 and 40% of the metallic cross section of the rope. If, due to twist, the outer strands of such a 12 strand rope is unloaded and the core had to hold the full load, the core would only be slightly stronger than the applied force and would in the beginning be able to hold the load. It would, however, stretch enough to prevent the formation of a birdcage as an indicator for the unsafe state, and it would deteriorate very rapidly. Once the IWRC fails the outer strands would be subjected to the full load as an impact load and fail as well.

Twisting a rope around its own axis in the opening sense will lengthen the outer layer and the IWRC to a different degree. The length difference created will lead to a load transfer between the layers.

Cause is corrosion

Corrosion, and especially internal corrosion, is a frequent cause for wire rope failure.

One of the most expensive rope accidents happened because a wire rope had corroded internally. The ungalvanised rope had been manufactured with little lubrication and then worked as a hoist rope on an offshore platform for several years.

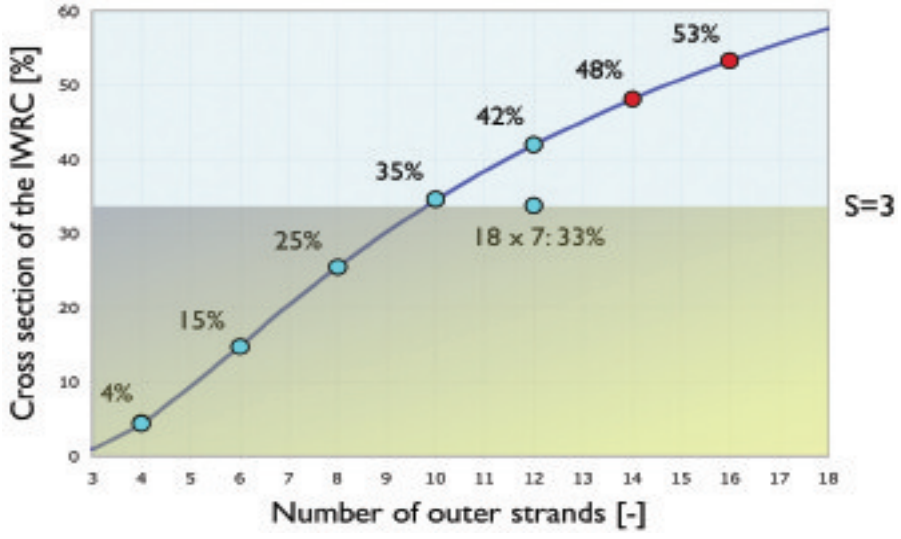
Figure 7 shows severe abrasion and corrosion inside while the outside still looks good.

In order to protect the rope from the corrosive environment, the rope was re-lubricated externally. The lubricant, however, did not penetrate inside the rope. Therefore corrosion and abrasion could destroy the rope internally, while the outer coating prevented the rope inspector from seeing the problem.

Finally, the rope failed during a heavy lift, creating a great amount of damage. ■

■ See a future issue of the magazine for Part II: Unpredictable rope failures.

Figure 6



Hopeful signs

The SAIE 2011 exhibition will be affected by the continued tough economic times in Italy but manufacturers are still showing interest in the long-established international exhibition. *IC* reports

Organisers say that the 2010 SAIE exhibition for the construction industry attracted 1% more professionals than the 2009 exhibition, with a figure standing at 168,000. Some 6,800 of these visitors came from outside Italy, according to the show's press office. There were 1,500 exhibitors, 302 of them from outside the country.

The organisers will be hoping these figures can be matched by the end of the 2011 exhibition from 5 to 8 October, despite the difficult economic situation that continues in the country.

As in the past, more than 30,000 square metres of floor space has been given over to the construction equipment sector. This year the event will be split into three areas: Saiemergia & Sustainability, for energy, sustainability and green building; SAIE Sites & Production, for sites, concrete and production; SAIE Services for Designing and Building, for related services, software and building materials.

The lifting equipment and crane section of the show will be part of the SAIE Sites & production area.

One of the outdoor crane areas during SAIE 2010

Manufacturers

From Benazzato Gru, Marco and Alessandro Benazzato, sons and successors of Luciano Benazzato, founder of tower and self-erecting tower crane manufacturer Benazzato Gru, says that the show offers growth opportunities for the company. "Our father was a powerful driving force for our company, and had the foresight to ensure its continuity by having us grow within the company," said Benazzato. "We have chosen SAIE as a marketing event to demonstrate to our Italian and international customers that we firmly intend to steer the company out of the crisis that has continued for far too long."

Bennazzato adds, "While we are obviously sensitive to costs in the current climate, we are certain that our investment in communication at this event will enable us to reach out to a clientele that is attentive to the emerging needs of the building sector."

Liebherr Italia has also confirmed its presence at the exhibition. Efisio Moi, vice chairman, says it will be representing the wheeled mobile cranes from Liebherr-Werk Ehingen and tower cranes from Liebherr-Werk Biberach in Germany.

Investment

Tower crane manufacturer FM Gru's Giacomo Fuochi said it will continue to invest in trade shows, including SAIE. "Italy is still going through a very difficult economic period. The building sector, in particular, is in the midst of a severe crisis that unfortunately is far from being resolved. But it is precisely for this reason that we believe it is vital to continue to take part in SAIE," comments Fuochi.

Manitowoc Cranes added that its attendance at the show would continue to help its sales potential. "Our passion drives us to continue to invest in research and in developing new products and solutions, even in difficult economic times like these. Manitowoc will, therefore, be pleased to present its latest technologies at SAIE, testifying to its unflagging efforts to improve its professional relationship with customers as well as enhancing site safety," says Enrico Angiolini, Manitowoc Cranes sales director south Europe.

VISITOR INFORMATION SAIE 2011

WHERE: Bologna Fair Center, Bologna, Italy
WHEN: 5 – 8 October 2011
OPENING HOURS: 09.00 to 18.00.
ADMISSION: Tickets can be bought at the show or online at www.saie.bolognafiere.it

TRAVEL

By car

Bologna is well connected to the largest Italian cities. The A1 motorway links Bologna with Milan, Florence and Rome. The A13 motorway links Bologna with Ferrara, Padua and Venice, while the A14 connects it with Rimini and Ravenna.

