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Full steam ahead

After several years in the doldrums, tower cranes are making a big comeback reflecting the growing economic confidence. This is particularly true in the UK where business is booming and for one company in particular - HTC Plant - certain cranes are in short supply and utilisation rates are high as sales director David Lawrence explains.

The UK market for tower cranes is unusual in that the vast majority of the cranes in use are rental machines, with the main rental companies - some of which are owned by contractors - also being manufacturer's agents/dealers. Sheffield-based HTC is the UK dealer for Wolffkran.

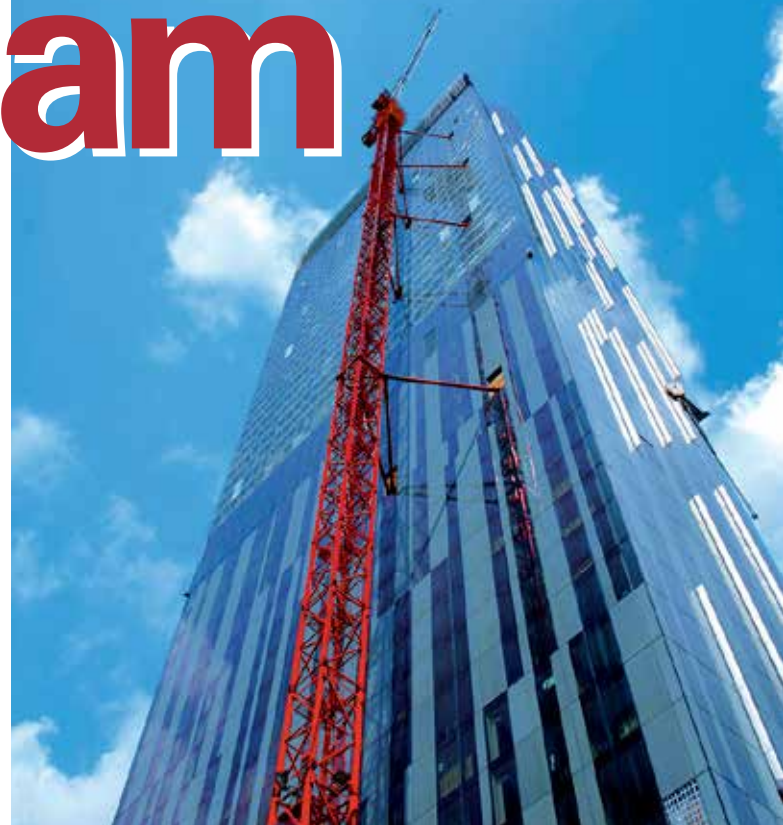
"Work is absolutely manic at the moment," says Lawrence, "we are running at a high utilisation - up above the 80 percent level which in reality is a sensible maximum, given the time required to turnaround and service the cranes properly. To satisfy demand we are bringing in cranes from all over the world. Not so long ago it was totally the opposite, with a yard-full of cranes and no work."

"Business started to pick up about 18 months ago but then eased off, with many anticipating another false start, however it came back and has been steadily rising ever since. We are taking orders for 2015 and



beyond and are warning customers to let us know of future work now because on certain types of cranes we have no availability until the end of the year. Considering the recent history that is unbelievable," he says.

This demand is a result of the improving economic climate in the UK and the amount of new contracts starting - most of which are in London and the South East, but the pick-up is also starting to move north, with work in Manchester,



Liverpool, Leeds. "Northern cities are starting to buzz again," adds Lawrence.

Because HTC only supplies the larger luffing and saddle jib tower cranes used by major contractors, it may be slightly busier than some other tower crane rental companies, but Lawrence believes that demand is increasing for all types of tower cranes in the UK, with growth likely to continue.

"Supplying luffing jib cranes is a big problem at the moment. These are popular in the UK due to the issue of breaching over-sailing rights, and therefore they are particularly popular in the London area, but we are now also having problems sourcing saddle jib cranes as well."

HTC tends to work for the major contractors working on larger projects - including Mace, Lend Lease and BAM etc - and currently has a fleet of 246 cranes made up of saddle and luffing jib cranes.

The company has added numerous new cranes to the fleet over the past few years mostly luffers including 15, 166Bs, 244Bs and 355Bs which are all out on hire. "We also invested a lot of money in Costain's London Bridge project with a 355B and a 700B currently on site and a further two 700Bs on order. With each 700B costing around £1.2 million it is a significant investment. The contractor is very

happy with the cranes and the contract is going well for us."

