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# The only solution?

Is the mobile self-erecting tower crane finally moving into the mainstream crane rental market? For many years we have wondered why this amazing feat of engineering has not been more popular outside of the Netherlands. However, looking at the latest UK and Ireland top 30 rental crane fleet survey in last month's C&A there are now 62 mobile tower cranes in the top company fleets, up more than 25 percent on 2016 and more than double the number just 10 years ago. Growth is also on the increase in Germany, Switzerland and Scandinavia.

In the UK, the top rental company fleets run more than 1,700 All Terrain cranes which puts the popularity of the mobile tower crane into perspective - a ratio of about 30 to one. Even in the Netherlands, the most developed market for this type of crane worldwide, the ratio is probably greater than 20 to one. What should it be? That is impossible to answer but given what they are able to do, surely a ratio of 15 or 16 to one is possible? This would still only take the UK fleet to 112 units.

Leading manufacturer Spierings has recently delivered its 900th mobile tower crane over a period of 30 years - an average production rate of just 30 cranes a year. This is of course on the rise as more end customers become familiar with the capabilities of this type of crane and rental companies realise that they can still achieve a good return on investment.

While the mobile tower can carry out many jobs normally handled by All Terrains, it also has many features that give it a massive advantage on some jobs, such as light to medium lifting to and from roof top applications.

Like the aluminium truck crane - such as a Böcker - the mobile tower crane can provide a cost-effective solution for jobs that require reach rather than maximum capacity. However, unlike the Böcker, the mobile tower crane may be the only solution, particularly if working in a narrow street surrounded by tall buildings where there is insufficient space to set up a large All Terrain crane.

#### Mobile tower benefits

The main benefits of using a mobile self-erecting tower crane is its ability to get to site and set-up very quickly - less than 15 minutes - by one operator with a remote controller. After carrying out the job



The Liebherr MK88 was launched in 2009

it can be packed up and ready to go in a similar time frame. Their chassis are fully road legal and boast 12 tonne axle loadings even when fully equipped and road speeds are also good at around 80kph - reducing the travel time to and from site.

For its reach and capacity it has a compact chassis and may even be able to set up in a single lane, avoiding the need for a full road closure. The crane is at home in restricted working spaces and in city centres, carrying out roofing work on large buildings. The operator's cab can be raised up the tower to provide a good view of the lift, particularly useful when working over buildings. The cranes have fast cycle times and are more efficient than All Terrains and there is no need for additional transport keeping costs and truck movements to a minimum. Aircraft and night working lights are now either standard or a popular option.

#### A choice of two

Currently there are only two major

mobile tower crane manufacturers offering a range of products - Spierings from the Netherlands and Liebherr from Germany - although there are other more niche suppliers.

Over the past 10 years Spierings has dominated sales in the Netherlands and the UK, while Liebherr - which has also been manufacturing its MK range for many years - is probably stronger in Germany and Switzerland. The Liebherr range currently includes the four axle MK88 and the five axle MK140 which were launched in 2009 and 2013 respectively. The cranes are assembled in the company's tower crane plant in Biberach rather than the mobile crane plant in Egingen which builds the chassis.

Spierings on the other hand has seven models ranging from three to seven axles and including a crawler mounted model, with the innovative three axle hybrid SK387-AT3 City Boy finally ready to come to market.

The City Boy first made its appearance as a concept machine



The Spierings City Boy launch may finally take place next month



at Bauma 2010. It is totally different to any crane produced by Spierings so far. Development was however put on hold due financial problems which struck the company as the effects of the economic crisis took hold and Spierings struggled with administration. It made an appearance at the company's 25th anniversary celebrations in 2012 - but without a drive system. However we understand that the City Boy launch may finally take place at a special event next month.

After going into administration Spierings went through some serious restructuring with substantial layoffs and cut backs. However it quickly set out on a recovery plan and within four months showed early signs of bouncing back - concentrating on its more popular models - the four to seven axle cranes. Last September owner Leo Spierings regained 100 percent ownership of the company and appointed two new directors - Ivo Kolman

to focus on day to day general management and nephew Koos Spierings as commercial director, with responsibility for all sales and marketing, having previously been responsible for sales in the UK and Benelux region. In his new role he is planning on extending the market for both the company and the concept over a wider geographic area. Huge potential surely exists in markets such as North America, France and Eastern Europe.

