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Compacts and 360s on the rise

The popularity of telehandlers continues to grow - encouraged by a wider range of compact and 360 degree models - as more and more manufacturers expand their ranges. We take a look at the market and the latest products from the leading manufacturers.

Over the past 30 years or so, the telehandler has become an indispensable piece of equipment for the construction industry in a number of European markets, spurred on by the increased delivery of construction materials on pallets.

Two manufacturers - JCB and Manitou - continually vie for global market leadership while third placed JLG has dominated sales in North America. In spite of increased interest in a number of countries, the majority of machines are sold in a few European countries and North America. As demand has increased, more manufacturers have been drawn into the sector hoping to get even a small slice of the increasingly large pie.

Compact and 360 degree growth

In the UK - one of the world's largest telehandler markets together with France and the USA - the growth in rental fleet numbers for compact, fixed boom and rotating machines has been huge over the past few years. According to the latest Cranes & Access Top 30 rental companies the fleets of the top 10 telehandler rental companies have increased by more than 20 percent from just under 10,000 to almost 12,000 in the last two years and almost doubled since 2009. Compact telehandlers have roughly followed this explosion with an increase of 22 percent since 2015, and 63 percent over the past two years. Compact telehandlers - those

The new six metre/2.5 tonne MT 625 HA is a major success story for Manitou



JCB's latest - the 540-140 Hi-Viz



Magni has grown by concentrating on 360 degree models including this 39 metre RHT 5.39S

under two metres high and wide - now account for almost 15 percent of the top 10 rental company fleets.

Although the total numbers of 360 degree telehandlers are relatively small, they have also increased substantially over the past two years, doubling from 2014 to 2015 and increasing again by 50 percent last year. Some of this growth relates to the fact that larger fleets have been adding these units to meeting increased customer demand. But the fact that there are currently less than 130, 360 degree telehandlers in the 10 largest rental fleets (just 0.1 percent of the total) shows just how niche these machines are and how much potential growth there might be once customer awareness has been raised.

One company that has grown by concentrating on 360 degree models since the start, is the recently established Italian manufacturer, Magni. There were many in the industry that thought that Riccardo Magni was crazy to enter the crowded telehandler market, which is dominated by large, well-

established producers. However by concentrating on 360 degree and ultra heavy-duty models it has gone from strength to strength. It launched the world's highest reaching telehandler - the 39 metre RHT 5.39S - earlier this year along with the 30 tonne capacity heavy-duty HTH 30.12.

The company has now introduced the first of a new three model range of more mainstream fixed frame telehandlers. The TH 6.20 is a 19.2 metre/6,000kg machine with 10 and 15 metre models to follow. The TH range has the same features as the RTH models, including the pressurised cab and Magni touch screen control system. (See Magni feature on page 35)

JCB - which built its 200,000th telehandler this year, 29 years after building its first in 1977 - was the first with a 20 metre fixed frame machine when it launched the 540-200 in April 2012. Although its capacity is just four tonnes its maximum lift height is a true 20 metres - 800mm more than the new Magni. The unit has done surprisingly well.



JCB was the first with a 20 metre fixed frame machine with the 540-200

How the Magni and JCB 20 metre telehandlers compare

	JCB 540-200	Magni TH 6.20
Max lift height/capacity	20 metres/1,500kg	19.2 metres/2,500kg
Max capacity	4 tonnes	6 tonnes
L x W x H	6.81 x 2.44 x 2.72m	6.5 x 2.5 x 2.86m
Max forward reach/capacity	15.9 metres/200kg 14.5 metres/500kg	14.5 metres/880kg
Reach with max capacity	4,000kg to 4m 4,000kg to 6.9m	6,000kg to 3m
Standard engine	JCB 74kW/85kW option	Deutz 100kW
Front stabilisers	Yes	Yes
Ground clearance	410mm	423mm
GVW	12,985kg	



The Magni TH 6.20 has a six tonne capacity and 19.2 metre lift height

More new compact entrants

With its six tonne capacity the Magni out lifts the JCB right across the board, although maximum lift height and reach are slightly less. It can however still take 850kg out to its maximum 14.5 metres, while the JCB only just manages 500kg at this outreach. The Magni is also shorter but wider and higher, has a more powerful engine and has a slightly better ground clearance. The TH 6.20 follows the Magni ethos of sector leading performance, but it comes at a price. The JCB has a reach of 10.65 metres with one tonne on the forks, more than enough for most construction sites.

