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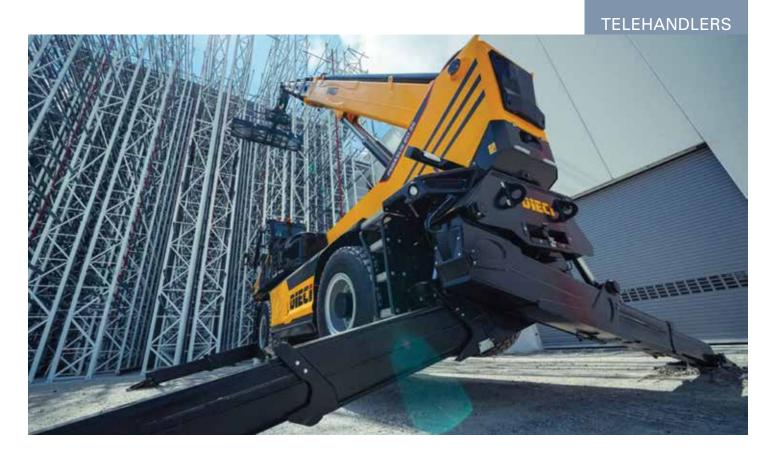
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LET BATTLE COMMENCE

The recent influx of new players into the telehandler market has the potential, at least in theory, to cause some disruption and upset the established players. Perhaps a more worrying factor for JCB, Manitou, JLG and other participants, is that many of the new entrants are Chinese companies, most of them with large modern state of the art manufacturing facilities.

However, the telehandler market is a real challenge for any new entrant, no matter how strong they are. Over the years it has seen off a number of attempts by formidable construction equipment manufacturers, including the mighty Caterpillar and Volvo, while others such as Bobcat and Liebherr have struggled to gain any significant market share after years of trying.

The new Chinese producers currently have very low sales volumes, with little sign of that changing, due to there being a negligeable domestic market and very low adoption in other markets where they tend to do well with their other products, such as South East Asia and Africa. Unlike products such as aerial work platforms there is little room for innovative concepts that might provide some product differentiation. Most telehandler buyers, at least of fixed frame models, want products that are pretty much the same in layout and design concept as those built by JCB and Manitou. Price is a factor but given the exceptionally high utilisation levels expected of telehandlers, few are prepared to risk changing to an unknown brand in order to save a few dollars on the initial purchase price.

Having said all that the Chinese manufacturers now entering the market - Sinoboom, Sany, Sunward, XCMG, LGMG and Zoomlion - are determined to 'give it a go' at least in Europe, if not North America. The current world market for telehandlers is estimated to be in the region of 75,000 units, of which around 15,000 are sold into the agricultural market, the majority in Europe. A number of people in the industry anticipate the overall market increasing to 90,000 units a year and possibly reaching 100,000 a year over the next few years. Although telehandlers can be used with a multitude of attachments the vast majority of them are only ever used with the basic forks for palletised goods or a bucket for loose material.

TOUGH MARKET TO CRACK

As we have already said the telehandler market is very tough to compete in as the products are quite similar - almost generic - often with the same or similar components, while the big players have enormous cost advantages thanks to their high production volumes, making it an exceptionally hard market for a new entrant. However one area that might provide an opening is the growing adoption of telehandlers in some parts of Asia - including India - the Middle East and one or two countries in Africa. It is possible that a strong effort by the new entrants to sell their machines in these markets will help the concept take off leading to a dramatic expansion of the global telehandler market.





NOT IMPOSSIBLE

While it is a challenge to break into the telehandler market, Italian manufacturer Magni, has succeed thanks to a clever strategy starting with 360 degree models, followed by other market niches, before tackling the mainstream fixed frame market (see Ricardo Magni interview on page 39). Founder and chief executive Ricardo Magni, believes the Chinese manufacturers may have some success in countries where telehandlers are mostly used with forks, but struggle in places where the use of attachments is the norm.

TELEHANDLERS







REPLACING CRANES

As mentioned above, Magni made its name by introducing new and innovative 360 degree machines, and then moved into ultra heavy lift models that other manufacturers did not believe there was any demand for. The company is now aiming to replace small mobile cranes with its larger 360 degree telehandlers.