By train

Bologna station connects Northern Italy with the centre and south of the country. Bologna is connected with high-speed trains to Milan (65 mins), Florence (37 mins), Rome (2 hrs), Naples (3 hrs, 45 min), Turin (2 hrs). For more details see www.trenitalia.it

By air

Bologna's Guglielmo Marconi airport is 6 km from the city and is served by major operators. The Aerobus connects the airport with Bologna railway station.

Aces

A wide-ranging collection of TopLift candidates this year will make it a difficult choice for voters. Readers are asked to pick their favourite from our selection of

ENTRY 1

Trinity treasure

EQUIPMENT USER: Gulf Special Services
LIFTING EQUIPMENT USED: Manitowoc Model 21000
LOCATION: USA

The Model 21000 with MAX-ER attachment manoeuvred 11 welded sections of a bridge arch into place for the Dallas Trinity River Corridor project. The crane worked at a radius of 150 to 257 feet (46 to 78 m). The sections weighed up to 235 US tons (213 tonnes) each and were up to 137 feet long.

ENTRY 3

Hydro setting

EQUIPMENT USER: Burkhalter
LIFTING EQUIPMENT USED: Burkhalter Self Erecting Tower (BSET)
LOCATION: USA

The 2,240 US ton (2,000 tonne) capacity BSET uses hydraulic strand jacks mounted atop a set of girders spanning two pairs of hydraulically self erecting lattice towers. The load was a 130 foot (40 m) long, 1,051,000 pound (477 tonne) hydrocracker reactor at an operating refinery near Tulsa, Oklahoma. It was erected in a maze of piping and working facilities.

ENTRY 2

Wind wonder

EQUIPMENT USER: Enercon
LIFTING EQUIPMENT USED: Terex CC 9800 crawler
LOCATION: Germany

Enercon erected three E-126 wind turbines in Naumburg-Stößen. Rated at 7.5 MW, the Enercon E-126 wind turbine is one of the most powerful in the world. Its components have the size to match. A challenge was lifting the fully-assembled 350 tonne nacelle to a height of 138 m.

ENTRY 4

Suspension strength

EQUIPMENT USER: American Bridge/Fluor Daniel joint venture (ABF)
LIFTING EQUIPMENT USED: Sheer leg crane barge
LOCATION: USA

The 1,700 tonne barge-mounted crane named the Left Coast Lifter placed deck sections and falsework for a self-anchored suspension bridge (SAS), part of the San Francisco Bay Bridge project. It also lifted the first sections of the 525 foot (160 m) long bridge tower. It was ferried across the Pacific from Shanghai, China.

ENTRY 5

NASA modules

EQUIPMENT USER: Buckner Companies
LIFTING EQUIPMENT USED: Liebherr LR 1600/2 crawler crane
LOCATION: USA

The crane was used to install vessels and components weighing up to 181 tonnes in the construction of the A-3 Test Stand at NASA's John C. Stennis Space Centre in Bay St. Louis, Mississippi. Scheduled for completion in 2012 it will test engines at simulated altitudes of 30,480 m.

high

10 outstanding lifting projects carried out over the last 12 months. To register your vote, please complete and return the form on page 46.

ENTRY 6

Dome dual

EQUIPMENT USER: BKL
LIFTING EQUIPMENT USED: Liebherr LTM 1400-7.1 and LTM 1100-4.2 all terrains
LOCATION: Germany

The 100 and 400 tonne capacity all terrains replaced a spherical air-supported cover for a parabolic antenna at the earth station at Raisting in Bavaria. The LTM 1400-7.1 lifted the 5,200 square metres of protective skin hanging slack. A dozen retaining cables were let down from a personnel basket to hold the dome in place.

ENTRY 7

Stable solution

EQUIPMENT USER: Barnhart Crane & Rigging
LIFTING EQUIPMENT USED: Customised cantilever system with strand jacks
LOCATION: USA

Barnhart erected 11 pre-fabricated sections into a 191 tonne coffer dam, lowered the final coffer dam into the water and onto the dam wall at about a 6 degree angle and held the load in a stationary position while divers secured it to the dam face.

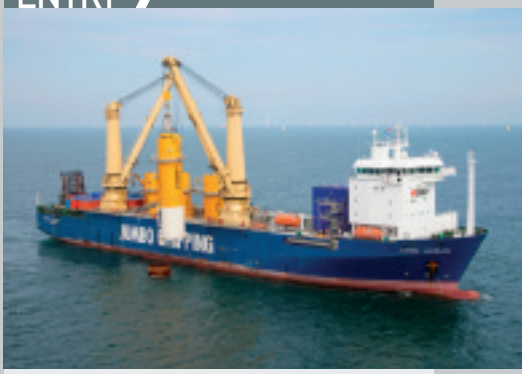
ENTRY 8

Twin stacking

EQUIPMENT USER: Al Jaber Heavy Lift
LIFTING EQUIPMENT USED: Terex CC 8800-1 Twin crawler
LOCATION: Sharjah, UAE

The 3,200 tonne capacity crawler lowered rig leg sections from a height of 105 m on to the Noble Roger Lewis, one of the world's biggest offshore rigs, which was destined for the Arabian Gulf. The rig leg extensions weighed 425 tonnes each and measured 50 x 10 x 10 metres (L/W/H).

ENTRY 9



Fast forward

EQUIPMENT USER: Jumbo Offshore
LIFTING EQUIPMENT USED: 2 x 900 tonne capacity deck mounted cranes
LOCATION: UK

Jumbo installed 131 transition pieces, each weighing up to 300 tonnes, at the Greater Gabbard offshore wind farm. Its DP2 (dynamic positioning) *Jumbo Javelin* achieved a record-breaking installation speed of more than one a day. It was the first time transition pieces were transported and installed using a free floating vessel on dynamic positioning.

ENTRY 10

Refined approach

EQUIPMENT USER: ALE
LIFTING EQUIPMENT USED: AL.SK190
LOCATION: USA

ALE's 190,000 tonne-metre rated AL.SK190 was used in a two-stage project that involved lifting 1,338 tonnes at 54 metres outreach. The structure was removed from the top of six coker drums at a height of 100 m at an oil refinery in Port Arthur, Texas. A complete derrick of three drill towers and cutting deck was lifted in one piece with a 12 point pick up.