Newbie telehandler manufacturers intending to try their luck in what is an exceptionally tough market in Europe, include Snorkel, Kubota and Giant. Last year Snorkel launched its first European style machine - the 2.7 tonne, 5.8 metre SR5919 - but so far its impact on the market has been limited. Part of USA-based Xtreme Manufacturing, the SR5919 is based on Xtreme's compact telehandler but with significant changes to suit a different customer base and Snorkel's distribution network. The compact unit has an overall width of 1.8 metres and is just two metres high.



Spanish tower crane manufacturer Saez showed this 3.5 tonne/7.23metre SZ 357 at Bauma

Kubota has yet to decide if it will put its prototype sub-compact 1,500kg/4.8 metre THT4815 - made for the company by Dutch manufacturer Tobroco - into full production. It has been testing the market since showing it at Intermat around 18 months ago. Tobroco sells its own telehandlers under the Giant brand, and is introducing its own version of the machine - the Giant 4548 Tendo which weighs less than three tonnes, has an overall length without bucket of 3.15 metres, is 1.57 metres wide, 1.97 metres high and is powered by a Kubota diesel.

JCB's latest Hi-Viz

JCB's latest telehandler is the 540-140 Hi-Viz - its fourth model in the range which offers better visibility with a lower boom pivot design and more glass in the cab. The 14 metre/4,000kg 540-140 can reach almost 13.5 metres free on wheels or 13.78 metres with the stabilisers set. Power is supplied by a choice of Tier 4 Final diesel engines. The 540-140 HiViz will be offered with a full range of attachments, including a choice of aerial work platforms including a work platform ready specification to maximise utilisation and versatility.

As well as making the Kubota THT4815, Tobroco markets its own Giant 4548 Tendo



models including the two tonne/4.28 metre sub-compact MT420 H which has an overall width of 1.49 metres, and an overall height of 1.9 metres. This size of machine is beginning to impact the skid steer loader market, thanks to their greater versatility.

The slightly larger six metre/2.5 tonne MT625 HA adds more features to what is a major Manitou success story, achieved by the 625 since its launch in 2010. Features on the latest version include two work platform options - a 365kg/ two metre wide and more compact 200kg/1.2 metre basket.

540-140 Hi-Viz - its fourth model in the range which offers better visibility with a lower boom pivot design



Manitou adds compacts and 360s

Manitou has also expanded its telehandler range with several

The company has also launched two higher capacity 360 degree telehandlers, the 21 metre/5,000kg MRT 2150 and

the 25 metre/5,000kg MRT 2550. Improvements include a new cab with better visibility, thanks to a lower boom position and a new outrigger design. The new models should be available to ship within the next few months.

The MT Easy range will also have two new additions, the 10 metre/3,000kg MT1030 Easy with Deutz power, and the larger 17.55 metre/4,000kg MT1840 Easy. The company is also working on two new concept machines including a hydraulic hybrid MLT 960 which is a joint project between Manitou and Dana.

Dieci

Latest from Italian manufacturer Dieci is the new 30 metre/4.5 tonne 360 degree Pegasus 45.30 and two fixed frame telehandlers - the i12.56 and i9.44 - aimed at the North American market. The Pegasus 45.30 is powered by an FPT (Fiat) Tier 4 diesel, coupled to an electronically controlled hydrostatic transmission. The unit has larger fuel tanks and an improved hydraulic system. Features include automatic attachment recognition, optional remote control and automatic outrigger levelling. Inside the cab there is a new colour touchscreen dual display with diagnostic display



The two tonne/4.28 metre sub-compact MT420 H which has an overall width of 1.49 metres, and an overall height of 1.9 metres

and a new Smart navigation system for the main electronic functions of the machine such as driving modes, minimum RPM control, forward speed and diagnostics.