This has been a steadily growing trend on construction sites for several years but has not yet been widely adopted. It is however, one of the reasons cited by crane manufacturers for dropping 30 to 40 tonne All Terrain cranes from their product ranges. They tend to cost more to produce than a 360 degree telehandler, which also tends to be more compact, while having the option of carrying out multiple tasks using the wide array of attachments available.

Ricardo Magni said: "The eight tonne/46 metre Magni RTH 8.46 could replace a 45 tonne Rough Terrain crane. The telehandler can lift one tonne at a 31 metre radius - the same as a Terex 45 RT - and then by adding a platform attachment it can also replace a JLG 1850SJ as it is capable of a 58 metre working height with 450kg platform capacity - the JLG has half of this capacity at full height. The RTH 8.46 also has an outreach of 35 metres with a capacity of 450kg."

"The crane costs €420k, while our RTH 8.46 telehandler is €450k but can also do the job of a €320k JLG 1850SJ," he adds. "In theory this could allow the one telehandler to replace two machines on site, saving on delivery and collection costs. This is one way we see to expand our market and finally kill cranes under 35 tonnes. We are also looking at bigger models to impact more crane sales. In America we have many customers that rent or buy cranes who are replacing cranes with telehandlers giving them more versatility."

EUROPEAN GAINS IN AMERICA

North America has always had a preference for the 'high boom' telehandler design as seen on even the latest new products from market leader JLG/SkyTrak - the 6036, 6042 and 8042. However the European 'low boom' design and more luxurious cabs are becoming more popular in North America as an increasing number of operators get to try them.



Magni began selling such machines there in 2015 and has just supplied an order for more than 500 machines - 19 metre/4.5 and 5.4 tonne units - to United Rentals. JCB is also confident of growing its market share in North America, although it produces both types of telehandlers. It has just broken ground on a new \$500 million factory in San Antonio, Texas to build telehandlers and aerial lifts. Telehandlers are now JCB's highest volume product line in North America.

NEW TECHNOLOGY

Telehandlers are not known for being 'tech fest' machines, so at Intermat it was interesting to see Bobcat's prototype TL25.60e Electric six metre/3,500kg compact model with more than its fair share of technology. Most obvious was a huge touch capable, OLED TV sized 'see through' screen on the right side of operator. The information displayed can be changed by running through the operator menus, but even when these are in use, the operator to still see through the screen so that visibility to the side of the machine is not blocked. Images from various cameras positioned around the machine can also be displayed on the screen eliminating any blind





spots. The machine also featured Bobcat's rear smart camera which detects people with warning colours of red, yellow and blue, depending on the distance they are away from the machine.

ELECTRIC ALTERNATIVES AND RETROFITS

By the end of next year, if not before, most manufacturers will have all electric telehandlers in their product range, especially at the compact end of the market. The change to battery power was led by Italian manufacturer Faresin, which has now taken the concept up to 17 metres. Manitou however - in addition to adding electric telehandlers to its lineup - has just handed over the first example a full electric retrofit telehandler to French rental company Kiloutou which has worked with the manufacturer to develop the concept of taking used diesel telehandlers from the rental fleet and converting them to all-electric powered models using a retrofit kit. The 'repowered' machine offers the same performance as the original diesel model in terms of power and speeds etc but is said to provide a 40 percent reduction in greenhouse gas emissions compared with the original. The life expectancy for the retrofitted machines is said to be at least five years.



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MULTI-FUNCTIONAL MACHINES

In a little over 10 years, Magni Telescopic Handlers has gone from nothing to one of the world's fastest growing and innovative manufacturers by concentrating initially on specialist machines particularly the larger 360 degree and Heavy Lift models. At Intermat founder and chief executive Ricardo Magni spoke about the business and future plans.

Formed in 2013 the business now has a second generation on board - Ricardo's four children Carlo, Eugenio, Carlotta and Chiara. The company is going from strength to strength launching its first compact machine in April and is currently investing €52 million in a new 200 acre/80 hectare production facility close to its existing plant in Castelfranco Emilia, Italy staffed by 540 employees. When those employed at its eight sales subsidiaries are included the head count stands at 662.