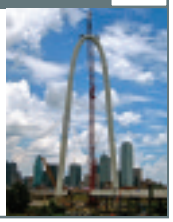
TopLift 2011 voting form

Select your favourite lift from this year's entries by ticking *one* of the entry boxes and then fax, post or e-mail your entry with your full name and address details as requested at the bottom of this page

ENTRY 1

Trinity treasure

EQUIPMENT USER:
Gulf Special Services



ENTRY 2

Wind wonder

EQUIPMENT USER:
Enercon

ENTRY 3

Hydro setting

EQUIPMENT USER:
Burkhalter

ENTRY 4

Suspension strength

EQUIPMENT USER:
ABF

ENTRY 5

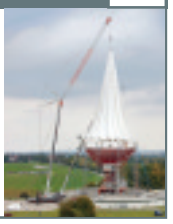
NASA modules

EQUIPMENT USER:
Buckner Companies

ENTRY 6

Dome dual

EQUIPMENT USER:
BKL



ENTRY 7

Stable solution

EQUIPMENT USER:
Barnhart Crane & Rigging

ENTRY 8

Twin stacking

EQUIPMENT USER:
Al Jaber Heavy Lift

ENTRY 9

Fast forward

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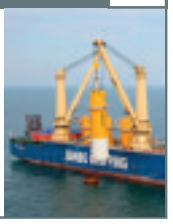

ENTRY 10

Refined approach

EQUIPMENT USER:
ALE

YOUR DETAILS

Your name: _____

Company name: _____

Country in which you are based: _____

Tel: _____

Fax: _____

e-mail: _____

FAX: +44 (0)1892 786257
E-mail: toplift@khl.com
POST: TOPLIFT 2011
International Cranes and Specialized Transport
Southfields, Southview Road, Wadhurst,
East Sussex TN5 6TP, UK

NOTE: To ensure a fair competition all entry forms must be completed in full. Employees of the companies entered in TopLift 2011 are *NOT* eligible to vote.

CLOSING DATE FOR ENTRIES: FRIDAY 28 OCTOBER 2011

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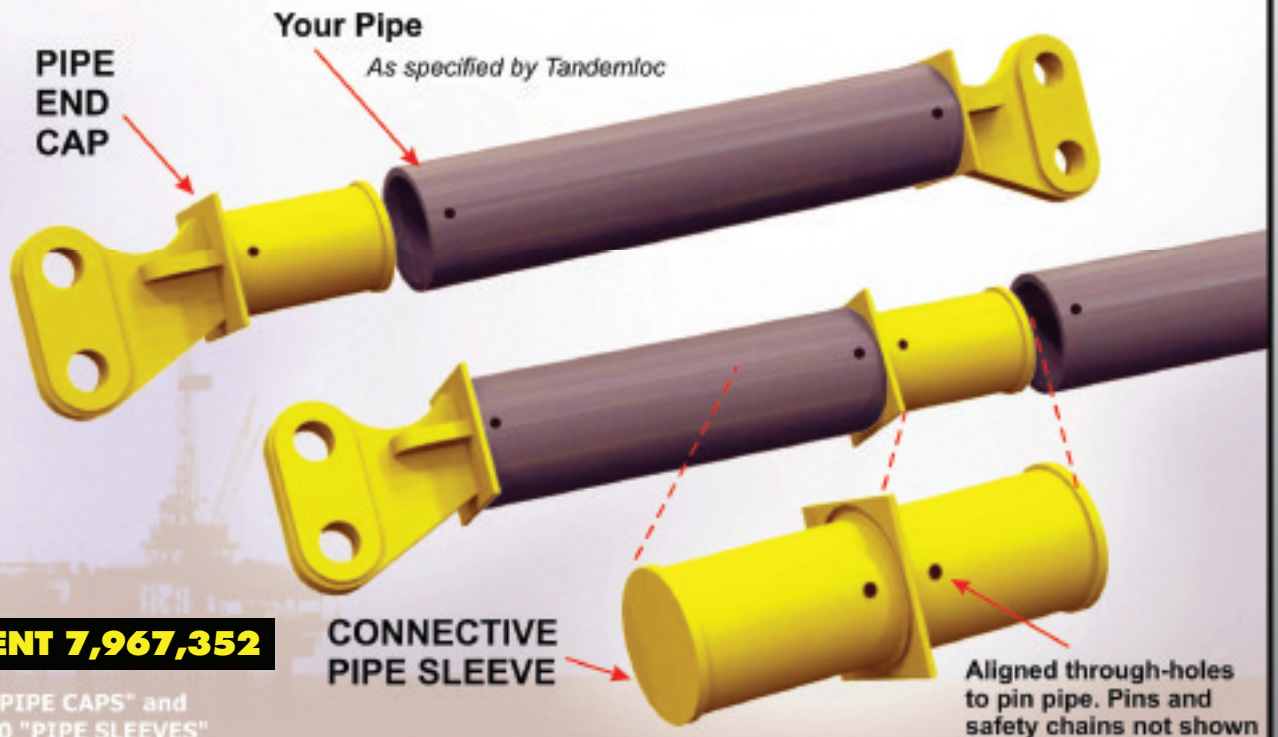

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Riding the wave

BICES 2011

This year BICES will occupy 200,000 square metres, say show organisers, making it Asia's largest exhibition for construction, building materials, mining and commercial machinery and vehicles. *IC* reports

The Chinese construction market is developing at a great pace. BICES show organisers put 2010 growth at an impressive 48%. The trend is forecast to continue throughout 2011 and, according to organisers, by mid-March more than 900 exhibition booths had been booked, exceeding the record set at the BICES 2009 show. This reflects economic growth rates in China which are projected to remain high at 8 to 10%, says Ted Plafker, China correspondent, *The Economist*.

A number of booths at the show have already reached 4,000 or 5,000 square metres, with Sany's area exceeding the latter figure. With such demand, organisers are giving preference to exhibitors showing innovative and energy-saving products.

BICES 2011 hopes to attract 1,200 exhibitors and to include the largest number of international exhibitors in its history. Visitor numbers are forecast to exceed 100,000. "New segments are emerging at the show in all aspects of machines and spare parts, while new business models, for example, leasing and auctions will also find their way into the exhibition," said a spokesman.