Wolff entered the hydraulic luffer market in 2012, with the 166B which according to HTC is proving very popular. "Wolff designed the 166B hydraulic luffer specifically for the UK market because it can be parked at a much steeper angle than regular luffers, reducing the out of service radius. It is a very strong crane compared to other hydraulic luffing tower cranes. We have sold one to London-based City Lifting. The UK is one of the largest tower crane rental markets in the world,



HTC currently has a fleet of 246 cranes made up saddle jibs and luffers.



Working on the Café Royal contract in London



Wolff W180B

A little background on HTC

HTC was formed in late 2002 when P C Harrington Holdings acquired the tower crane division and staff of Hewden Stuart. The sale came two years after one of Hewden's tower cranes collapsed at Canary Wharf, killing three employees. The high profile incident dragged on for more than eight years, but all liability remained with Hewden. As part of the acquisition, Harrington retained the distribution of Wolffkran in the UK and Ireland.

In 2009 HTC Plant acquired the 300 strong hoist division of Hewden Stuart - the largest hoist fleet in the UK (all Alimak) as well as all 75 staff and the dedicated locations of Glasgow, Leeds and Chawston (St Neots). In August 2013 it added Kier Plant's 39 strong tower crane fleet as well as some crawler and Rough Terrain cranes. Its Sheffield HQ was expanded in 2009 with a further eight acres to allow for continued expansion. In the same year it purchased new depots for its St Neots and Glasgow based hoist operations, with improved facilities and purpose-built workshop.

and retailing a new crane is quite rare. I am surprised that smaller builders do not buy their own tower cranes. In continental Europe the self-erectors and small city cranes are regularly used on single home developments."

Expanding the HTC fleet?

"The HTC fleet has grown over the last year and includes the purchase of 39 tower cranes from Kier last August, together with four crawlers and four RTs," says Lawrence. "It is a varied fleet and includes



Erecting a 700B luffing jib crane

equal numbers of Liebherrs and Potains. All are relatively new but by

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Battersea Reach Development

reating the Kier engineers looking after the non-Wolff cranes is not a problem. We don't want to expand the fleet too much - between 230 and 250 cranes is about the right number - but we are looking at changing the mix to suit the work load. We do not do much with

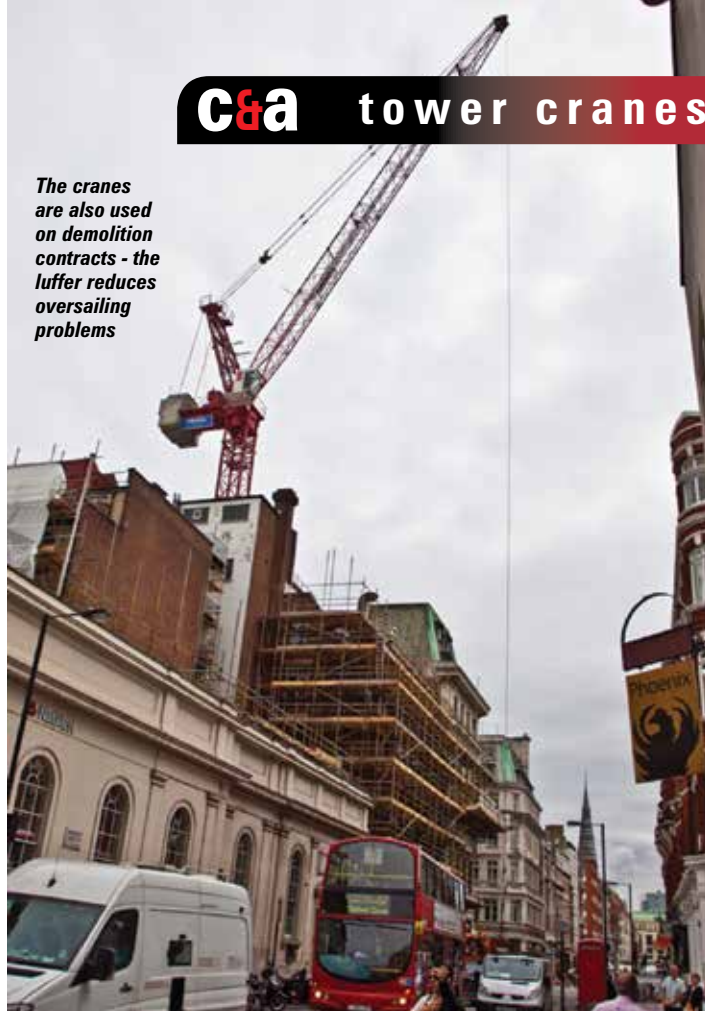


house builders so the smaller saddle jib cranes are underutilised, so we will sell off the smaller cranes and replace with larger saddle jibs or luffers."

