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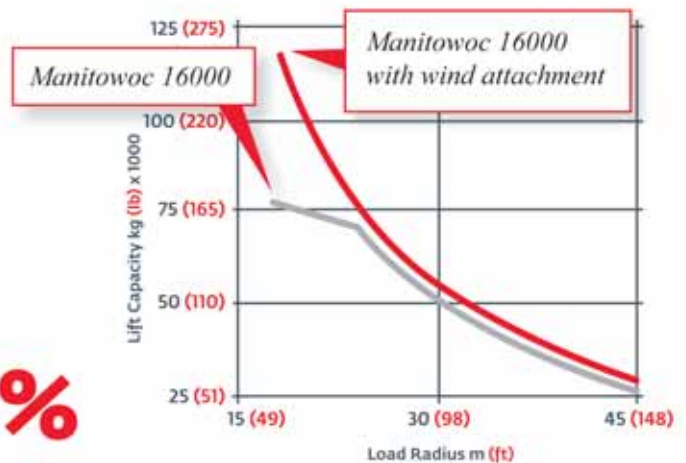
New Manitowoc 16000 wind attachment

The Manitowoc 16000 wind attachment makes a great crane even stronger. This new attachment allows you to lift larger turbines with the same highly reliable crane model. Whether adding this attachment to your existing cranes or buying a new 16000 with wind attachment, you will gain an impressive 49 percent lift capacity.

Wind attachment performance advantages:

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- Ability to set larger megawatt turbines
- Higher productivity in windy conditions

Load Comparison — Manitowoc 16000 vs Manitowoc 16000 WA



The Manitowoc 16000 wind attachment **increases** lift capacity **49%**

Crawling along?

The crawler crane market is currently a story of two, three or even four parts, all of which are performing quite differently through the current market slow down.

Ignoring spider and mini cranes which while they have tracked undercarriages, have very little if anything else in common with the rest of the market, the four-way split is between telescopic boom crawler cranes, small to mid-sized lattice cranes up 200 tonnes or so, 250 to around 750 tonnes and the larger models. A quick look at the main geographic markets we cover suggests that demand for telescopic crawler cranes continues to grow faster than availability, keeping rates and utilisation strong. While the day to day lattice crawlers used on commercial or institutional construction and road building continue to struggle with falling utilisation and rates. Meanwhile the larger crawler crane sector - on a worldwide basis - is generally buoyant thanks to demand from the oil and gas and petrochemical market, not to mention wind power. The only exception to this might be at the top where orders for the very largest crawler cranes from Liebherr, Terex and Manitowoc seem to have dried up - at least for now.

The soft middle market - the largest sector in unit terms - is causing crawler crane rental companies such as Essex in the USA to accelerate plans to sell off smaller models and migrate to larger crawler cranes, where it says the returns are better. Meanwhile fellow American All Erection continues to add more Link Belt Telescopic crawlers to its fleet, suggesting that it is experiencing some decent demand and returns. Some of the global companies such as Mammoet continue to add at larger mid-range crawler cranes, having taken delivery of a good number of 180 tonne Kobelco cranes this year, but they are generally destined for emerging markets where demand for crawler cranes in the 60 to 200 tonne bracket is still very strong, thanks to the vast amount of basic infrastructure work going on. Kobelco, the international market leader is anticipating further growth here and with an eye to Chinese manufacturers such as Sany, which are looking for a slice of the action, it is opening two new crawler crane facilities, one in India which is due to start production this month and one in China, due to start shipping cranes up to 250 tonnes during the third quarter next

year. Kobelco says that it expects the Indian market alone to grow from around 200 units this year to more than 700 units by 2016.

In the UK Mark Darwin speaks with Rod Abbot of crawler crane rental company NRC who celebrated his 50th anniversary in the business this month. We then wrap up with a look at some new product developments and a few interesting job applications.

Technical developments

In the 12 months or so since our last feature on crawler cranes there have been few earth shattering product developments. The most significant might be the very recent unveiling of Liebherr's new Power Boom, (See box story) which it says can boost long boom and jib capacities by more than 50 percent, with very few additional components. What will be interesting going forward is to see if developments such as this and Manitowoc's variable counterweight system - both developments from their flagship models - are transferred to smaller more mainstream crawler cranes?

On the day to day development manufacturers have been focusing on new engines driven by regulatory pressure and other environmental improvements. At Conexpo Kobelco announced its new G series cranes which will be fully EPA Interim Tier IV and EURO stage IIIB compliant, but more importantly introduce all manner of efficiency savings from transportation and rigging to better fuel economy - up to 30 percent better - thanks to adopting technology from the automotive sector such as auto-idle stop/start and low RPM hoisting. The G models will eventually cover

Kobelco's range up to its popular 250 tonner and models are expected to start coming off the line early next year.