New Haulotte heavy duty

Dieci has also stepped up production following the announcement of its new partnership with Haulotte in January this year. Haulotte's new three model heavy duty HTL range have capacities of 5.2, 6.5 and 7.2 tonnes and lift heights of eight and



Two new Dieci fixed frame telehandlers - the i12.56 (pictured) and the i9.44 - are aimed at the North American market

10 metres. The smallest model is designed and built in-house by Haulotte however the two largest are modified Dieci designs and will be built by Dieci at its plant in Italy.

The 5.2 tonne/10 metre HTL5210 can take 3.5 tonnes out to 5.8 metres forward reach, and includes standard stabilisers, hydrostatic transmission and a Tier 4i/ Stage IIIB-compliant Perkins for Europe or a Tier 3-compliant Perkins 95 for the Americas, Asia-Pacific, Russia and the Middle East. The same power units are used in the two larger Dieci built Haulotte telehandlers, the 6.5 tonne/eight metre HTL6508 and 7.2 tonne/10 metre HTL7210.

Haulotte has now been offering telehandlers since it dipped its toe in

the market in 2002 with the launch of several models built by Faresin, and then in 2007 it unveiled its own models which it originally produced at a new plant it built in Spain. The economic crisis ended the short life of the new Spanish plant, but did not dampen Haulotte's enthusiasm for the telehandler market. While it has not made significant progress since then, it is persevering and gradually building a small but profitable following.

Compact Caterpillar 'rental model'

The new compact 3,500kg/9.8 metre Cat TH3510D uses the new Cat C3.4B diesel which meets Stage IV emission standards. In the cab all main functions are



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controlled by a single lever joystick with simultaneous drive and boom functions. An optional advanced display monitor provides load charts as well as the feed from the rear-view camera, and can be used to set operator preferences and perform diagnostic checks. Flat glass throughout simplifies window replacement and clear floor design allows fast cleaning with a pressure washer.

Bigger Genie

Genie's new compact GTH-3007 telehandler is a heavier lifting, higher reaching brother of the Genie GTH-2506 compact telehandler. The GTH-3007 has a 3,000kg maximum lift capacity and can lift 2,500kg to its maximum seven metres. At its 3.99 metre horizontal reach it has a capacity of 1,000kg. Width is two metres, height is 2.07 metres and it weighs just under six tonnes.



One of Genie's 360 degree models the GTH 5021 R

New JLG

At Bauma JLG previewed its latest European telehandler the 2,722kg/11 metre 3510PS which should be available any time now. Said to be redesigned from the ground up the new model has an all-new cab, equipment covers and styling and a forward reach of 6.81 metres. Other features include a multi-function display which has electronic load charts, maintenance charts, on-board diagnostics and optional rear view camera which provides 360 degree visibility.

Bigger 360 and new Hybrids from Merlo

Italian manufacturer Merlo celebrated production of its 100,000th telehandler this year, and unveiled several new models and engine upgrades. They include a 35 metre Roto 45.35S Hybrid, its



The 45.35S Hybrid has a 4,500kg maximum capacity and 34.1 metre lift height



The 3,500kg/9.8 metre Cat TH3510D 2

largest to date. The 45.35S has a maximum capacity of 4,500kg and lift height of 34.1 metres.

Merlo is also pushing forward with its hybrid technology with the introduction of the new 10 metre/3.8 tonne TF 38.10 TT Hybrid, derived from and with the same features as the TF 42.7 but with a 10 metre lift height and modular design and the 45.35 S roto machine. The company unveiled its first Hybrid concept machine in 2010, launching its first production model the 40.7 in 2013. The 38.10 and 42.7 are true hybrid machines, with both diesel and all electric power supplies. When operating on batteries in Eco mode it can work for up to four hours uninterrupted, or two hours when running at full power. The company anticipates farming and food production to be the main markets for the growing hybrid range, although there are many construction and institutional applications for such a machine.