Cranes will play a major part in the exhibition. Speaking at the China International Crane Summit (CICS) in Shanghai, Sun Jian Zhong, vice president of XCMG, said China was on a fast track of urbanisation with investment in infrastructure and other facilities in support of this major population shift.

Su Zi Meng, secretary general of the China Construction Machinery Association, added that China's membership of the World Trade Organization and the subsequent lowering of crane import duties helped increase total sales of truck cranes from 5,000 units in 2000 to almost 27,500 units in 2009, increasing further to 27,570 in the first nine months of 2010.

The world market for tower cranes was around 17,000 units a year in 2007 and the same in 2008 but leapt to just over 25,000 in 2009, says Eric Etchart, Manitowoc president. Manitowoc forecasts this growth rate will be sustained.

David Phillips, managing director at Off Highway Research, reports that the domestic mobile crane market increased by 50% in the first half of 2010. The sales figure of about 20,000 units was higher than the total for the whole of 2008, Phillips says. "The Chinese market for mobile cranes now accounts for over 70% of global sales," Phillips continued. ■

Zoomlion's 4,480 square metre booth will provide a snap shot of the Chinese crane industry with a range of its models. They include: QY80VF, QAY260n and QAY400 truck cranes; QUY550 and ZTM500 crawler cranes; RT55 and RT100 rough terrains; TCT7015 and TCR6030 tower cranes

VISITOR INFORMATION BICES 2011

DATE: 18 – 21 October, 2011
OPENING TIMES:
18 – 20 October: 9:00 – 17:00
21 October: 9:00 – 16:00
VENUE: Jiu Hua International Exhibition Center, Beijing, China
ADMISSION: Free entry on registration
EXHIBITION WEBSITE: www.e-bices.org

GETTING THERE

Air

Capital airport is about 30 km away from the exhibition venue. A taxi to the show will cost about RMB 100. Visitors can also take the subway at Sanyuanqiao Station, Line 10, then board a free shuttle bus at Shaoyaoju Station for the rest of the journey.

Alternatively, a public bus can be caught from Capital airport to North Tiantongyuan, where a free exhibition bus is available. Nanyuan Airport is about 50 km away from the exhibition venue. See the exhibition website for transfer details.

Train

Subways and free shuttles are also available from Beijing Railway Station, Beijing South Railway Station, Beijing West Railway Station and Beijing North Railway Station. See the exhibition website for details.

Tower statistics

Regular *IC* contributor TERRY McGETTIGAN presents his total figures for tower crane accidents worldwide for the whole of 2010

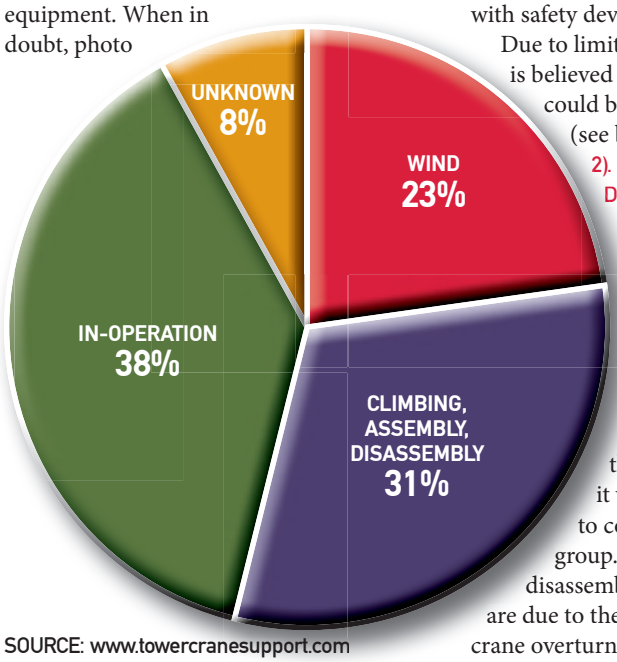
Accidents or, to use a more accurate description, incidents, continue to destroy, life, property and reputations at an unacceptable rate.

Worldwide in 2010 there were at least 154 major incidents involving tower cranes. They resulted in more than 113 deaths and countless injuries. It should be noted that these figures are compiled from reported incidents, whereas it is safe to say that the actual number is much higher.

There was a slight decline in the year-total number of accidents compared to 2009, when there were 188 accidents and 78 deaths. The reduction, however, can be attributed to a decline in construction activity in much of the world.

Unfortunately, the number of deaths, in terms of the deaths to accidents ratio, was up sharply. Climbing tower cranes to raise their height was involved in incidents that contributed to 46 deaths alone.

In analysing these events, care was taken to avoid misrepresenting a tower crane as a mobile crane or other type of equipment. When in doubt, photo identification was used to corroborate authenticity. These are not minor incidents by any means. The vast majority include major structural and-or mechanical failures that led to partial or total collapse, resulting in deaths and or injuries.



SOURCE: www.towercranesupport.com

Category details

1). IN-OPERATION:

59 incidents causing 31 deaths.

Causes include operator error, poor or lack of maintenance and or inspections, improper commissioning, faulty equipment systems, foundation failures, improper set-up, and wilful tampering with safety devices.

Due to limited availability of detail, it is believed that many in this category could be associated with C/A/D (see below).

2). CLIMBING – ASSEMBLY – DISASSEMBLY (CAD):

48 incidents causing 63 deaths

CLIMBING – 18 accidents causing 46 deaths

ASSEMBLY – 15 accidents causing 13 deaths

DISASSEMBLY – 15 accidents causing 4 deaths.

The same crews perform all three of these operations so it was considered reasonable to combine them into one group. As for assembly and disassembly, many of these incidents are due to the assist crane or erection crane overturning.

3). WIND:

25 incidents causing five deaths.

The high incident rate, for the second year in a row, warrants bringing this to light. It is believed that most of these are caused by operator error, i.e. not weather-vaned. Other causes include improper set up and-or malfunction, and inadequate foundations. Noticeably, most of the toppled tower cranes are ballast or bogie-based.

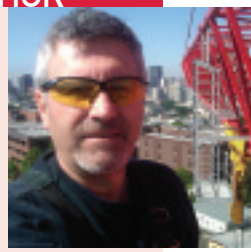
4). UNKNOWN:

12 incidents, causing 14 deaths.

Insufficient details are available on the cause of these incidents.

