

Where next for All Terrain?



Grove's new GMK6300 boasts an 80 metre main boom

After several of the strongest years ever for All Terrain crane shipments, the second half of 2009 showed a significant decline in sales, particularly of smaller models. 2010 as a whole may well be no better, although demand for larger units continues. After 10 years or more of rapid new product development and a massive broadening of the market away from its birthplace in Western Europe what do the next 10 years hold for the mobile crane of choice?

The well-documented economic melt-down may well now be in the recent past with confidence and profits returning to the banking sector and growth beginning to creep in again, however crane manufacturers and rental companies are likely to experience a poor year, particularly in the mobile crane market which traditionally lags the rest of the economy.

For most manufacturers and distributors the period from 2006 through early 2009 was the best ever in terms of All Terrain crane sales. Demand for all sizes was at fever pitch with long lead times driving up used crane prices to levels which encouraged rental companies to turn over their fleets more rapidly as rates began to look

sensible again. Rental companies also took the opportunity to trade-up as manufacturers really pushed the boat out on new product development. The new products themselves offered improved productivity with longer booms, better capacities and easier road travel, helping generate a healthy replacement market.

Geographical spread

The 'churn' has helped send used All Terrain cranes to markets all over the world, often introducing the concept to markets previously dominated by truck and Rough Terrain cranes. This should be good news for the long term potential of All Terrain crane sales, however the buoyant market of the past few years has masked a significant problem at the bottom end of the

market, the 25 to 50 tonne taxi crane sector. The cost of a new two axle All Terrain crane is simply too high for the day to day rental market in most countries. This issue has been reflected in the product ranges of most manufacturers - few of which now produce an AT crane under 35 tonnes.

In China and the Middle East this sector is still served by the cheap and cheerful 25 tonne truck crane, which is perfectly suited to day-to-day jobs, such as lifting large loads off or onto trucks, placing heavy items or short term cycle work such as steel erection and concrete pouring on smaller buildings. This in spite of the fact that they are not as compact, manoeuvrable or able to cross rough terrain - not to mention offer any pick and carry capability.

In North America and to some extent Japan, this type of work is carried out with boom trucks - telescopic loader cranes, some with small superstructure cabs. Japan also likes the small City type All Terrain cranes due to their compact dimensions and ability to handle city traffic.

The high relative cost of a small AT crane and the resulting rental rates has also helped boost alternatives solutions such as the greater use of larger loader cranes for both unloading the truck and placing items and the take up of spider cranes.

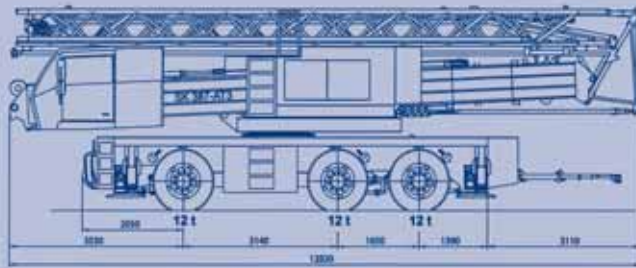
In most countries the traditional crane rental companies have not adapted to this change at the bottom end of the market. Some have moved up market focusing on mid range cranes of between 50 and 300 tonnes or on specialist mobile cranes such as mobile self erecting tower cranes. Others have

Are two axle AT's struggling to compete with alternatives?



Simple 25 tonne truck cranes are still the crane of choice in many parts of the world

focussed on the largest cranes, crawler cranes and specialist industries such as the energy sector which are still buoyant. Those rental companies that have been pushed into the middle market are likely to suffer the most having lost a good deal of the day to day market to alternatives and now running large cranes which are too dependent on new construction projects. Several American companies have already filed for Chapter 11, while as we go to press at least two if not three crane rental companies in the UK have entered administration.



The Spierings City Boy introduces a new concept to the compact City crane market.

In the UK, crane rental companies are also struggling with the rules that demand a formal 'contract lift' for unqualified users effectively pricing them out of a lot of day-to-day work that at one time made up a nice part of the daily revenues by combining a short unloading and placing job with one or two more extensive lifts. The boost given by contract lifts to professional users in recent years is also being undermined.