The new Skyjack SJ843 TH

New Skyjack telehandlers hit the spot

This year also saw the launch of a new range of Skyjack telehandlers - aimed at North America - replacing the VR series. The new range comprises four models, two 13.2 metre lift height - the 2,700kg SJ643 TH, and 3,600kg SJ843 TH - and two 4.5 tonne capacity models, the 13.5 metre SJ1044 TH and 17 metre SJ1056 TH. Skyjack had to re-engine the existing range to be Tier IV Final compliant, but decided to carry out a more thorough overhaul. It also managed the engine upgrade without adding complexity - the smaller of two new Deutz diesels does not require a Diesel Particulate Filter, Diesel Exhaust Fluid or other active exhaust after treatment. Power is matched to a Dana powershift transmission and Dana axles. The result has been remarkable with Skyjack telehandler sales soaring in a falling market. The success has encouraged the company to develop plans to further expand its telehandler range. Watch this space!

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Magni four years on

Over the past few years Magni has rapidly emerged as one of the most innovative manufacturers of telescopic handlers. Earlier this year Chinese aerial lift manufacturer Dingli acquired a 20 percent stake in the company involving it in the powered access market. We interview sales director Eugenio Magni, son of the founder and managing director Riccardo Magni, about the latest developments, models and the future direction for the company.

Although Magni Telescopic Handlers was only established in 2012, the owners are far from new to the sector. The Magni family is steeped in telehandler experience, a primary reason why the company has achieved such rapid success. The family have been in the business for more than 40 years initially designing and building Fargh hydraulic yard cranes. The smaller Rough Terrain cranes with front and rear stabilisers resembled the larger 360 degree telehandlers of today and evolved into Fargh's first Rough Terrain telescopic handler in 1980.



Sales director
Eugenio Magni

In 1981 Riccardo Magni took over the business after the death of his father in an accident and within a few months he had signed an agreement with Manitou to badge and export machines under the Manitou brand. In 1986 Manitou purchased an equity stake in the business, eventually buying more of the shares and owning it outright. Riccardo Magni stayed on board to head what then became Manitou Italy. Having led the company for several years he finally left Manitou in 2009 with a three year non-complete clause. He bided his time

and then in 2012 he announced his new company, Magni Telescopic Handlers founded in conjunction with members of his family and around 20 employees at an all new 6,000 square metre factory - directly opposite the Manitou facility in Castelfranco Emilia near Modena in northern Italy.

The all new 6,000 square metre facility in Castelfranco Emilia near Modena in northern Italy



The following year Magni launched two telehandler ranges - the 360 degree RTH and heavy duty straight frame HTH - causing quite a stir at Bauma 2013. From the very start there was a wide range of five 360 degree models, all with five tonnes capacity and lift heights ranging from 18 to 30 metres. The two heavy duty straight frame models came a little later, including the 25 tonne/11 metre HTH 25.11 and the 30 tonne/12 metre 30.12.

In 2014 the 360 degree range was later widened with the RTH 6.24 S and the RTH 5.25 Smart. The new S model featured telescopic scissor-type outriggers while the Smart - aimed at the rental sector



Magni RTH 5.30 S

- was a simpler and less expensive machine with the more compact pivoting or 'flop down' outriggers. These were followed last year with the Smart S range - a combination of the two, using scissor outriggers, but offering more performance than the Smart machines. The company also launched the world's highest reaching telehandler - the 35 metre RTH 5.35 S and the 39 metre RTH

year production was increased by 50 percent to two machines a day with a surprisingly large proportion - between 20 and 25 percent - being the largest models in the range.

"The vast majority of the roto telehandler market - about 80 percent - is in Europe however sales in North America have gone very well particularly the larger 26, 30 and 35 metre units as well as the new 39 metre machine," says Magni. "Companies like the larger 360 degree telehandlers because they can do many of the tasks that are normally carried out by a mobile crane. The 39 metre telehandler is about the equivalent of an 80 tonne AT."

New models for 2016

Magni now has a 12 model line-up of 360 degree telehandlers, probably the widest on the market. There are now three Smart S models in the range, with lift heights of 21, 23 and 25 metres all with five tonne capacity. One of its main features is the ability to set the outriggers within the width of the machine for increased versatility.