Wolffkran recently launched a new six tonne flat top 5014 City crane which can handle 1.4 tonnes at its 50 metre jib tip, and when erected on its TFS15 tower it offers free-standing hook heights of up to 43.5 metres. Depending on the requirements the 5014 can be operated from remote controls on the ground or from the optional cab. The radio remote controller features a full digital display that not only provides the load data of the crane but also shows wind speeds, hook height, rotation angle and error messages.

Unfortunately this is of little interest to HTC. "The 5014 City is a good crane and very easy to erect but we will not be adding any to our fleet because it is too small," says Lawrence. "It is really aimed at the European market and is a city centre crane for sites where over-sailing is not a problem. What we need is a luffer to fill the gap between the 16 tonne 180B and the 28 tonne 355B. Something in the middle would be ideal and we understand that Wolff is looking at this sector."

HTC is booking more and more work into next year and beyond. "You



The cranes are also used on demolition contracts - the luffer reduces oversailing problems

tend to have a five year economic cycle with tower cranes but we appear to be on a steady upward climb - and still rising. All the large property developers in London say that money is being released for

projects yet to be started so it will continue for a while yet."

With a consistently high utilisation and plans to limit the fleet to around 250 cranes, has the time come for



HTC is currently running at a utilisation of more than 80 percent



strategic decisions to be made? "We have to seriously think about prioritising clients and look after those that have looked after us over the years," says Lawrence. "Rental rates are steadily improving but in a lot of cases they are still 50 percent of pre-crash levels and on par with 2002 levels. At the same time labour rates continue to increase - we have increased wages for operators and engineers over the past two years, coupled with the pension scheme this is sizeable rise in wage costs. We are looking at the long-term picture and being sensible on rates when working with our clients. The problem with any recession is the lack of investment in equipment and therefore an aging fleet profile. We need to invest heavily in new cranes over the next five years but are becoming a lot more selective about the type and size of cranes we buy." Construction techniques are changing with an increase in module sizes, with a move towards quick-build rather than on site fabrication. "Completed building pods/modules may now weigh eight to 15 tonnes, compared to three tonnes in the past. Some demolition jobs that would have used a 180B now require a 500B, as bigger chunks of the building - up to 20 tonnes - are removed at one time. Steel construction is also going heavier - if they could lift 100 tonnes they would. Every job involves bigger lifts. We usually get involved with contracts from day one becoming part of the contract. Some future jobs we are looking at involve lifting 15 tonne pods at 35 to 40 metres radius - which a few years ago you would not have been dreamed of. Another is looking at lifting six tonnes at 60 metres. The larger modules along with cladding panels



weighing up to six tonnes, speeds up the build time but require bigger cranes."

Rapid site starts

"Thanks to the length of the recession many sites were left undeveloped after demolition was completed. As this all comes back to life however, we do not have the usual six month run in to the start of a contract during which all the planning can be done. With the site



Oversailing - what you need to know

It is a basic principle of English law that the rights over your land stretch from the centre of the earth all the way to the stars. Legislation allows aircraft to pass overhead legally, but for those closer to ground level - such as a tower crane jib - swinging over adjoining land is trespass. In the UK there is legislation and it is enforced. A contractor must obtain the right to oversail adjacent property and this may be required from both the owner and tenants. Failure to obtain this may require a complete rethink to the design, method of work and type of crane or other lifting equipment used, which may mean huge additional costs.

Adjoining owners do not have to show any damage has occurred to obtain an over-sailing injunction. The problem with a saddle jib crane is that even if the contractor can limit the slew while working, tower crane safety and stability requires it to slew freely in the wind (weathervaning). Hence the popularity of luffing jib cranes with small out of service radii.