Liebherr appears to have benefitted from Spierings' troubles, with sales picking up for its MK88 and more recently for the MK140. Since its launch at Bauma in 2013 the MK140 has essentially remained the same apart from the addition of the 'UK & Ireland extension' made possible because of the UK's increased axle weights. The changes involve the adaption of the tool carrier at the rear into a ballast carrier allowing it to transport an additional three tonnes of counterweight, luffing jib extension and 2.1 metre alloy mats with an electric winch to lift the mats into position.

**Liebherr firsts**

This year has seen many 'breakthrough' sales for Liebherr and the MK140 including the first in

Ireland to Dublin-based Crane Hire and the first in Sweden to rental company A-Lyft which already owns two MK 88s and intends to double this number next year.

Jarleth O Leary of Crane Hire said: "This is our first mobile tower crane and for an investment like this we wanted to make sure we were purchasing the right product. With the Liebherr MK140 its operational flexibility is just what we need to



A Liebherr MK88 working on a stadium project



One of City Lifting's Spierings in a typical London tight spot



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The Liebherr MK140 can luff up to 70 degrees giving a hook height of 94.4 metres



An MK140 during erection

be able to offer our existing and potential customers increased versatility on site with up to 94 metres hook height and a radius of up to 65 metres, coupled with the manoeuvrability offered by the all axle, five programme steering, to get the crane positioned in extremely restricted conditions. We particularly like the variable positioning of the elevating operator's cab."

Another crane company adding an MK140 is UK based Southern Cranes & Access which already owns an MK88. See interview on page 20.

The five axle MK140 is Liebherr's largest while Spierings also has a six and seven axle crane, with the five axle SK599-AT5 the direct competitor. Both cranes are dimensionally very similar - the SK599 is half a metre shorter - and maximum capacity is close at eight and nine tonnes respectively. However the major difference is the longer jib and working radius on the Liebherr - 65 metres compared

to 50 metres. The Spierings has a maximum capacity at maximum radius of 1,900kg at 50 metres, but the MK140 can handle this at 58.5 metres or one tonne at 65 metres. It achieves this thanks to a bigger outrigger spread over half a metre wider and 700mm longer. The other main difference is Liebherr's VarioJib allowing both trolley and luffing mode up to 70 degrees for a hook height of 94.4 metres.

The six axle Spierings has more capacity again at 10 tonnes but the 60 metre jib is not as long as the MK140. And like the SK599 it has a maximum luffing angle of 30 degrees for a maximum height of 64 metres.



A Spierings SK1265 cab

A Spierings SK599-AT5



#### Downsides?

Any type of crane with all these advantages must surely have a few downsides? The mobile self-erecting tower crane is certainly more complicated to operate and maintain and finding experienced operators is even more of a challenge than for other cranes. Many companies are overcoming this through in-house training and while some AT drivers are not keen on going up in the cab, there are always the remote controls.

But for a specific lift such as working in a narrow city street with a relatively light load, such as placing solar panels or an air conditioning unit onto a roof, the mobile self-erecting tower crane is in a league of one.

#### How the five axle MK140 compares with the Spierings five and six axle units

	Liebherr MK140	Spierings SK599-AT5	Spierings SK1265-AT6
Axles	5	5	6
Max lift	8,000kg @ 9m	9,000kg @ 13m	10,000kg @ 13.6m
Capacity@ max radius	1,900kg @ 58.5m 1,000kg @ 65m	1,900kg @ 50m	1,700kg @ 60m
Max radius	65m	50m	60m
Max hook height trolley mode	39.9m	32.6m	35.0m
Max luffing angle	45 degree std option 70 degrees, -20 degrees	30 degrees	30 degrees
Max hook height luffed	94.4m	56.3m	64.2m
Travel speed	80 kph	83 kph	85 kph
L x W x H	15.97 x 3.0 x 4.0	15.43 x 3.0 x 4.0	16.28 x 3.0 x 4.0
Max tower height	43.3m	38.3m	41.5m
Max outrigger footprint LxW	8.25m x 8.2m	7.5m x 7.66m	7.95m x 7.66m
Short rigged width	5.9m	5.72m	5.72m
Tower	3 section	3 section	3 section