"Contractors are now employing people with recognised crane qualifications (Appointed Person), who often do not know one end of a crane from the other," said one disgruntled crane hirer. "They then expect us to offer and use our expertise as if it was a contract lift, but at the reduced crane hire rate. We can of course decline the job, but there are plenty of others ready to oblige. As a result only 25 to 30 percent of our work is contract lift and the rates are sinking."

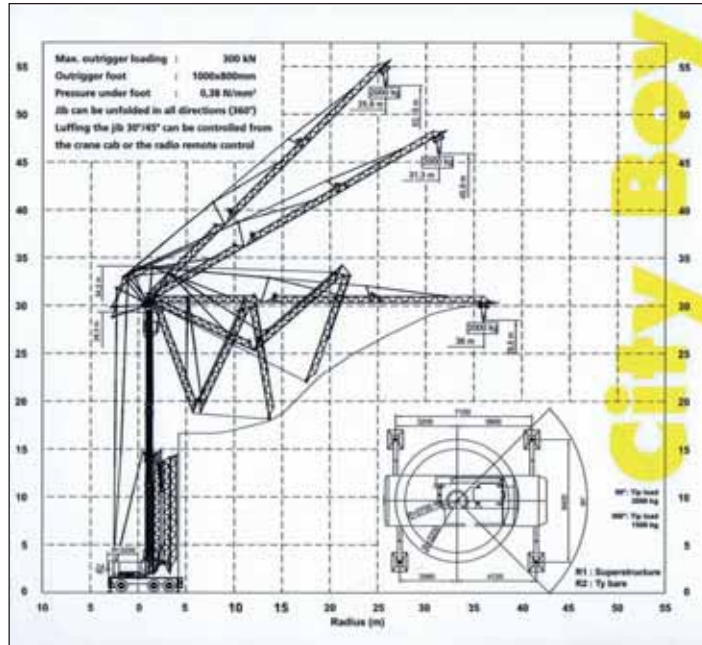
So what is the solution?

At the bottom end of the market there is an opportunity for those who can find a way to offer a good value lifting service in the 20 to 30 tonne market. Some have dabbled with aluminium cranes - either trailer or truck mounted - while others have found the ideal product for many jobs would be the mini city crane along the lines offered by Kobelco and Tadano in Japan and Locatelli in Italy. The problem of course is to make them at a price that will provide a decent rental return.

The challenges facing the mid to large sector are more of an economic cycle supply and demand issue. New products such as the four axle, long boom 90 and 100 tonne cranes are already helping boost some rental companies' returns with their long reach and easy transport and set up.

New All Terrains for Bauma

Bauma in April is almost certainly going to be the best showcase for new All Terrain cranes this year and as usual most manufacturers are planning significant new launches and Terex Demag's long awaited 1,000 tonne AC 1000 will make its first appearance. The company



claims that the new crane is the largest that can travel with its main boom which like Liebherr's LTM11200 runs on a nine axle carrier and offers either a 50 or 100 metre main boom. Maximum tip height is 163 metres. The company will also be showing its long boomed AC100/4 with 59 metre boom, and 2.55 metres overall width.

Another long boom Grove

Longer booms on a more roadable and ideally compact chassis is definitely the trend and Grove will introduce one of the longest booms on a conventional All Terrain with its new 300 tonne GMK6300 with its 80 metre main boom. The new crane promises to be a winner with easier roading, up to 92.5 tonnes of counterweight with numerous configurations down to seven tonnes and the fact that it can lift 12 tonnes on the fully extended boom to 12 metres radius or take two tonnes out to 74 metres.

Liebherr breaks from the norm

Liebherr will be unveiling the most radical new crane with its second attempt at the City crane market the LTC1045-3.1.

The new model features an unusual mount for the cab which allows it to sit in the normal superstructure location on site and then telescopes to the front of the chassis on a telescopic mounting for road travel. In spite of its radical cab the new crane uses the well proven simple drive system, rather than the hydrostatic system of its LTC1055-3.1. Liebherr has a strong history of cracking challenging product areas, it was the first to succeed at creating a truly commercial All Terrain crane at the end of the 1970's and seems determined to make the City All Terrain product work. The company has more than 40 percent of the overall All Terrain market and so has a lot invested in keeping ahead of the new product trend.