At the other end of the spectrum Manitowoc has stepped up its Encore rebuild programme, which given the low rate of returns for crawler cranes in the 50 to 150 tonne range offers to completely



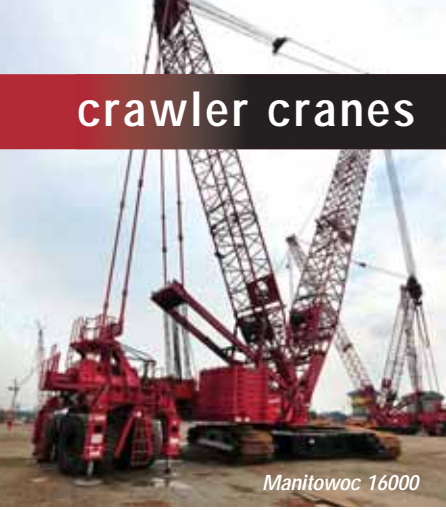
Terex CC6800-1



Sennebogen 683



Kobelco CKE 2500-2



Manitowoc 16000



Manitowoc 18000



Kobelco BM900HD

rebuild them for around half the cost of a new crane. At Conexpo earlier this year the company showed a 1996 Model 888, owned by Turner Industries Group, which had clocked up more than 20,000 hours working along the U.S. Gulf Coast region on general construction, chemical and petrochemical projects. The crane, rebuilt at the H&E facility in Louisiana, was stripped to its base components and subjected to a thorough structural test procedure and rectification and then rebuilt with new or refurbished components to modern standards. The renewed machine carries a factory warranty and has the benefit of using the full suite of crane attachments that Turner has for it. Manitowoc is

appointing certified Encore rebuild centres at a steady pace, although the requirements are high and standards strictly enforced. The benefit to the customer is a like new factory rebuild without having to ship the crane back to a Manitowoc facility.

Finally the Chinese manufacturers continue to push hard into the international crane market and nowhere are they more advanced than in the crawler crane sector. Sany leads the way, having launched a 3,600 tonner this year following its high profile appearance at Conexpo. Since then it has gone on to appoint a number of dealers in the USA one of which – Four Seasons Equipment of Houston

Texas, has ordered 17 of its SC8100 - 100 ton crawlers for delivery into 2012. Meanwhile another - Imperial Crane has put a 300 tonne Sany SC8300 to work on a wind farm in California. In September the company opened its massive new facility in Peachtree City Georgia. At the same time Zoomlion switched its crawler crane distribution rights from its concrete pump dealer CIFA to Bigge backed Global Crane Sales, making the announcement at Conexpo, it sold the first unit, a 260 ton QUY260 to Axis Cranes of Portland Oregon.

So while the pace of radical new development appears to have been slow, over the past 12 months, there is still a great deal going on.



Sennebogen 643

Liebherr unveils Power Boom and improves narrow crawler mobility

Liebherr has unveiled its new Power Boom which it claims significantly increases long boom and jib capacities, while using few non-standard components. Designed initially for the 3,000 tonne LR13000, the company is currently testing it on the 1,350 tonne LR11350 and could make it available on other models in its range.

The Power Boom principally comprises two unique components - a butt-section/base boom adapter - the Lower P-Adapter - that converts the crane's single pivot point into a twin boom configuration and a top adapter - the Upper P-Adapter - that converts the twin booms back to a single boom for the tip. All other boom sections are standard intermediate sections. Liebherr says that in some parts of the chart improvements exceed 50 percent for both main boom and luffing jib, due to greater torsional stiffness. The Power Boom can also be retrofitted to existing cranes.

Another benefit with this design is that buyers can buy one set of Power Boom adapters for use over two or more cranes, or they can purchase them later on should a job require a stronger boom. Liebherr says that the Power Boom will play a major role in the future developments of its new cranes and is part of a range of measures to

optimise lifting capacities and extend the 'application spectrum' of various models in the 600 to 750 tonne range. A further development is a pin-on superstructure frame extension for its 600 tonne LR 1600/2-W narrow-track crawler crane which allows the main counterweight to be reduced from 190 to 150 tonnes. A separate carbody ballast of up to 65 tonnes can also be added. The changes enable the crane to move with up to 108 metres of main boom and 12 metre fixed jib.