# Cranes, access and telehandlers...

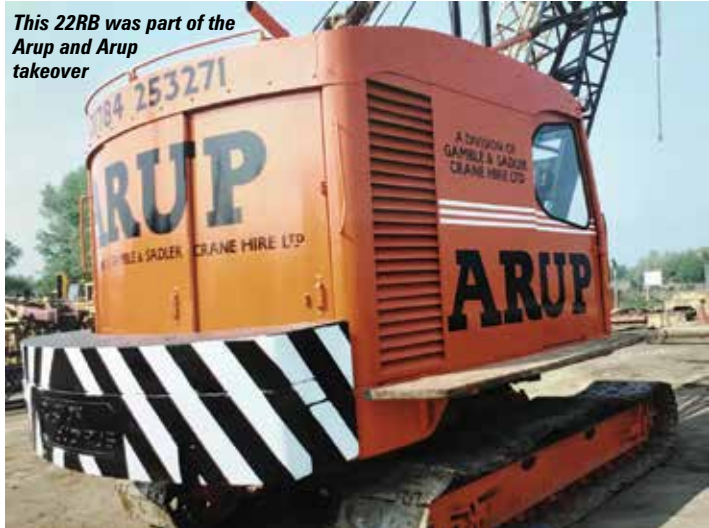
**Southern Cranes & Access is possibly the only rental company in the UK since the demise of Hewden that has a sizeable fleet of cranes, aerial lifts and telehandlers. Mark Darwin visited the head office in Horsham, Surrey to chat with founder and chairman Mike Sadler, managing director Clive Sadler and operations director Kelvin Prince.**

**In all my company visits in the UK Southern Cranes & Access is the first with a substantial fleet of cranes, access and telehandlers. Mike Sadler founded the family business - originally called Ford Crane Hire because of its location in Ford near Littlehampton, West Sussex - in 1980 after working as general manager for Geoffrey Marsh and Hampshire-based Marsh Plant through the 1970s.**

"It was a period when Marsh acquired a few companies in Oxfordshire including Curtis and Almers Crane Hire and I moved further north to set up and run it," said Mike Sadler. "However, to progress further I had to branch out on my own so I set up Ford Crane Hire with two cranes, an eight tonne Hydrocon Marksman and 15 tonne Grove Allen 1564."

"Being in sales at Marsh Plant I knew a lot of customers and by the end of the first year we had so much business - enough for 10 cranes - that I bought a third, but obtaining money from the banks to invest in equipment was very difficult - unlike today. I knew the two brothers running Gamble Plant - a big company at the time turning over £10 to £15 million - and in June 1981 they proposed setting up a crane rental company - Gamble and Sadler - in which I would own a 50 percent share."

The crane side of the business expanded steadily through acquisitions - including Dragon Plant in Guildford and Arup and Arup in Heathrow, London - as well as buying cranes resulting in a fleet of 65 cranes by 1995.



*This 22RB was part of the Arup and Arup takeover*



*A Liebherr LTM1350 at the Lloyd's Building in London*



*A 10 ton Coles following the acquisition of Dragon Plant*

## **Sold to Hewden**

In 1995 however Hewden purchased the company after offering 'silly money' and Sadler -

under a non-compete and exclusion clause - was tied in to work for Hewden as southern region director for three years.