Land owners may demand a fee for over-sailing rights, however land owners must be aware that rejecting a sensible fee from a contractor may backfire. In the case of Woollerton and Wilson v Richard Costain (1970) the claimant refused to grant a licence despite Costain offering a substantial cash sum. When the claimant then obtained an injunction the court controversially decided to suspend the injunction until the contractor's works were complete. By holding a contractor to ransom, a land owner may prejudice his rights to an injunction.

As an adjoining owner approached to grant a crane over-sail licence, consider your own future development plans. It may well be better to secure your own arrangements for the future by agreeing mutual crane over-sail arrangements which may be far more valuable than receiving a fee for a licence.

Over-sail licences can be costly, especially if a large number of landowners are involved. All need to be granted separate licences if the crane over-sails their respective space. A few contractors have managed to off-set some of this cost by using the jib as advertising space, though this use may be restricted by both legislation and the title deeds.

already at ground level you can get an enquiry today for a crane to be on site in one month."

"At the height of the boom in 2008 we saw 92 percent utilisation - that dived to 19 percent. We could be 92 percent now if we wanted, but we are being selective in what we do. 80 percent is ideal but only by choosing the clients and contracts. Get the cranes right and you will continue to grow."

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New product launches

The improving economy around the world has resulted in a more buoyant tower crane market. Over the past few months many manufacturers - including Terex, Liebherr, Potain, Wolff and LUXcranes - have all launched new models and there have been several major industry developments.

The latest new model launch is Terex Cranes' largest luffer, the CTL 1600-66. With a maximum capacity of 66 tonnes it can lift 16 tonnes at its maximum jib length of 75 metres. It has a much larger capacity than the company's previous largest luffer - the CTL 650F-45 - with a maximum capacity of 45 tonnes and can lift seven tonnes at its maximum 65 metre radius. The Terex range now covers capacities from eight to 66 tonnes, jib lengths from 50 to 75 metres with jib tip capacities of 1.8 to 16 tonnes.

The new luffer uses a 12.5 metre square base with the electrical box

on the tower access platform, above the ballast. This has two advantages - being out of the way and difficult to reach for non-authorized people, and also a better solution when used with a travelling chassis. There are also two tower platforms which aid assembly. The Terex HD33 tower system is used, with its six metre by 3.3 metre sections, pre-assembled ladder, tower platform, and a new connection system for improved safety and speed and lifting points for vertical and horizontal positioning.

Maximum free standing height on concrete, with this tower is 89 metres, or 87.9 metres on a fixed chassis, and 83 metres on a traveller. External and internal climbing is available to suit most requirements. A combination of fixed and mobile ballast gives the best balance when erecting and operating the crane. The amount of ballast varies with jib length - for 45 to 75 metres the mobile ballast consists of 10, 7.5 tonne blocks. For shorter jib lengths less ballast is required.

Jib lengths are increased in five metre sections from 40 to 75 metres and include LED warning lights and double platforms on the jib end. The foldable 'A' frame can be transported on one truck and is ready to be erected. It also includes an in-built ladder with anti-fall device, anemometer with wind direction and LED lighting.

All functions are frequency controlled for fast, precise load



The new HD33 tower system



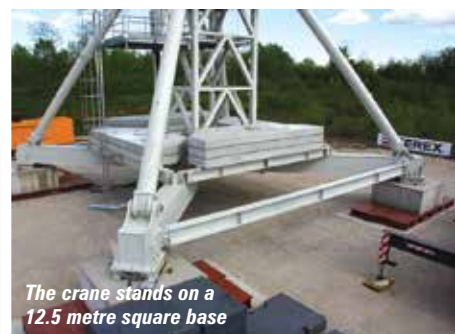
A combination of fixed and mobile ballast is best balance for erection and operation



The CTL 1600-66 can lift 16 tonnes at the end of its 75 metre jib



The winches and ballast



The crane stands on a 12.5 metre square base

positioning, the 150kW hoist has a maximum rope capacity of 960 metres and a speed of 185 metres a minute with 2.5 tonnes and 12 metres when lifting 66 tonnes. Tele Assistance allows all the relevant

data to be checked remotely, including historical data and work hours, active alarms and alarm history. The latest EVO 15 cab incorporates monitors for jib end and counter jib cameras.