The company now has 195 dealers around the world working alongside the subsidiaries - two in the US, five in Europe and one in South Africa. In 2023 it achieved revenues of €509 million, a new record and up almost 12 percent on 2022. It also invested €20 million purchasing land near its head office for future development.

In addition to the financial results, the product range has also grown rapidly. By 2015 Magni had virtually completed its 360 degree range with 21 models, adding the world's highest reaching unit - the 46 metre/6,000kg RTH 6.46 SH the following year. It is now available with an eight tonne maximum lift capacity - the RTH 8.46. In 2020 the company upped its game still further with the 51 metre/6,000kg RTH 6.51 SH. Not content with building the highest, Magni then began to focus on high-capacity models starting with the 13 tonne RTH 13.26, currently the strongest 360 degree telehandler on the market.

By 2022 Magni felt confident enough to move into the highly competitive fixed frame telehandler market, with eight models including 15 and 19 metre models the TH 4,5.15/19 and the TH 5,5.15/19 with 4,500 and 5,500kg capacity. The following year it unveiled redesigned versions of its RTH and TH ranges, with the product line reaching 30 different models, all with improved cabs and high quality injection moulded plastics.

FINANCES AND EQUITY

In 2016 Magni sold a 20 percent stake in the business to Chinese aerial lift manufacturer Dingli for €14.4 million which not only helped fund growth, but also involved technology exchanges between the two companies. At the end of last year with growth accelerating rapidly out of the pandemic years - thanks says Magni to the decision to gear up production when others were cutting back - the Magni family decided to repurchase the shares held Dingli for €61.4 million, providing Dingli with a fourfold gain on its seven year investment.

GROWTH STRATEGY

The key to Magni's growth has been its strategy of building 'big', high specification premium market machines which according to Ricardo Magni "the competition couldn't or didn't want to make."

Revenues increased to €164 million in 2019 but then dipped as Covid hit to €148 million in 2020.





Magni completed its current facility expansion in May 2021 enabling it to double the number of machines

However, seeing the pent up demand that was building, Magni took the bold step of ordering double the amount of parts and components, as suppliers faced cancelled orders from other manufacturers. This, in conjunction with its new buildings being completed enabled it to 'fly' out of the pandemic when others faced supply chain issues, resulting in revenues doubling to €295 million in 2021.

"This was not luck because we had started our new production facility in 2019 which was ready in May 2021," said Magni. "Without it we would not have been able to produce double the number

TELEHANDLERS



of machines. The following year we made a further significant increase effectively trebling our revenue in two and a half years. This was helped by competitors reducing stocks and cutting back because of the pandemic."

The recent €52 million land investment means the company is now able to expand further with the aim to have as many components manufactured locally as possible. "This is three times the size of the Lamborghini car factory," says Magni, "no one has this size of facility in the region. We want to concentrate the production of components locally to eliminate transportation, reduce pollution and reduce costs. We are working to produce our own booms and painting in house. However, we also aim to bring a cab and hydraulic cylinder manufacturer close to our facility."

Included in the investment is the construction of 100 new homes for those working at the new facility, as well as a pre-school and sports centre. Magni has already invested €2.1 million in building a primary school.

"This is a way to compensate the community using agricultural land for industrial purposes - but we are very happy doing this," says Magni.

NEW PRODUCTS

This year the company has announced several new models, including the TH 7.10, RTH 5.18, RTH 8.39 and the latest to be introduced the HTH 12.10. The Magni nomenclature system has the capacity in tonnes followed by the maximum lift height in metres. TH is a fixed telehandler, RTH is a 360 degree model and HTH a heavy lift machine.

"The HTH 12.10 has a maximum capacity of 12,250kg and maximum lift height of 9.5 metres.

It can take nine tonnes to its maximum height and four tonnes out at its five metre maximum forward reach - the load chart is the best in the market," says Magni.