Liebherr Power Boom upper adapter



Liebherr LR1600



Liebherr upper boom adapter



Liebherr LR11350 Power Boom

A work of art

C&a crawler cranes

The Liebherr LR11350 lifts the 81 metre diameter lattice dome clear of the old stadium, originally a cattle market, and starts to slew



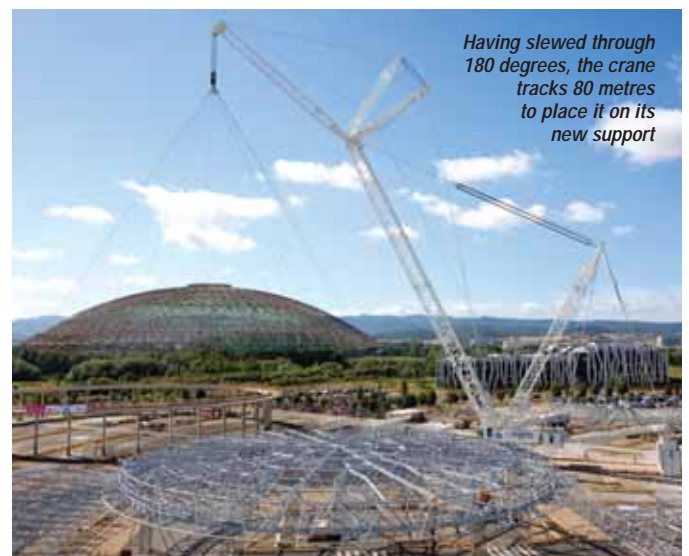
When the Spanish basketball team Saski Baskonia needed to expand its stadium from 9,900 to 15,000 seats, one thing was clear, the impressive 81 metre diameter lattice dome would have to go. However the dome had significant architectural merit and had become a symbol of the Basque city of Vitoria-Gasteiz's and something of a tourist attraction. Dismantling the dome was investigated by experts who considered that this would effectively have destroyed the 37 year old work of art.

A plan was devised to lift it off in one piece and move it around 200 metres and place on top of a circle of columns where it would have some future use. Given the availability of cranes a tandem crawler crane lift was considered but then dismissed as too difficult, given the challenges of rigging two cranes up symmetrically to the delicate 200 tonne structure along with the cost of laying more than 320 metres of reinforced track across the existing car park. Heavy haulage company Usabiaga provided the solution using its new Liebherr LR11350 crawler crane which was due for delivery this July.

The crane was shipped directly from Liebherr's plant in Ehingen to the stadium and rigged with 130 metres of boom and jib together with a 42 metre back mast, 830 tonnes of main

counterweight, plus a further 600 tonnes of suspended ballast at 30 metres radius. The dome was connected by 24 metre long steel cables connected to a two metre diameter circular lifting 'beam' in order to minimise stress and deflection within the dome.

Operator Andrés Guerra took the weight of the dome and rigging - a total of 218 tonnes at a radius of 70 metres - and then carefully lifted it clear of the stadium's columns. Once clear he started tracking away from the building and slewed the load 180 degrees towards its new home. It then took just one and a half hours to cover the 80 metres before the crane could reach the new resting place. The main concern was that if the dome had suffered any deformation it would not have fitted the new structure but there were no problems.



Having slewed through 180 degrees, the crane tracks 80 metres to place it on its new support



The dome safely on its new base

Golden age of cranes

Rod Abbott managing director of UK-based crawler crane specialist NRC has been around the crane business for quite a while and this year celebrates 50 years not only in the business, but with the same company. Last month he spoke to Mark Darwin about his time in the business and the crawler crane sector.

In 1961 a 15 year old Rod Abbott left school and started a five year apprenticeship with Neagron Plant. Although Abbott had only a few qualifications - an RSA (Royal Society of Art) in maths and metalwork - he was taken on by Neagron Plant's managing director Ken Gibson and went on to achieve a HNC in Plant and Engineering. Gibson, obviously seeing talent in the young man continued his education, sending him to the LSE and Chamber of Commerce in London on a business studies and accountancy course. Over the following few years he gained practical experience working for short periods in almost every crane factory in the UK - including Priestman, Coles Cranes in Sunderland, Neal Cranes in Grantham and NCK - which must make Abbott one of the most experienced and knowledgeable people in the crawler crane industry.

As Abbott was finishing his apprenticeship, Neagron - formed in 1951 - was in the process of building up its fleet of cranes, purchasing its first crawler, a 12 tonne NCK 205, in 1966. The company was also a founder member of the Contractors Plant Association (CPA) that same year.