Tadano will be showing the latest products from its G range which have been quietly gathering a strong following and is likely to show a final version of its 360 tonne ATF360-6, the company showed a prototype at Bauma in 2007 and has been refining the concept in Japan since then. It might also surprise the market with a 500 to 600 tonne prototype?

City Boy

One product that is entirely different is the new City Boy from Spierings. Totally unrelated to market traders or bankers, this radical new product combines the company's self erecting tower crane technology with a compact single cab for crane and carrier - similar in some ways to the Liebherr LTC1045 - emulating the City All Terrain concept but offering fantastic up and over capacities taking two tonnes to 36 metres radius at a 30 metre height. With a maximum capacity is 7,000 kg at up to 9.5 metres it will be an interesting addition to the market.

Looking forward 10 years one wonders what the mobile crane market might look like? Will a full range of new style City cranes dominate the sub 60 tonne market or will simpler truck cranes make a come back? One thing is certain, apart from the smallest models most All Terrain cranes of all sizes will be more compact, have longer booms and be easier to move. The current batch of four axle 90 to 100 tonners are a good indication of what we might expect going forward.

Liebherr will unveil its radical new LTC1045-3.1 which aims to crack the City AT market.



It's getting better...

With many predicting that 2010 will produce the worst new AT crane market for many a year, Mark Darwin visited one of Europe's most successful independent mobile crane distributors, Cranes UK and spoke to managing director Joe Lyon about issues currently affecting the crane market and the company which distributes Tadano Faun in the UK and Ireland.



Joe Lyon

Joe Lyon has spent his life in the crane industry. Starting in South Africa, he trained as a fitter before 'progressing' into sales, selling his first crane more than 30 years ago. In 1995, the company he was working for was approached by Tadano to take-over its distribution (from earth moving specialist Marubeni Komatsu) and over a period of just a few years, elevated Tadano into the number one selling crane brand in South Africa.

Marubeni Komatsu also held the Tadano agency in the UK but from 2000 was winding down that side of its operations. Tadano - still wanting a distributor for the UK - offered it to a partnership of Lyon and Barnsley-based Cranes and Equipment. The partnership didn't work out, lasting about 18 months before Lyon and his wife bought out the other shareholders of what was by now Cranes UK. Around three and half years ago the business, now 100 percent owned by the Lyons, moved to its current larger more modern premises in Tankersley, South Yorkshire, 'ideally situated for the M1 and M62 motorways going north, south and Ireland.'

Lyon officially started in the UK in 2002 and from a very low sales point has progressed year on year taking Tadano's market share from virtually zero to almost 18 percent. His aim is 23-25 percent within the next couple of years.

Truck cranes go

"In our first year we sold nine new cranes and this rose to 45 new cranes in 2007," says Lyon. "In 2001/2 the majority of Tadano sales (around 75 percent) in the UK were truck cranes but then the company stopped manufacturing them for the European market. Although the AT's were becoming more popular, the Tadano truck crane was still a very good seller."

It was a worrying time for the young business, having to rely solely on the German-built All Terrains which had until then been a small part of its business. "The Faun ATs were still an unproven crane in the UK against the established Liebherr, Demag and Grove opposition. The last truck crane sale we made went to Marsh Plant in 2003."

The last Tadano truck cranes sold in the UK went to Marsh Plant



Cranes UK workshop facilities

"The marriage of Tadano and Faun (Tadano took over Faun in 1990) has taken a generation to come to full fruition and now it is a very good product which is equal in quality to anything on the market."

"However, the main difference with a Tadano is the dependability and reliability of the cranes."

Cranes UK quietly increased its AT sales but it did not feel that it was truly competitive until the arrival of the ATF80 - "an exceptionally good 80 tonne crane with good duties" - which really put the Tadano Faun brand on the map.

"An exceptional crane"

"After the ATF 80, Faun improved the range which now includes a two axle 40 tonner; a three axle 50 tonner; two, four axle machines - the 65 and the 90 tonner unusually fitted with two engines - the five axle 110 tonne; the new 130 tonner, a 160 and a 220 tonner," says Lyon. "The range will be extended at the top end next year with the 360 tonner and shortly after with a 500 or 600 tonne model."