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Ben Daugherty — Greiner Industries

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Liebherr adds a couple

Liebherr unveiled its new 53K self-erecting tower crane in March and has been carrying out final testing on its new 125 tonne capacity 1000 EC-B. The new 50 tonne/metre class 53K is based on Liebherr's K series concept and fills the gap between the 42K.1 and the 65K. The 53K is said to offer an improved erection system, more power, variability and safety features and has a maximum capacity of 4.2 tonnes and a hook height with horizontal jib of between 15.8 and 31metres. The telescopic lattice tower



The Liebherr 53K

features a rapid climbing system, allowing up to three additional sections to be added. The hook height can be increased to 43.1 metres when the jib is luffed to 20 degrees above horizontal. At its 40 metre maximum radius it can lift 1,100kg in two line mode and 1,000kg in 2/4 line mode. When the jib length is reduced to 28 metres, jib tip capacity increases to 2,000kg. The 53K can



Each stage in the climbing process on the 1000 EC-B 125 can be completed twice as fast as with conventional climbing equipment

be transported with full ballast on two trucks, while once on site its six metre wheelbase and compact slewing platform enables it to be manoeuvred easily. With a 4.2 metre square footprint and jib erection in the air it can be erected close to existing buildings. Liebherr's largest tower crane - the new 125 tonne capacity 1000 EC-B 125 unveiled at Bauma - is completing its test programme at

the Biberach facility. As well as the dynamic and static overload tests Liebherr is testing a new climbing system which, at around 45 minutes for each climbing stage, doubles the speed of conventional climbing equipment. The crane is aimed at wind turbine erection and power station and plant construction.

Potain updates luffers

Potain unveiled the MR 418 at Conexpo, the first in an updated line of luffing jib cranes each with full frequency-control mechanisms. The MR 418 features the optional 270 LVF 120 hoist introduced in 2013. The crane can be used with either one or two-fall reeving and is ideal for power plants or high rise buildings, including structures that exceed 200 metres thanks to its 830 metres of rope storage. In two-fall configuration a drop of 415 metres is possible while the winch can reach speeds of up to 254 metres a minute.

Maximum capacity is 24 tonnes and maximum jib length 60 metres. Luffing from the horizontal to almost vertical takes 75 seconds, well under the two minutes it says most luffing jib cranes of this size require. A new auto-levelling function allows the crane to move loads horizontally by using only the luffing motion, rather than the luffing motion combined with the hoist.

A new power control function adapts to varying power inputs, including lower power supplies on site. Automatic switching from a 50 to 60hz also makes the crane easier to move between countries. The luffing mechanism and hoist are mounted inside the counter-jib which reduces its size and a large service platform behind the cab gives access all the major service points. Manitowoc says it will launch further luffing jib cranes later this year.



Potain MR-418



Potain MR418 was launched at Conexpo

New LUXcranes luffer

MTI/LUXcranes has launched a new hydraulic luffing jib tower crane range, topped by the MTL220-10, the first unit of which is already at work on a site in London. MTI pioneered hydraulic luffing tower cranes, having distributed the Jost hydraulic luffing jib cranes in the UK and other markets. Having designed its own flat top cranes a few years ago, it decided to enter the market with its own hydraulic product, in order to control the design, development and product support.

The company has four models in the new range, the smallest of which is the MTL100-6 with six tonnes capacity - on two falls - and a maximum jib length of 45 metres with a 1.6 tonnes capacity at 45 metres radius. Other models include the MTL120-6 and MTL170-8 and the MTL220-10, with a maximum capacity of 10 tonnes, a 55 metre jib and a horizontal jib tip capacity of 3.1 tonnes.

All motions on all models are stepless frequency controlled, with low amperage draw and a CANbus electrical systems

built into the switchgear cabinet. One of the key features of these new cranes is their small out of service radius - 9.6 metres for all models - although when in service this reduces to two metres. The MTL cranes have been designed from the start to handle higher wind speeds - 161kph/100mph - than the latest regulations require. Maximum free standing heights range from 39 metres on the 100-6 to 54 metres on the 220-10, both depending on the towers and base used.

The first LUXcrane MTL 220-10 at work on a site on London





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Wilbert rescued

German manufacturer Wilbert Turmkrane - which was seeking new investors since going into administration more than a year ago - has been acquired by Chinese automotive sealing product manufacturer Nanyang Guoyo. Wilbert will continue to operate from its headquarters in Waldlaubersheim and Stomberg, Germany.