The bottom line is that tower cranes are far safer and more efficient than any other hoisting method out there, as long as the equipment is of good quality, commissioned to standards, and operated, maintained and inspected with the highest degree of competency. ■

ABOUT THE AUTHOR



Terry McGettigan is a USA-based tower crane specialist with more than 34 years of experience. He works as a crane operator, independent inspector, technician and consultant. His tower crane accident statistics reports appear regularly in *IC*. See his library of tower crane accidents at: www.towercranesupport.com

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AND MINING EQUIPMENT

COMMENT

Joel M Dandrea

Achieving recognition

One effective response to people who ask about the overall expertise of members of the Specialized Carriers & Rigging Association is to hand them a copy of this magazine or our association's other official magazine, American Cranes & Transport, and encourage them to spend a few minutes perusing the pages. Every issue includes articles and photos of members doing outstanding work. Better yet, make sure the issue you share is the latest one featuring SC&RA Rigging & Hauling Job of the Year winners.

Each April during the SC&RA Annual Conference, a panel of some of the most respected experts from our industry judge extremely challenging jobs that involve the lifting, transportation and installation of massive items. Our members complete these projects safely and profitably while overcoming significant obstacles such as inclement weather, tight spaces, time constraints, rugged terrain and rigid regulations. Because the jobs are so compelling, the presentations always draw large crowds.

Anticipation builds until the announcement of the Job of the Year winners during the Annual Conference's Closing Night Awards & Recognition Dinner. Rigging trophies, based on total contract amount, go to the single best entry in three categories – under US$150,000, between $150,000 and $750,000, and more than $750,000. For the Hauling trophies, categories are trucking job under 160,000 pounds net; trucking job over 160,000 pounds net; and moving job using specialized equipment, such as self-propelled transporters, dollies and crawler assemblies.

Global entries

This is truly an international competition, and SC&RA encourages companies from each of the 43 nations represented in our membership to enter. Since the programme's inception in 1965, winning entries have come from Australia, Canada, England, Germany, Italy, Mexico, Norway, the Netherlands, New Zealand, Scotland, South Africa and the United States. Often, the projects span multiple nations and even continents.

The SC&RA Job of the Year earns each winner worldwide recognition as one of the industry's leading companies. KHL Group, publisher of the official SC&RA magazines, will soon embark on an exciting new project to add to the prestige by commemorating the competition in a coffee table book that will feature detailed descriptions of dozens of the most noteworthy Jobs of the Year. Photos and brief summaries of each of the more than 200 Jobs of the Year awarded since the programme began in 1965 will be used throughout the book, as well as profiles of other significant jobs over the years.

On publication in April 2013, the book will build upon the success of *Lifting & Moving the World*, which chronicled the history of SC&RA, largely through profiles of member companies. The new book will commemorate the association's 65th anniversary, just as the previous book did for the 60th anniversary. SC&RA members will receive a letter from KHL with further details about the book. In addition, the letter will explain how companies can participate.

Avoid the rush

As always, SC&RA also is encouraging members to enter their best work in the upcoming Job of the Year competitions. Avoid the last-minute rush. Start the process of documenting the unique qualities of your rigging or hauling job. Especially helpful are high-resolution digital photos, which SC&RA will use to promote winning entries in your industry's leading trade journals.

The annual competitions are open to all member companies and pertain to jobs completed in calendar year 2011. Winners will be selected during the SC&RA Annual Conference, 17-21 April, 2012, at the Hyatt Regency Lost Pines in Austin, Texas. Winners also are featured each year in special sessions during the Crane & Rigging Workshop and the Specialized Transportation Symposium. ■

■ See www.scranet.org/awards to download entry forms and contest hints. For further information, call SC&RA at +1 (703) 698-0291.

WHO'S WHO

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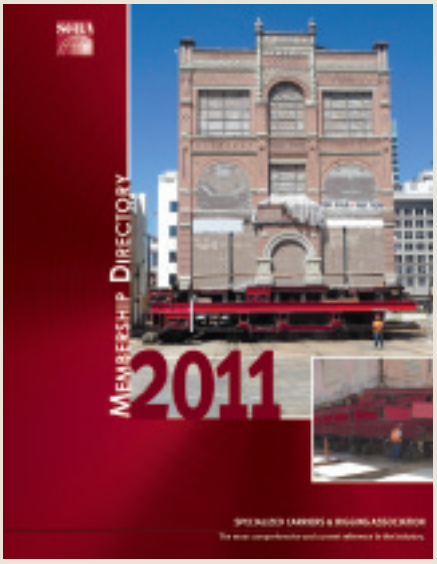
Latest listing

The Membership Directory and website offer member benefits, as does the 2011 World Crane and Transport Summit. TERRY WHITE reports



This year SC&RA has been working hard to improve the way its members attract new business through listings in the *SC&RA Membership Directory* and the Association's website. The biggest changes have been in the website listings, which have become an increasingly important tool for those seeking specialized transportation, crane, millwrighting and rigging services.

The improved member search allows website visitors to sort easily by location and equipment. In addition to helping customers find members, this tool could help SC&RA members identify the very best suppliers of the specialized products and services they need – from spare parts to specialized insurance policies.

After clicking on the Company Search button at www.scranet.org visitors can search by city, state, ZIP (post) code or country. Within the ZIP code search, the selection can be narrowed or expanded by specifying whether the company should be within parameters of 5, 10, 25, 50 or 100 miles. The results may reveal possibilities in several states.

Using the advanced search feature, they can further identify companies by equipment type:

- CRANES: crawler lattice; rough terrain; crawler telescopic; tower; truck lattice; truck telescopic; or truck terrain
- TRAILERS: 3-, 4- or 5+ axles; boosters; custom specialized; double drop; dollies; drop frame; dual lane; flatbeds; modular hydraulic transport system; jeeps; low beds; prime movers; snobble-neck; step decks; self propelled modular transporters; or trunnion
- TRUCKS/LIFTS: forklifts; gantries; rollback truck; or tiltbed.

Users can also specify a range of services, including demolition, engineering, equipment sales, export packing, fabrication and welding, freight forwarding, heavy hauling general oversized commodities, heavy hauling construction equipment and machinery, heavy hauling infrastructure materials, heavy hauling steel hauler, logistics and planning, machinery moving, maintenance, millwright, permitting, pilot car, plant moving, plant relocation, process piping, crane rental, forklift rental, truck and trailer rental, repair, rigging, steel erection, training safety and operations, or warehousing.