With good margins on the larger machines providing some cross subsidy, Magni has now entered the compact telehandler market

The HTH 12.10 has a maximum capacity of

with the 3,000kg/six metre TH 3.6. It has been developed in response to growing demand from its dealers, with the market for compact machines already estimated at around 15,000 units a year.

"There is a lot of competition in this sector but I think we needed something a little different so at three tonnes we have a bit more capacity over the 2.5 tonne norm, also a full visibility, spacious cab at least 100mm longer than the competition, and it also has the Magni Combi Touch System (MCTS) accessible via the seven inch touch screen as well as a true Load Moment Indicator (LMI) with extremely sophisticated and precise anti-tipping mechanism which allows constant monitoring of the vehicle's movements to avoid overloading. No one has this feature on this size of machine."

"For us, safety is very important and even a small machine must have the same level of safety as our bigger machines such as the RTH 8.46 which costs around €500,000. Also, three compact machines can be transported on a truck reducing costs."



With the additional features and performance Magni has always looked for premium price, typically five to eight percent above the average competitor, and that is no different with this new model. "The increased safety and performance of the TH 3.6 has an additional cost, but we think it is competitive," he says. "This will be the smallest model we offer, we are not looking to introduce a micro machine."

Magni says that its 14 model TH fixed frame product range is now very close to being complete, ranging from three to seven tonnes capacity and six to 24 metres lift height with between three and 19 metres of forward reach. The TH 5.24 and 6.20 also have a five degree load movement to the right or left for easier load placement at height.

Other new introductions include the RTH elevating cab - totally redesigned from the previous version which now complies with ROPS/FOPS standards. The cab can be raised three metres and can tilt by up to 16 degrees, particularly useful in the waste handling sector as well as with the tree cutting attachment.

Three models are available with the elevating cabthe RTH 6.22, 6.31 and the 6.36. Magni claims that their load charts are between 30 and 50 percent



more than the main competitors. In total there are 18 RTH models with capacities of five to 13 tonnes and lift heights from 18 to 51 metres. The nine model HTH range offers capacities from 10 to 50 tonnes and lift heights from 10 to 14 metres.



Magni also indicated that he was looking at the agricultural market and will unveil a new range of seven models in November this year. The company currently supplies Bobcat branded versions of its regular 360 degree models under an OEM supply agreement and hinted that further agreements may be on the cards.

ELECTRIC OR HYDROGEN?

Magni has no electric or zero emission telehandlers at the moment but when asked Ricardo Magni said: "After looking into electric power for the larger RTH machines it was not possible to have a battery life of more than three to four hours. For this type of machine, it is better to think of hydrogen power, but for two of our smaller models - the new TH 3.6 and a TH 5.8 for underground use - there will be electric versions in the future."

Ricardo Magni has 42 years of experience in the industry, having initially worked with his father Pietro who in 1972 established the company Fargh with his children Riccardo, Giorgio and Franca to design and manufacture hydraulic cranes. Ricardo took over the management of the company in 1981 when his father died, just as the company designed its first telehandler. He began a partnership with Manitou in 1982, with the French manufacturer taking a stake in the business in 1986 and renaming it MCI. 360 degree telehandlers came along in the early 1990s, with Manitou acquiring the rest of the company in the mid 2000's, leading to the departure of chief executive Ricardo Magni in 2009. The company name changed to Manitou Italia in 2011. In 2012 - just over three years after leaving Manitou - Ricardo Magni launched Magni Telescopic Handlers.

12,250kg and maximum

lift height of 9.5 metres

RECENTLY LAUNCHED MODELS

DIECI PEGASUS ELITE AND ELECTRIC

Italian telehandler manufacturer Dieci has launched a substantial upgrade to the top end of its 360 degree telehandler range starting with the 6,000kg/35 metre Pegasus 60.35, which becomes the Pegasus 60.35 Elite. The move is part of a programme to offer three levels of machine build - Pegasus Essential, Pegasus Classic and the new Pegasus Elite. The major changes for the Elite are the all-new controls in the form of the Easy Tech System - developed entirely in house - along with a completely redesigned cab that sits right at the front of the chassis and features 'smart' intuitive controls.