"For its time the NCK was quite a modern machine," remembers Abbott who used to travel around the world bringing cranes back to the UK for overhaul. "We became the NCK dealer in the UK and like Ruston Bucyrus at the time, offered various levels of crane overhauls.

In 1972 he set up Raymoore Engineering & Test Division which still exists today, offering various crane testing services drawing on 1,000 tonnes of test weights. Abbott was made director in 1980.

NRC Plant was formed in 1986, the amalgamation of Neagron Plant and Raymoore Engineering. However, it was 1980, the year Abbott was



Rod Abbott (circled) in 1961 with other Neagron Plant employees.

made director - that Gibson foresaw the demise of the British crane industry. Coles had taken over Priestman and ran the company down in a similar way NCK had been taken over and moved to Bristol.

"Our fleet at the time included about 30 Priestman cranes while the remainder were NCK," says Abbott, "it was therefore a worrying time as a dealer and rental company."

when we were appointed and I still have a couple of the original gearboxes all these years later, simply because they don't break down," he said. "The main reason Laing did not succeed was that Sumitomo did not want a contractor representing them - it wanted an experienced crane company."

Bringing the NRC story up to date Sumitomo merged with Hitachi in 2003 and in 2008 was also



Neagron Plant's Barking depot in the early 1970's

Scouting for cranes

"I was sent (now as technical director) to Japan to check out other manufacturers including Kobelco, Sumitomo and Nisha as potential replacements, should the UK crane manufacturers collapse. We instantly felt an affinity with Sumitomo because we had a similar 'family' philosophy in the way the company was run. After several months of discussions we were appointed UK and Ireland dealer in 1988."

However Abbott revealed that NRC was not the only company looking to distribute Sumitomo in the UK. Laing Construction was also in the hunt and had gone as far as purchasing spare parts to support their distributorship bid.

"We bought the parts off Laing

appointed Link Belt crane distributor for the UK and Ireland following conversations at Bauma 2008. As the American company does not currently have European dealers, NRC also acts as European and Africa master distributor.

Demise of UK crane makers

"It is a shame about the demise of the UK crane industry," he says. "There were so many companies with so many innovative ideas. I have heard noises recently of using the UK's engineering expertise to once again to design and build (not just assemble) cranes in the UK. I for one would like to support this if it ever happened."

Abbott remembers the innovations on Priestman cranes of old such as when it was the first crane fitted



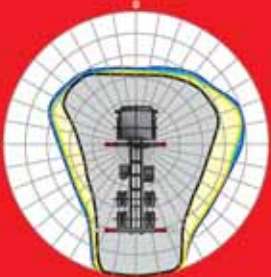
An early Neagron Plant NCK 605 3B

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with tapered rollers (not conventional balls) and fitted with integral gearboxes. It also manufactured the first 80 tonne hydraulic crane - the Rhino crane - in the early 1980s.

"The tapered roller slew ring was real precision engineering, I am sure that if the company had survived and had adequate investment it could have been a major player in today's market."

A few years after winning the Sumitomo distributorship, Abbott and four other directors were involved in a management buy-out of NRC. He was also the only director to survive when the company was bought by tunnelling and civil engineering company Joseph Gallagher in 1997. Since this time Abbott has been a non-shareholding managing director of NRC Plant, with full autonomy in the running of his side of the business. Today NRC's two crane distributorships offer a good range of crawler lattice and crawler telescopic cranes and is combined with a 90 strong, one-brand crawler crane rental fleet, one of the largest in the UK.

"Our Hitachi-Sumitomo fleet consists of about 60 lattice crawler cranes from 35 to 275 tonnes and 30 telescopic crawler cranes from 4.9 to 70 tonnes which includes the new 70 tonne Link Belt TCC 750 although this will extend to the 100 tonne TCC1100 next year and eventually to perhaps 150 or 175 tonnes if Link Belt continues its telescopic development."

Crawler crane market

"The sales market this year is generally quite slow with only a relatively few cranes purchased, but we have issued more quotes over the last six months than for several years," he says. "The huge impending contracts such as Crossrail - the massive rail line Maidenhead in the west to Abbey Wood in the east via 21 km of new twin-bore tunnels under central London - and Hinkley Point power station coupled with our good location near London means that we will hopefully pick up quite a bit of business. However contracts such as these require the very latest cranes with specifications including Tier 3B engines and particulate filters. On a 90 tonne crawler this might cost in the order

of £30k!"