"Tadano is very good at analysing statistics and trends. Historically the



The ATF80 really put the Tadano Faun brand on the map.

50 tonner has always been the best seller but the trend now is for larger crane capacities. The appointment of Alexander Knecht (ex chairman of Terex Demag) as chief executive of Tadano Faun with a seat on Tadano's main board, is a very positive move. At the moment there are improvements but no major changes, but I am sure there will be greater emphasis on larger capacity cranes in the future."

The 550 tonner

Tadano does produce a seven axle 550 tonne crane, the AR550-AM which is available only in Japan but the tendency now is to produce a crane which can be used in all countries - its G or global series. Six and possibly seven axle machines look set to be a major part of Tadano Faun's future product line."

In the UK as in many other European countries, the popular 50 tonner is now being replaced by 80 tonners and higher. Reflecting an over-supply in the smaller capacity ranges, this has led to rental rates for these cranes falling to uneconomic levels so few are sold to crane rental companies. On the positive side, there is some demand for smaller ATs from end users such as contractors and steel erectors who also are looking at truck cranes. Tadano builds all of its Rough Terrain cranes in Japan, all of its Tadano Faun products in Lauf, Germany and truck cranes in China.



The 550 tonner is only available in Japan

The new truck cranes

A few years ago we reported on the possibility that truck cranes - with their lower running costs - would make a come-back in some European markets such as the UK. This has not yet happened to any great degree, possibly because their initial purchase price is surprisingly about five to 10 percent more expensive than an All Terrain crane.

"Truck cranes have two engines and the standard truck chassis is expensive when it is purchased in small numbers and has to be modified to accommodate the superstructure. These costs are not incurred when using a specifically designed AT chassis," explains Lyon.



Mammoet UK took delivery of the UK's first Tadano Faun HK70

However, although Lyon has no specific figures yet - the lower running costs could still make the premium worthwhile. Tadano Faun sold its first truck crane at Vertikal Days last year to John Sutch Cranes in Liverpool, so it is too early to have a full comparison between running a Truck Crane compared to an AT in the UK.

Late last year Mammoet UK took delivery of the first HK70, 70 tonne truck crane, which was designed in partnership with Mammoet and uses the highly successful ATF 65G upper-structure with 44 metre main boom and up to 61 metres tip height, mounted on a five axle commercial Mercedes chassis with rear axle steering.

"Running costs need to be measured over a period such as five years to make meaningful comparisons and include items such as replacement tyres," said Lyon.

Initial feedback indicates that John Sutch is happy with the purchase and the running costs are very competitive. Lyon thinks he will buy more but in addition to and not at the expense of All Terrains.

"The jury is still out on truck cranes but items such as tyres - R25 AT tyres are about £1,300 while truck crane tyres run around £300 to £400 - plus lower cost mass produced truck parts all add up to substantial annual savings."

Tyred out

Talking tyres raised the issue of UK crane users operating their cranes with 16 tonne axle loadings. Michelin recently 're-purchased' some of its AT tyres that may have

C&a all terrain cranes



Cranes UK is having a lot of success with Rough Terrains at the moment.

been operated at more than its specified axle weight of 15.6 tonnes.

"You only need to look at what is happening with Toyota cars at the moment to see the impact of a product safety issue and recall" says Lyon. "Different companies prefer different tyres - Marsh Plant and Steve Foster use Michelin, John Sutch and Dewsbury and Proud use only Bridgestone. Other tyre manufacturers - Double Coin, Yokohama and Dunlop - have certainly not proved themselves yet. Tadano cranes up to 12 tonne per axle (up to the 65 tonner) are all fitted with Michelin tyres. Above that axle weight we only fit Bridgestone."

concerned about the weight of cranes operating in the UK market - should they go for the Europe-wide 12 tonne per axle design or work on the worst case scenario (16 tonnes per axle)? Cranes already on the 16 tonnes per axle limit when delivered then go to site with tools and tackle boxes so are even more overweight which I think is a cause for concern in the long term."