"Our largest rotating telehandler is the 39 metre RTH 5.39 S," says Magni, "Using a larger six section boom than the 35 metre machine it has a maximum reach of 26 metres and can lift 2,300kg to its maximum height. It can also be fitted with a platform attachment giving an additional 12 metres of working height - so 51 metres in total."



Magni's largest rotating telehandler is the 39 metre RTH 5.39 S

5.39 S - both being 360 degree models.

The company has expanded its sales network overseas right from the start, particularly in Europe but also further afield. Today it has more than 100 dealers, along with wholly owned subsidiaries in Germany, the UK and the USA (based in Miami) which covers both North and South America. Every subsidiary has its own sales and technical/after sales department as well as a parts/equipment warehouse. The company now employs more than 100, with a production capacity of 1,000 units a year and while current production is around 400 units, it is growing steadily. Earlier this



Magni has also launched a new range of regular straight frame machines starting with the six tonne capacity TH 6.20 with a 19.2 metre lift height

New fixed boom range

Magni has also launched a new range of regular straight frame machines starting with the six tonne capacity TH 6.20 with a 19.2 metre lift height. It has a maximum forward reach of 14.5 metres and can lift 2.5 tonnes to full height.

"The new TH 6.20 has the patented '4SL' which includes three features - Side Shift, Suspension and Lateral Stability," says Magni. "Side Shift can move the load plus or minus five degrees from centre, so that with the boom fully extended it gives a total sideways movement of three metres. There is also a hydro-pneumatic suspension on the front axle and finally there is lateral stability. Two cylinders - one on either side of the front axle - monitor for variations in pressure and then lock the rear axle to prevent further movement and tipping."

"The performance of the TH 6.20 is better than the competition with six tonnes capacity and 19.2 metres lift height. We think this machine will be very popular in the UK and North American markets. A six tonne capacity is sufficient for about 90 to 95 percent of the lifts on most construction sites."

Magni's main markets are currently Scandinavia, the UK, USA and the Netherlands as well as some Asian countries such as Korea. Of the machines sold in the USA it says that more than 50 percent will be 35 and 39 metre models.

Aerial work platforms

In February Magni signed an agreement with Dingli in which it sold 20 percent of Magni's equity to Dingli, for €14.4 million. Since then Magni has been busy designing,

eight new boom lift models, and then building the prototypes in the new 'Dingli Europe R&D Centre' shipping them to Shanghai last month, ready to unveil at Bauma China this month. Dingli will then manufacture the booms, four straight telescopics and four articulated, for the world market with working heights of 16, 20, 24 and 28 metres. As the plan goes Magni will also manufacture some of the booms for the non-Asian market.

In the other direction Dingli will distribute the Magni telehandlers in China, starting with the launch of the three biggest machines - the HTH 35.10, the 39 metre RTH 5.39 S and RTH 5.25 Smart S at Bauma China this month.

One of eight new Magni-built boom lifts destined for Bauma China in Shanghai later this month



Magni and JCB?

There was also talk a couple of years ago of some Magni telehandlers being branded as JCB machines and sold through the JCB network. There was even talk that JCB might acquire Magni! In the end the two companies signed an engine supply agreement, giving customers the option of taking Magni machines with either JCB or Mercedes power units.

The strategy appeared sound, JCB is among the top two telehandler manufacturers alongside Manitou, but its distributors do not have access to a 360 degree model. Magni could have offered them a good alternative to a JCB 360, however the word on the street is that JCB dealers have not proved to be particularly effective, and the



RTH 5.39 S



Magni uses JCB and Mercedes engines and manufactures baskets for JCB telehandlers

company has been better served finding its own outlets.

"We still have a very good relationship with JCB," says Magni. "We use JCB engines and we also manufacture baskets for the JCB fixed boom range which may double to as many as 400 next year. Several OEMs have asked us to manufacture products for them but this is not our intention. My father worked for another manufacturer for many years but now he has his own name of the machines so this is unlikely. Telehandler sales are increasing steadily and the new access business could be huge - perhaps 30 percent of revenues in the next three years even if we double the telehandler output."



RTH 5.30 S



RTH 5.35 S

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