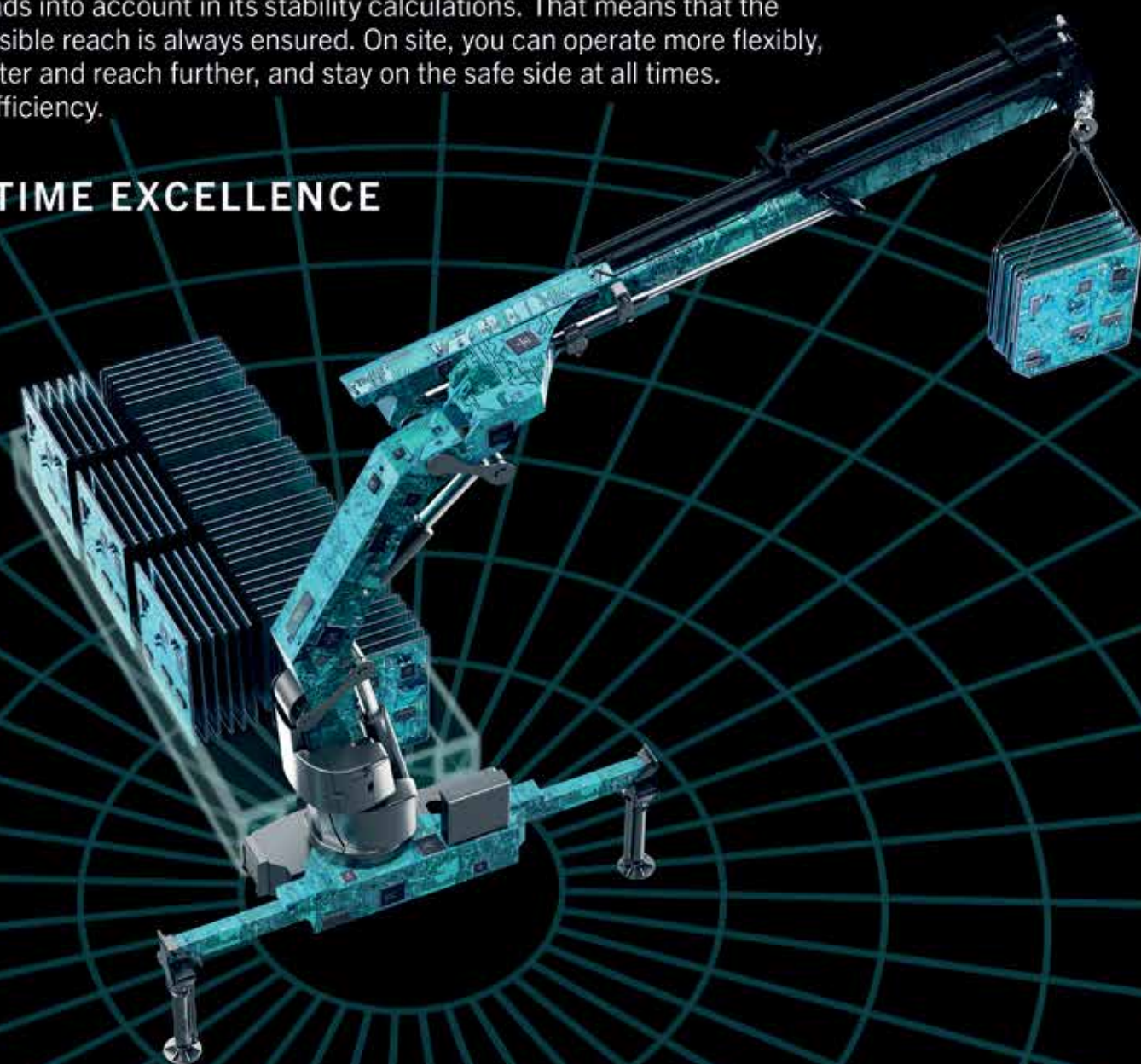
*(L to R) Sons Clive and Robert with Mike Sadler and Kelvin Prince*



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## LIFETIME EXCELLENCE





*Southern Cranes & Access now has a fleet of about 100 access platforms*



"After two years Hewden wanted me to extend my contract for another five years but this wasn't going to happen," he says. "So after enjoying a year's gardening leave spent planning and readying the new company, Southern Access Platforms was formed in late 1997. For the first nine months we only rented out powered access equipment, but when Hewden started closing crane depots in the South we decided to get back into the sector. So Southern Crane Services was born, joining Southern Access Platforms but operating as separate companies until 2003, by which time the combined fleet comprised 18 cranes, 70 Genie scissors and booms and a good number of Manitou telehandlers."

That year the two companies were merged into Southern Cranes & Access with four depots and ALLMI, IPAF and CPCS accredited training facilities. Another company - Southern Contract Lifting - was formed at the same time and run by Kelvin Prince who had just joined the

company. In 2012 Southern Contract Lifting merged with Southern Cranes & Access with Prince becoming operations director with Mike, and his two sons Clive and Robert the HR director. Today the company has 46 cranes, 100 platforms and around 35 Manitou telehandlers and a selection of Palfinger and Fassi loader cranes. It primarily covers the area south of London and the M4 motorway travelling as far west as Bristol and up to Oxford to the north from depots in Reading, Croydon, Camberley, Heathrow and head office in Southwater near Horsham.

**The modern world**

"In 2012 we moved into the 'modern world' updating the workshops and implementing a far better crane maintenance regime," says Sadler. "We also developed as a business as we started working for major companies such as Network Rail, EDF, Balfour Beatty and BAM etc... which needed all the correct paperwork and correct company procedures. They were also good payers and unlikely to go bust,



*Mike Sadler (L) with Peter Gamble and a new Krupp GMK4070*



*One of Gamble & Sadler's P&H Omega cranes*



*The Krupp GMK5100 and GMK4070 working together on the south coast*



*A new Krupp GMK5100 to the Gamble & Sadler fleet*

helping reduce bad debts which had previously been a problem. This led to further expansion and appointing individual managers for Health & Safety, transport and HR etc..."

**Varied equipment**

While the company's access fleet is mainly Genie and telehandler fleet all Manitou, the crane fleet is mixed including units from Liebherr, Terex, Tadano and Grove.