Best seller

In its peak sales year so far - 2007 - Faun's 90 tonner was Cranes UK's best seller. "It had the right combination of price, capacity and compact size as well as being able to carry all of its ballast. The hire companies and manufacturers made



All the major manufacturers design their cranes with a 12 tonne per axle road going configurations however with the UK and Ireland running cranes at up to 16 tonnes per axle, the problem may be more than just tyres. Lyon thinks that the long-term overloading on the brakes, axles and chassis is something that may affect the whole crane.

"Tadano Faun uses a very robust, heavy chassis so we have not noticed any problems," he says. "It is also one of the reasons for the crane's generally good lifting duties. All manufacturers should be

money with the 90 tonner which is not the case with smaller two axle cranes. We now have more 90 tonne sales than 40 or 50 tonners."

"The four axle 80-100 tonne AT will remain the best seller. Obviously boom length is important but the Tadano Faun cranes tend to have a slightly shorter but more rigid main booms with less flex. The industry also needs to standardise the way it rates the crane's capacity and all use the same figure - say lift capacity at three metres which would make it easier to compare nominal lift capabilities."

Market in 2010

"The market is horrendous at the moment and I think there will be fewer sales this year than for many a year and a lot less than last year," says Lyon. "How many? If more than 50 new mobile cranes are sold in the UK in the 35-220 tonne range I will be surprised. In 2007 this figure was as high as 300. There will of course be larger ATs and crawlers sold and a few truck cranes."

"One area that is a big success for us at the moment is Rough Terrain cranes. While they were always popular in the Middle East and America, the RT has never been popular here in the UK, mainly because of the popularity of smaller crawler cranes for site work. However, factors such as price - they are 20-25 percent cheaper than an AT - reduced running costs and their pick and carry capability make them well worth looking at."

Cranes UK has already sold four RTs this year - a 70, 55 and two 30 tonners - all of them to end users such as Kier Construction and a petrochemical plant, with an order for another 30 tonner waiting to be confirmed.

"Kier came onto our stand at Vertikal Days after identifying the Rough Terrain as the crane it needed," says Lyon. "It already operates Tadano cranes in the Middle East and is very happy with their performance. We were not the cheapest but offered a far better specification than the competitors. I think the larger construction sites are moving towards the 30-80 tonne Rough Terrains instead of a 40 or 50 tonne AT. RTs over 80 tonnes are too hard to transport in Europe."

Other franchises

"We will look at any product that does not conflict with Tadano Faun

such as the small industrial Broderson cranes which we took on last summer," says Lyon. "People like what they see but we haven't sold one yet. We are price competitive against the Italians but may have to look at the way we market the machines, even initially offer the machines for hire? Specification wise the Broderson cranes differ with 360 degree slew and large carry decks, both useful features."

With Tadano acquiring Spandek Mantis in early 2009, Cranes UK can now also offer a four model range of telescopic crawler cranes from 27 to 90 tonnes.

"2010 is a year to consolidate and not be silly with our money," he says. "All manufacturers have far too much used crane stock. I only deal with second hand cranes because of the trade-ins. In 2007 I did not have one used crane, now I have 18 in the yard from 25 to 160



Tadano will be showing its telescopic luffing fly jib at Bauma.



The Broderson distributorship was taken on last summer but is still looking for its first sale

tonnes which is way too much money tied up and standing. All manufacturers have cut back on production so when demand does pick up, it will be the used machine market that will come back first."

"Tadano's and our aim is to take 25 percent (up to 80 cranes) of the UK market. If we get more than 25 percent I would have to significantly expand our current operations in order to maintain service levels."

The UK is one of Tadano's top five European markets - along with Holland, Spain, France and Norway - which all take around the same number of cranes. "Norway has more than 25 percent market share and along with Denmark is one of the few areas that is still selling well."

Future models

Bauma will see several new product launches from Tadano, including the telescopic luffing fly jib shown as a prototype on the 360 tonne AT at Bauma 2007. Over the last three years the jib has been perfected and thoroughly tested and is now ready for sale on the ATF220G. A Mantis 70 tonne telescopic crawler will also feature on the stand.