"On the rental side, utilisation is high but rates range from very poor for the smaller 50 to 70 tonne lattice crawlers where there are too many machines in the market but get progressively better as capacity increases. Prefabricated components - such as beam rebar cages - are getting larger and heavier creating a demand for everyday crawlers up to 120 tonne capacity. The crawler telescopic rates are generally good," he adds. "For example the small eight tonne telescopic has the same rental rate as a 50 tonne lattice."

Improvements in the design of telescopic crawler cranes with reduced boom weight over the past few years mean that the performance and price gap between lattice and telescopic has narrowed. However the major advantage of telescopic crawlers is versatility and ease of movement without the considerable cost and space needed for re-rigging. The concept is now starting to catch on - particularly with younger engineers who embrace the concept realising that while the weekly rate may be slightly more the overall costs are reduced. Unlike mobile cranes, most rental contracts last at least a few months.

"Crawler crane hire is much slower paced than mobile crane hire. We have more time to think and plan," he says. "We are happy to both rent and sell crawlers and with very good residuals, now is a good time to consider purchasing. The future looks reasonable, not much this year but looking further ahead. This year we have sold a number of 70 tonners and a few of the smaller Hitachi eight tonners, but sales must be down 65-70 percent - compare this to 36 big crawlers I sold in the good times. At times like these, we are glad to have the hire fleet, although there might be some



NCR's telescopic crawler fleet ranges from 5 to 70 tonnes



NRC Plant has the facilities to carry out its own engineering work such as this high-lift cab



good sales news towards the end of the year."

Although not a finance house, NRC has formulated a finance package - variable interest with equalised payments - with HSBC bank that several customers have found useful when purchasing equipment. The package means constant 10 monthly payments over say a five year period, allowing either early or extended payment time depending on the interest rate changes during the loan.

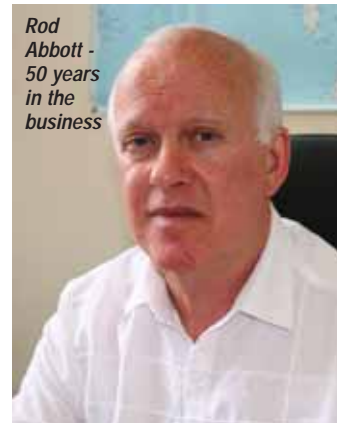
"I really believe that the telescopic crawlers will have serious share of the market," says Abbott. "You can never do away with the lattice boom machines for heavy duty applications and piling etc. However I am still surprised that the major mobile rental companies have not yet gone for telescopic crawlers yet."

50 not out

In spite of a long and successful career, Abbott has no plans to retire just yet. And even when the younger NRC Plant generation does take over at some point in the future, he would still like to be involved, perhaps with negotiations with the manufacturers - part of the business that has taken a long time



to build up, but nowhere near Abbotts golden 50 years in the industry.



Rod Abbott - 50 years in the business

Cranes, planes and access platforms

Two 600 tonne Terex CC 2800-1 lattice boom crawler cranes owned by Maxikraft Kran und Schwerlastlogistik worked in tandem with several other telescopic cranes, to erect the massive front section and central roof truss of the new aircraft maintenance hangar at Berlin-Brandenburg International airport.

The first lift was the 153 metre long, 12 metre high and 1.4 metre deep door truss frame weighing 613 tonnes. The enormous truss supports the hangar's massive 153 metre long roll-up door which will allow aircraft to enter the hangar anywhere along the building's façade.

Site manager Karl-Heinz Große said: "We had to erect the central roof truss which weighs around 240 tonnes at the same time as the door frame, in order to make sure that the building was structurally stable without the need for expensive bracing. A total of seven cranes participated in the lift so precise coordination was critical. A total of 12 synchronised radios were

provided to the crane operators, signallers and the head of operations in order to ensure that information and instructions were immediate.

The door truss was raised by the two big crawlers working with 60 metre main booms, with the help of two 500 tonne telescopic cranes to provide stability at the centre of the long truss. Once lifted the truss was tracked 15 metres into position and then raised to its 30 metre installation height between the side walls. Teams then worked from large self-propelled boom lifts to connect the truss to the corner posts. The two 500 tonne cranes continued to support the centre of the door truss, while the two big crawlers unhooked



Up goes the truss to be bolted to the side walls

from the door truss to lift the central roof truss into place, this time assisted by two 300 tonne telescopic cranes. The roof truss was then connected to the door

truss and the rear wall frame, providing overall structural integrity. The job was completed on time by 10pm and most importantly before a heavy thunderstorm arrived.



The cranes prepare to lift the massive door truss

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