The new senior management team (L-R) Tao Chen, Ethan Pan, director, chief executive Franz-Rudolf Wilbert with senior director Kushuan Yituo Wang and Günter Kronewitter

Moritsch steps down at Terex

Martina Moritsch is stepping down as managing director of Terex Tower Cranes and will depart at the end of May. Moritsch is a member of the family that founded the Comedil and Recom tower crane companies. Comedil was acquired by Terex in 1999, with the full control of Recom, which built Terex luffing jib tower cranes, acquired in 2012.



Martina Moritsch

The company was rebranded Terex Tower Cranes in the same year. Moritsch, who has spent 28 years with Comedil/Terex, said that she felt the time was right to make a change. "It was an extremely difficult decision to leave a company that has been such a big part of my family and my life. However, with the tower crane market in recovery, I believe the time is right for me to step down so a seamless transition in leadership can be made to ensure the continued success of Terex Tower Cranes."



Marco Gentilini at the Terex CTL 1600-66 launch

Marco Gentilini, previously general manager of Terex Bendini, then head of Terex Cranes North America and now vice president of business integration will now lead the tower crane business in addition to continuing with his integration role.

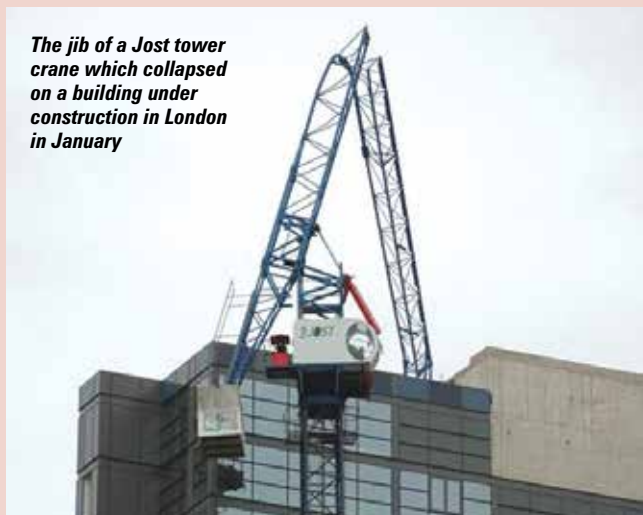
HSE issues alert

In the UK the HSE has issued a tower crane alert following the recent collapse of three Jost luffing jib tower cranes during high winds. Intended for tower crane operators it serves as a reminder that any luffing jib crane left unattended in the out of service condition must be in free slew with the jib at a safe out-of-service radius. It also says that operators must have the most accurate, up to date information from the supplier or manufacturer, as some manufacturers have recently changed their guidance.

Other actions required include checking: the correct minimum out of service radius, the function of the slew brake release mechanism, the condition of the slew drive motors, gearboxes and slew ring so that the crane is not prevented from slewing freely, the setting and function of any warning devices and that clear instructions on how to leave the crane in free slew are provided.

We understand that tower crane manufacturer Jost - the subject of the three latest luffing jib collapses all in a high out-of-service positions which appeared unable to fully weathervane easily - is now looking into structural modifications to its jib connections. All three and at least one earlier unit failed at the same point. It may recommend the use of a sail device to help weathervaning when the jib is left in its smallest out of service position.

The jib of a Jost tower crane which collapsed on a building under construction in London in January



1,000 Indian Potains

Potain has completed the 1,000th tower crane built at its Pune, India facility. The 1,001st unit, a five tonne MCi 85A, was shipped to local rental company Sai Infraequipments. Production rates at the Pune factory have almost tripled over the past six years to meet growing demand in the region. Potain was the first manufacturer to build tower cranes in India and is still one of the largest in the country with units sold as far afield as Peru.



(L-R) Raman Joshi and Ashwani Mattoo from Manitowoc with Kaththirvelu Ilango of Sai Infraequipments and wife Vasugi Ilang.

New Raimondi owner

The new owner of Italian tower crane manufacturer Raimondi - Prince Khaled bin Alwaleed Al Saud, owner of Saudi Arabian investment company KBW Holding - plans to spend around \$100 million on expanding the Raimondi manufacturing plant and has already confirmed a \$40 million investment to build cranes in Ceará, Brazil. The first production units are due off-line this summer. A new holding company KBW Brazil led by chief executive José Roberto Barbosa da Silva with headquarters in Santa Catarina has been opened.