Cranes UK employs 21 people with revenues this year expected to be in the region of £10-12 million, substantially down on the glory years of 2007 and 2008. "Over the past five years we have had the highs and lows but I think it is going to be 2011/12 before we return to normality in the UK with sales levelling out at about new 250 cranes per year."

Cranes UK currently has 18 used cranes from 25 to 160 tonnes in stock.





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The Frankfurt Airrail Centre next to Frankfurt Airport is one of Europe's most ambitious construction projects. With a 660 metre long glass façade, the 65 metre wide, nine storeys (45 metres) high structure offers 140,000 square metres of office, hotel and business space, making it one of the largest commercial buildings in Europe.

Costing more than €900 million, its unusual design sits on 240 pillars above the ICE railway station and according to architect Helmut Jost, its aerodynamic shape echoes the aviation theme of the adjacent Frankfurt Airport.

The project uses about 360,000 tonnes of steel. To ensure this amount of material is moved efficiently, several large All Terrain cranes - mostly Terex models including an AC 200-1, AC 250-1, AC 500-2 and AC 700 - are on site from German-based crane rental company Wiesbauer.

One of the more interesting lifts was during the erection of a 60 metre span, suspended roof girder assembly, part of the glass dome over the ballroom of the Hilton Hotel. The dome was constructed above the Intercity rail track, which continued to operate with trains running every 10 minutes during the lift set up.

Wiesbauer organised the three crane lift using two 700 tonne capacity AC 700's and a 500 tonne AC 500-2. One of the AC 700s and the AC 500 came from Wiesbauer's fleet, while the second AC 700 was supplied by Munich-based Schmidbauer. All three cranes had to set up in the confined space between the airport, the high-speed railway track and the autobahn.

"Each of the three cranes lifted part of a sub-structure which each component having a 20 metre span," explains Marco Wilhelm of Wiesbauer, responsible for planning and carrying out the project. "Final assembly took place in the air when all three parts were welded together as they hung from hooks and were then fastened to pylons. The loads are distributed so that our 700 tonner lifted 55 tonnes, the AC 500 took 40 tonnes and the other AC700 25 tonnes."

The Terex AC 700 was rigged with



60 metre main boom plus a 42 metre luffing jib and 140 tonnes of ballast working at a 26 metre radius. The second AC 700 was working at 41 metres radius with main boom plus 48 metres of luffing jib and 100 tonnes of ballast. The 500 tonner, working at 30 metres radius, was set up with 36 metres of main boom, 42 metres of luffing jib and 180 tonnes of counterweight. None of the cranes were set up with their SSL Sideways SuperLift devices.

The operator of Wiesbauer's AC700 was Carsten Kelm who also served as on-site operations coordinator. Kelm is very familiar with the AC700 and was one of the first

crane operators in Germany to operate a crane of this size.

"We know how important the time factor is on big construction sites like this, so we try to make our cranes simple and safe to set up and operate and are therefore ready for use in the shortest possible time," said Arndt Jahns, Terex AT crane product manager.

"This includes the remote-controlled ballasting carried out from the cab and the rapid setting up of the star-type outriggers.

Using these outriggers frame flex is minimised and excellent lifting capacities are achieved with an outrigger base of 12.2 x 12.4 metres."



Carsten Kelm operated Wiesbauer's AC700 and also served as on-site operations coordinator.



All three cranes had little room to set up - one AC700 on one side of the railway, the other AC700 and AC500 on the other

A solo performance

Peterborough-based PCH Lifting's 300 tonne Grove GMK6300 was recently called into action lifting a new, 82 tonne footbridge into position during the A1139 Fletton Parkway widening scheme in Peterborough.

Initially main contractor Fitzpatrick and subcontractor 'N'Class were looking at a two crane lift or using one 500 tonner. However, during discussions with PCH it was decided that by removing the central reservation crash barriers and positioning the Grove GMK6300 in the middle of the road, a single, smaller crane could complete the lift.

Configured with 100 tonnes of counterweight, 32.3 metres of boom and working at nine metres radius, the crane had a maximum lift capacity of 92 tonnes, more than enough for the new footbridge. Despite the appalling rainy weather and Saturday traffic disruption, everything went according to plan.



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