Every member is listed in this search as part of SC&RA's member benefits. For the first time, members can include logos in both the print and online versions. The new online search and directory process affords members greater flexibility and opportunity to easily upgrade their online listing with a logo or description of new equipment, facilities or key personnel even after the print directory has been finalised. Online upgrades can be purchased at any time during the year.

"The *SC&RA Membership Directory* has always played a vital role in exposing our company to new customers," said Bubba Rouse, Palletized Trucking, Inc., Houston, Texas, USA. "And now, with the online membership directory, even more customers are directed our way. Only through SC&RA membership are we able to enjoy such a great benefit."

Improvements to the online version make it an increasingly valuable tool but the print version continues to be a popular resource. As always, each SC&RA member organisation receives one copy as part of membership dues. In addition, a membership directory is sent, without charge, to each branch office that members have purchased a listing for.

The print version also incorporates a number of popular features:

- Association officers, board and staff
- Member accomplishments, including listings of all SC&RA Job of the Year winners since the programme began in 1965, all Golden Awards (Achievement, Link, Cable Crane and Wheel), the latest SC&RA Annual Safety Award winners, and the latest Longevity Award winners
- US member listings by state and city, and international member listings by nation and city
- Combined, alphabetical US and

- international listings of allied industries members that produce products and services for other SC&RA members, indexed by specialities
- North American and international associations serving the industry
- Union, regulatory and legislative organisations serving the industry
- Complete SC&RA 2011 Product Catalogue and order form
- New member application
- Listing of SC&RA 2011-2012 meetings
- Logos of SC&RA Diamond, Platinum, Gold and Silver Sponsors.

Additional copies of the 2011 Membership Directory are available at a member price of US$50 each for one to five copies, $45 each for six to 10 copies, and $40 each for 11 or more copies. The non-member price is $115 per copy. The directory is also available on CD at $145 for members and $195 for non-members.

To purchase additional copies or to upgrade an online member listing, please contact SC&RA membership manager Patrick Corr at pcorr@scranet.org.

Further information is also available by visiting the SC&RA website at www.scranet.org or calling the Association at +1(703)698-0291. ■

WORLD CRANE AND TRANSPORT SUMMIT

SC&RA plans to be an active participant at KHL's second World Crane & Transport Summit, 10 and 11 November, in Amsterdam, the Netherlands. The Association is a Supporting Sponsor, and the majority of other sponsors are SC&RA members.

At the previous event in October 2009, also in Amsterdam, SC&RA formed the World Crane & Transport Alliance for the advancement of the crane and specialized transport industries. In addition to SC&RA, the alliance includes associations from Australia, Canada, Europe, and New Zealand. Immediately before the upcoming summit, the alliance will reconvene and officially welcome its newest member, Brazil's Sindipesa.

The day prior to the summit, Beth O'Quinn, SC&RA vice president, plus other SC&RA members, will participate in a meeting of international crane experts, continuing discussions on a number of topics considered during the ConExpo show in Las Vegas in March, including EN 13000, the European crane design standard; data loggers and event recorders; wind action on loads; trade barriers; and European Commission guidelines and directives for machinery.

Joel Dandrea, SC&RA executive vice president, will be the Summit's opening keynote speaker. He will present a global industry snapshot, based on his perception as the chief staff executive of an association that represents more than 1,300 member companies in 43 nations.

Doug Ball, SC&RA vice president, will participate in a transportation session during the summit under the theme of harmonising standards to encourage the safe and profitable transport of oversize and overweight items around the world. Ball is expected to discuss how American hauling regulations and permit requirements that vary from state to state and, often, within states, hinder the industry.

As at the previous summit, the roster of speakers will include a number of other highly respected experts from within SC&RA's ranks.

"The Summit is a great opportunity for our staff and members to interact with their counterparts from throughout the world," said Dandrea. "By working together, we can all grow stronger and be better positioned to share ideas and promote safety, uniformity and productivity. We are grateful to KHL, which publishes our official magazines, for organising this event."

■ For more information, visit www.khl.com/events/wcts2011

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A two day conference and networking dinner to exchange information and debate best practice on vital topics

Bring together senior executives from around the world. More than 300 delegates are expected to attend and more than half of the available places have already been reserved.

As one delegate said of WCTS 2009, "This was simply the best crane and heavy transport conference I have ever attended, by a distance."

We believe WCTS 2011 will be even better. Make sure you take the opportunity to develop contacts and gather information vital to benefit your business.

Tickets include:

- Two day, top-level conference
- Three course buffet lunch and refreshments
- Full delegate packs
- Three course networking dinner at the famous five-star Hotel Krasnapolsky

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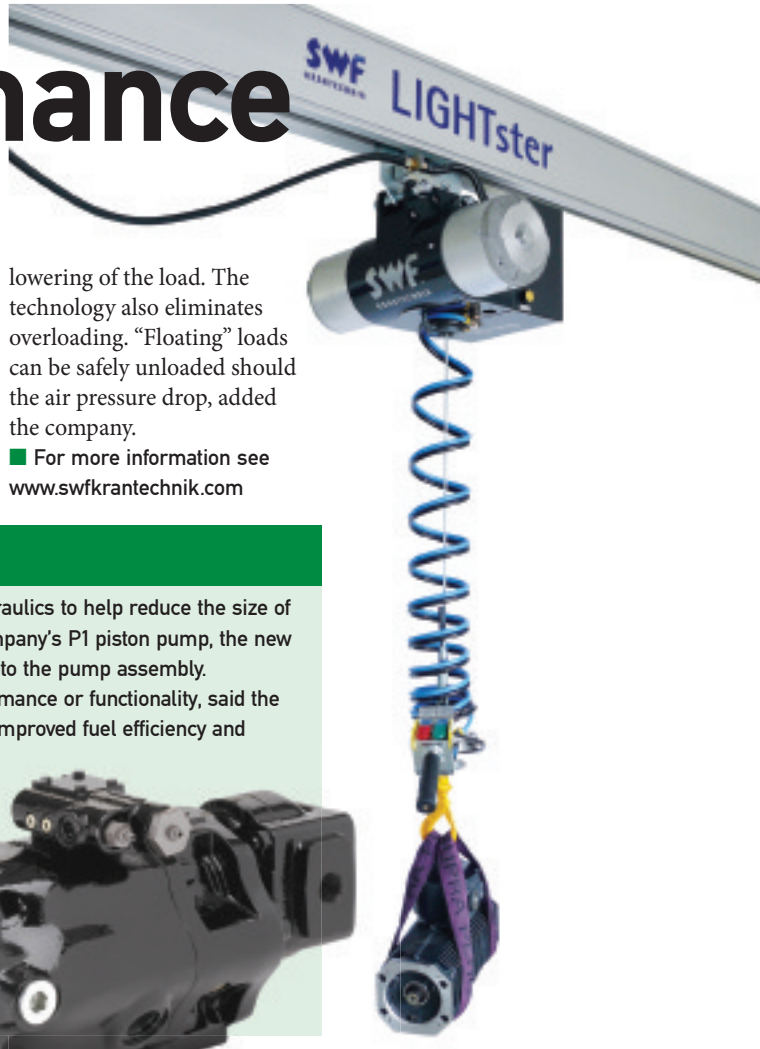