The company also unveiled its first all-electric model at an agricultural exhibition in February in the form of the six metre/2,600kg Mini Agri





e-26.6. A version for the construction market was displayed at Intermat in April. Both units are similar to the regular diesel compact models, but the engine is replaced with a large electric motor and one or optionally two lithium battery packs. Actual lift height is 5.68 metres, maximum capacity 2,600kg and travel speed 24kph. The other specifications remain the same. Finally, Dieci is also working on a hybrid model with diesel and battery pack.



Sinoboom has entered the telehandler market with three models - two fixed frame and one 360 degree

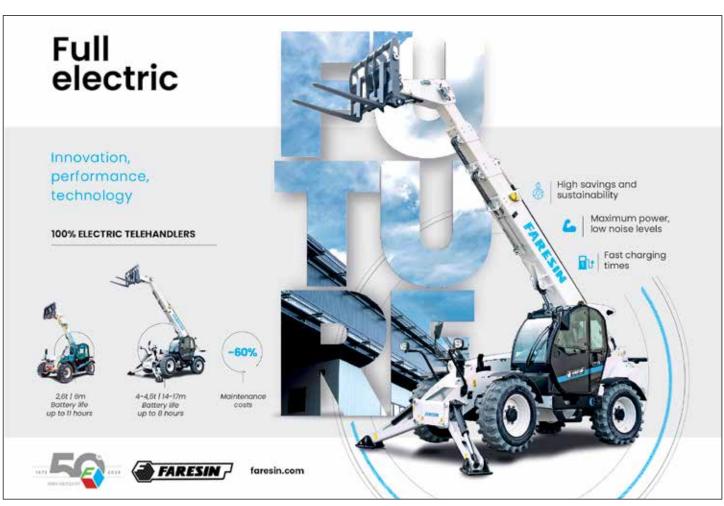
SINOBOOM TELEHANDLERS

Chinese aerial lift manufacturer Sinoboom has entered the telehandler market announcing a three model range which includes two fixed frame machines - the 14 metre/4,000kg TH40-14 and the 18 metre/4,500kg TH45-18 - plus the 360 degree 5,000kg/TH50-18R. All feature hydrostatic transmissions and high basic specifications.

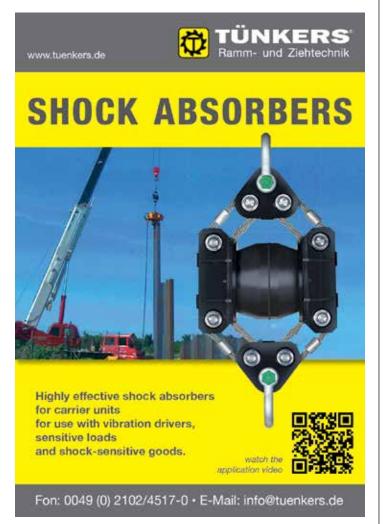
How the Sinoboom telehandlers stack up

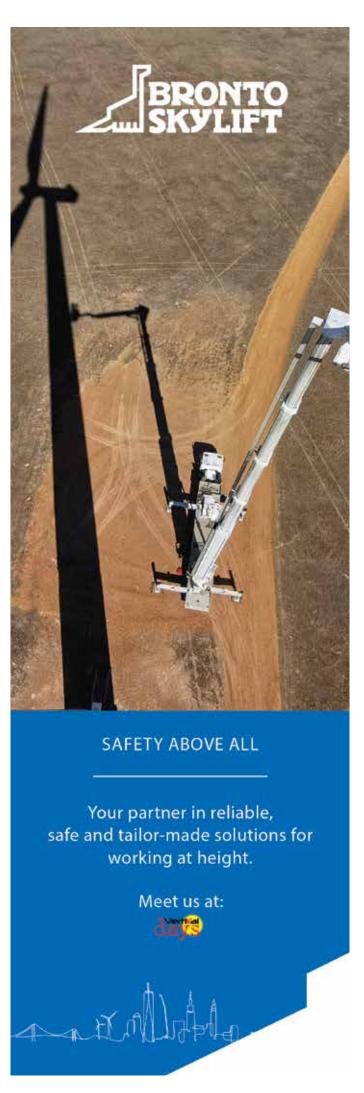
Model	Lift height	Lift capacity	Forward reach	Overall width	Overall length	Overall height	GVW
TH404-14	13.6m	4,000kg	9.5m	2.31m	6.2m	2.57m	11,600kg
TH404-18	17.6m	4,500kg	13.1m	2.3m	6.34m	2.6m	12,500kg
360°							
TH50-18R	17.6m	5,000kg	14.3m	2.5m	6.9m	3.33m	15,415kg