"As an ex-crane operator we study the load charts and listen to what our customers want and then decide on the best crane to do the job required," says Clive Sadler. "It doesn't matter keeping to just one manufacturer. In the

early days we probably ran more Terex cranes because my dad knew Alan Charlesworth, the Terex/PPM dealer European Crane Sales, based at Upper Heyford. We then went through a phase of adding Tadanos when Joe Lyons ran the distributorship and the odd Grove but have now mainly settled on Liebherr as its range suits our needs in terms of performance, price, reliability and back-up."

Southern Cranes & Access has spent a healthy £5.5 million over the past 12 months ordering five new Liebherr ATs - 60, 70, 130, 300 and 450 tonners - as well as taking delivery of an MK140



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A Terex AC 200 at work

mobile self-erecting tower crane. The 450 tonner is due for delivery next January and will be its largest after trading its existing 350 tonne Liebherr. Earlier this year the company also added three Terex All Terrain cranes, two 40 tonne AC 40/2Ls and a 160 tonne Demag AC 160-5, but the smaller cranes have been plagued by a series of minor problems.

"We are interested in the smaller City cranes and may be tempted by the new 45 tonne Demag City crane being launched later this month, but it would need to have a 40 metre boom and I can't see this happening," says Prince. "The 35 tonne Kato crane is too big and we were looking at the Böcker aluminium cranes but have gone off the idea now they will come under HGV regulations and MOT checks etc."

"We purchased a lot of the 40, 50, 65 and 90 tonne Tadanos - they were good bread and butter cranes, well-priced and well-supported when the distributor was Cranes UK," says Clive Sadler. "Now it's Tadano UK the prices have gone

up and service has gone down, so we haven't bought one since! Unfortunately, Grove has stopped producing its smaller cranes but we have a Grove 250 tonner and it is the best at that capacity on the market - very strong even if it has a few niggly problems."

**Changes over the years?**

Relative to costs, rental rates have increased slowly over the years and fortunately it is not as competitive as it used to be," says Mike Sadler. "All the new rules and regulations have weeded out the one-man bands which tended to run older cranes at low rates. There are very few cranes companies now with less than 10 cranes and rates have slowly increased to about the right level. It is a very busy time at the moment - helped by the departure of 100 cranes from Hewden - which is great for the industry, but even so, we expect to get the proper rate for a crane otherwise it doesn't go out. We looked at some of the Hewden cranes at the auction but they fetched silly money considering they were out of warranty - you may as well buy new."



The company has a sizeable fleet of telehandlers

**Mobile tower cranes**

Southern Cranes & Access has had a long history with Liebherr MK mobile self-erecting tower cranes, purchasing the UK's first MK100 about 12 years ago. That was traded in for a new MK 88 before another used MK100 was added to the fleet. It also has made way for the recent delivery of a new MK140 and there is talk of adding another MK 88. But why Liebherr when the rest of the UK seems to prefer Spierings?

"Although the Spierings are popular they are expensive," says Clive Sadler. "The company's financial problems were also worrying and coupled to not having a base in the UK and not being able to get mechanics quickly pointed us towards the Liebherr machines. And if the mobile self-erectors didn't work it was easier chopping them in for ATs with Liebherr! The MKs are so popular at the moment - both are out seven days a week which is why we are looking at adding another."

**Method statements affecting crane purchases**

Method statements are also having an impact on crane purchases. Because specific cranes are identified on the method statement it is very difficult to substitute one crane for another. Therefore rental companies are finding it benefits running several similar cranes allowing the job to be carried out as per the method statement. Some statements for rail work for example can take up to four weeks to be approved so substituting with a different crane is often not an option. "We also look at what other local crane companies are running as they can't rehire your equipment if it is not the same as theirs on the method statement. Now it is better to have several similar capacity cranes whereas a few years ago it didn't matter if a different make of crane or even a slightly bigger capacity crane was sent," says Clive Sadler.

**Mats make more money**

Southern Crane never sends a crane out without a set of

outrigger mats - most of its larger clients also insist on this and carry out ground pressure calculations and specify the size of mats for the crane. The company has five pickup trucks delivering mats having recently spent almost £30,000 on new ones.

"Many customers will quibble over £20 when paying £480 for a 40 tonner but are happy to pay for the mats and £350 a day for a lift supervisor," says Clive Sadler. "We can earn about £700 a day for the pickup and mats driven by a lift supervisor - that is a better return than for a 60 tonne crane for about a tenth of the investment - mad isn't it?"

The final word has to come from Mike Sadler: "Whatever the equipment - cranes, access platforms or telehandlers - we would rather give a first class service and charge the right rate rather than just undercutting to win the work. Times have changed in this respect and we don't want to be busy fools."



Erecting the main display outside Goodwood House at this year's Festival of Speed.