SWF Krantechnik has added the MOVEster air balancer to its product range. The hoist, designed to provide efficiency and ergonomics, can move loads up to 350 kg. Depending on the bearing load, MOVEster can reach lifting heights of up to 3 metres. Combined with the company's aluminium crane system LIGHTster, the product is suited to workstations, said the manufacturer. The air balancer enables quick and smooth material flow, added the manufacturer. Its balancing function means a minimal force of 15 to 35 N is required to move loads in assembly and joining processes.

If the air pressure drops there will be no sudden lowering of the load. The technology also eliminates overloading. "Floating" loads can be safely unloaded should the air pressure drop, added the company.

■ For more information see www.swfkrantechnik.com

PROPORTIONAL PUMPS

A new range of hydraulic piston pumps has been launched by Parker Hydraulics to help reduce the size of fan drive systems both for on- and off-highway vehicles. Based on the company's P1 piston pump, the new system has a dedicated proportional pressure control valve, built directly into the pump assembly.

This minimises system size and weight, without affecting overall performance or functionality, said the company. The new hydraulic fan drive system is designed to contribute to improved fuel efficiency and emission reduction. In addition, the hydraulic fan drive components can be located practically anywhere on the vehicle, wherever space is available.

To date, said Parker, fan drive systems generally comprise independent components, with fan speed varied using a separate proportional pressure valve to control system pressure to the hydraulic motor. "Although effective, this solution takes up additional space and requires extra hoses and connectors," said a company spokesman.

■ For more information contact www.parker.com

Quick link

Eaton Corporation has introduced the TH-Series of quick-disconnect hydraulic couplings for mobile and industrial applications. The TH-Series is part of Eaton's line of Hansen and Coupleurs Gromelle acquired by Eaton in December 2010.

Eaton's TH-Series couplings meet the dimensional requirements of MIL-C-51234 and are used in petrochemical applications, construction, mining, agricultural and railway maintenance equipment, and hydraulic tools and accessories. They are available in RoHS compliant zinc plated steel and 316 stainless steel with stainless steel springs, balls, and retaining rings and standard Buna-N or optional Fluorocarbon seals.

Eaton TH-Series couplings have a ball-locking mechanism and a very low pressure drop, the manufacturer said.

They are rated for working pressures up to 6,500 psi and are available in ¼, ½, and ¾ inch, and 1 inch sizes to meet a broad range of application requirements.

■ For more information see www@eaton.com

NAUTILUS SPREADS OUT

Safety hook manufacturer Nautilus Rigging is expanding its international distributor network to include the US, South American and SE Asian markets.

The UK-based company is also promoting its failsafe, pinch-free hook to original equipment manufacturers. Nautilus has international patents pending for Europe, the USA and Australia, among other regions. Patent claims cover and protect its safety feature: a separate handle and unique locking mechanism that eliminates trap-and-pinch injuries caused by traditional latch lock hooks, said the company.

It offers 19 standard hooks in working load limits of 4 to 20 tonnes and with a range of rigging attachments, including clevis or swivel top. "The NH-SL6C (6 tonne clevis top hooks) is a popular size throughout the construction industry which can benefit from using these new hooks, not just because the hooks offer proven safety benefits, but because they have a light feel and are much easier to operate," Nautilus said.

The company recommends its 12.5, 16 or 20 tonne hooks for larger cranes with heavier load ratings. Bespoke hooks, for example, shank hooks are available and testing on sub-sea versions of its 20 tonne hooks are underway.

■ For more information see www.nautilusrigging.com

EVENTS DIARY

2011

APEX 2011
14 – 16 September 2011
Maastricht, The Netherlands
www.apexshow.com

SC&RA CRANE & RIGGING WORKSHOP
21 – 23 September 2011
Philadelphia, Pennsylvania, USA
www.scranet.org

ICUEE
4 – 6 October 2011
Louisville, Kentucky, USA
www.icuee.com

SAIE 2011
5 – 8 October 2011
Bologna, Italy
www.saie.bolognafiere.it

BICES 2011
18 – 21 October 2011
Beijing, China
www.e-bices.org/

THE HEAVY EQUIPMENT MODEL SHOW
23 October 2011
Mercure Dunkenhalgh Hotel, Accrington, Lancashire, UK.
Contact David Weston
Tel: +44 (0)1282 693477

WORLD CRANE AND TRANSPORT SUMMIT
10 – 11 November 2011
Amsterdam, the Netherlands
www.khl.com/wcts

2012

THE EUROPEAN ROAD TRANSPORT SHOW (TERTS)
16 – 21 April 2012
Amsterdam RAI,
The Netherlands
www.roadtransportshow.nl/terts2009/e/home/default

INTERMAT 2012
16 – 21 April 2012
Paris, France
www.intermat.fr

M&T EXPO 2012
29 May – 2 June 2012
São Paulo, Brazil
www.mtexpo.com.br

HILLHEAD 2012
19 – 21 June 2012
Buxton, UK
www.hillhead.com

INTERMAT MIDDLE EAST 2012
Autumn 2012
Abu Dhabi
www.intermat.fr

Picture of the month

An abandoned fixed-base lattice boom crane sits at the entrance to Henraux Cervaiole Quarry on Monte Altissimo, in the Apuan Alps, Italy. Alec Dalglish photographed it during a visit to the working marble quarry. "A manager of 50 years' experience at Cervaiole recalled that when he started, it took a team of seven men hauling on a rope to achieve what a loader does today," said Dalglish. "The marble on the Monte Altissimo has been popular since Michelangelo took a look in 1518. This crane is probably more recent.

PEOPLE NEWS

■ Two board members at Demag Cranes AG have decided to leave the company following its takeover by Terex Industrial Holdings AG.

RAINER BEAUJEAN, chief financial officer, and **THOMAS HAGEN**, chief operating officer, made use of their special termination rights and will leave the management board by no later than 30 November 2011.
Both have been in their positions at the company for nearly five years. "I regret very much the decision that Mr Beaujean and Mr Hagen have taken, but understand why they have chosen to seek out new challenges after the successful takeover of Demag Cranes AG. I would like to thank Mr Beaujean and Mr Hagen for their excellent work and wish them all the best and every success for the future," commented Burkhard Schuchmann, chairman of the supervisory board.

■ Manitowoc Cranes has appointed two people to its management staff in Australia.

KELVIN KENT is general manager of Australia and New Zealand crane operations, and **NEIL HOLLINGSHEAD** is sales and marketing director for Australia.
Kent brings 30 years of experience in the construction equipment industry, including previous positions with Atlas Copco, Compair, JCB, Eagle Equipment and former Grove crane dealer, Banbury Engineering. Hollingshead joined Manitowoc in 1989 as an apprentice technician. His most recent position was global product director for all terrain and rough terrain cranes.

■ **WOLFFKRAN** is expanding its sales network in Germany with a view to achieving increased growth in the domestic market. The company has employed two new sales representatives with multi-regional responsibilities. **THOMAS ODENBREIT** will be pursuing sales in Western Germany, and **WOLFGANG KAVELIUS** in Southern Germany. The team is being managed by **ANDREAS KAHL** who took on the role of managing director of Wolffkran Germany at the beginning of 2011.

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

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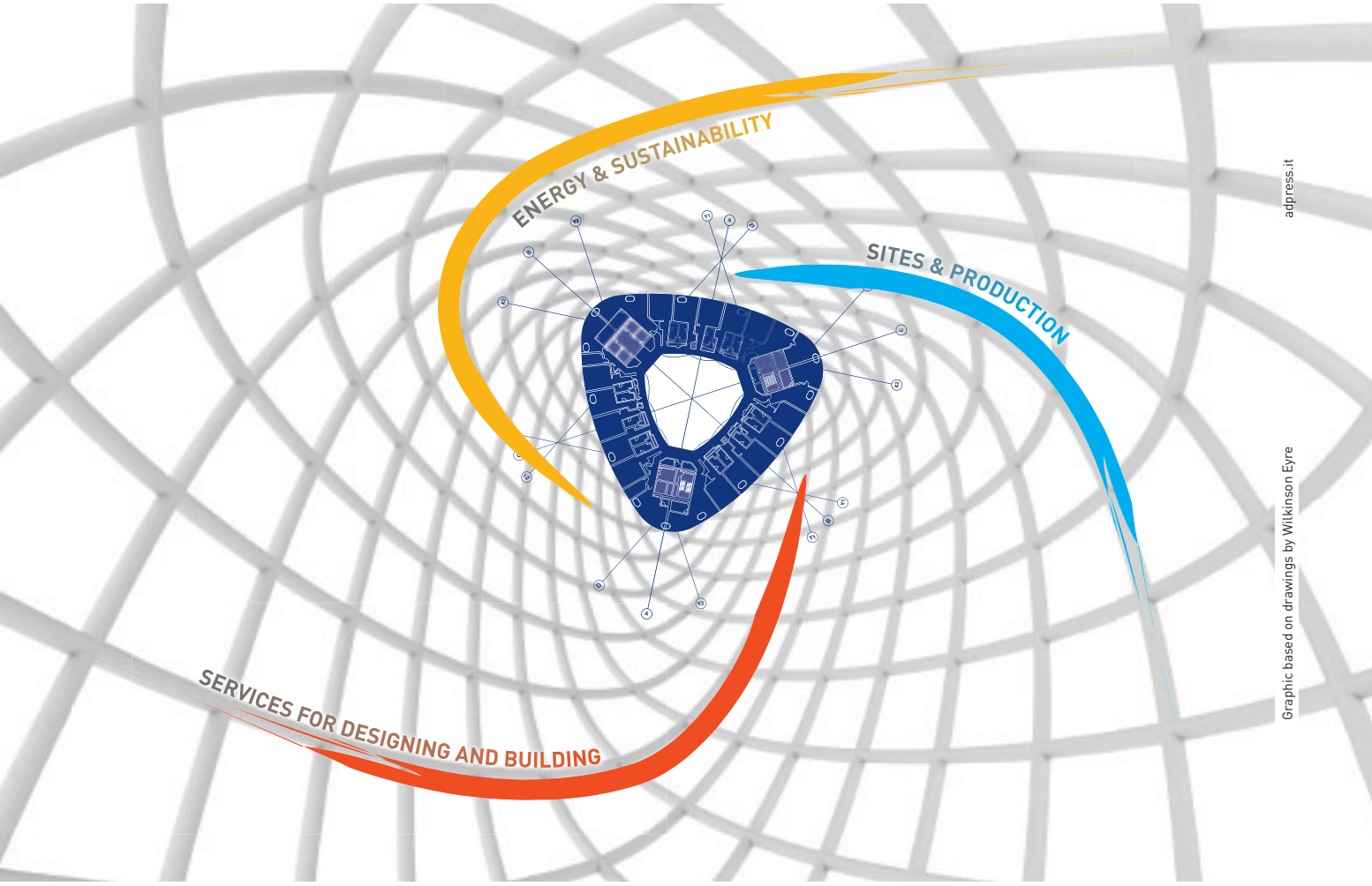

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2 ORGANIZATION TYPE

- Construction contractor/consultant ☐
- Crane rental ☐
- Specialized/Heavy Transport ☐
- Industrial establishment ☐
- Docks/Harbours ☐
- Manufacturer of lifting equipment ☐
- Agent/Distributor ☐
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- Utility ☐
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- Other

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