Overall length is without forks









TELEHANDLERS

The fixed frame machines include standard frame levelling, fold down outriggers, four wheel steer, four wheel drive, an overall width of 2.3 metres allowing transportation by container, real-time dynamic load monitoring and cut out, auto engine shutdown, an emergency power system, a 958mm wide cab with all-round visibility, a seven inch smart screen with real time status monitoring, fully proportional joystick controls and automatic engine speed control to match system demand. Maximum road speed is 35kph.

WACKER NEUSON'S ELECTRIC SUB COMPACT TELEHANDLER

Wacker Neuson has launched the production version of its new electric sub-compact telehandler - the TH412e. The machine is similar to the standard diesel powered TH412, offering a maximum lift height of 4.3 metres, with maximum capacity of 1,250kg. A 96V/18kWh lithium ion battery provides an uninterrupted operating time of more than three hours, while a 28kWh option offers five hours continuous operation. When it comes to recharging, a 3kW on-board battery charger is standard, with the option of a duplicate. The two combine to create 6kW for faster charging times.



JLG ADDS NEW SKYTRAKS

JLG has begun the introduction of a new North American SkyTrak telehandler line featuring a redesigned structure, reworked functionality, new technology and improved serviceability. The first machines launched last year were the 6,000lbs/2,700kg capacity 6034 and 6042 models with lift heights of 34ft/10.4m and 42ft/12.8m respectively. More recently the 42ft/8,000lb (12.9m/3,600kg) SkyTrak 8042 has just been announced.

The 6034 telehandler replaces the 6036 model, while the 6042 has been updated from the current machine. The units are also lighter at 14,500lbs/6,600kg and 19,100lbs/8,660kg with an 'optimised' frame structure allowing three 6034s or two 6042s to be hauled on a single flatbed trailer.







The new generation 8042 includes a lighter weight boom and chassis, reducing the overall weight significantly from 12,242kg to 9,600kg. Power is provided by a Deutz diesel which does not require DEF, reducing maintenance as does a 30 percent reduction in hydraulic hoses and connections.

Other improvements include a new hydrostatic transmission, an advanced control system and electric over hydraulic joystick providing easier operation and greater inching control. A load stability indicator with colour coded visuals is optional along with seatbelt engagement and operator presence technology.

SANY ADDS EUROPEAN TELEHANDLERS

Sany unveiled its first European style telehandler the 13.97 metre/4,000kg STH 1440 - mid last year. This was followed up by a further two machines at Intermat in April - the 17.55 metre/4,000kg STH 1840 and the 7.1 metre/4,200kg STH 742.

All three machines feature a 3.6 litre Deutz diesel, Dana hydrostatic transmission, ROPS/FOPS cabs and a three year/3,000 hour warranty. The main specifications are displayed below.

Sany's new telehandlers

outly 5 new telefluridies								
Model	STH 742	STH 1440	STH 1840					
Max lift height	7.07m	13.97m	17.55m					
Max lift capacity	4,200kg	4,000kg	4,000lg					
Capacity at max height	2,500kg	3,000kg	2,500kg					
Cap @ max reach tyres	1,300kg@3.71m	200kg@9.69m	600@10.6m					
Cap @ max reach O/R	N/A	1,250kg@9.69m	550kg@13.4m					
0/A Width	2.35m	2.42m	2.42m					
0/A Length	4.99m	6.16m	6.2m					
O/A Height	2.54m	2.59m	2.59m					
Max speed	30kph	27kph	27kph					
Weight	8,325kg	10,980kg	12,300kg					

ZOOMLION ENTERS

Zoomlion unveiled its new six metre/2,500kg ZTH 2506 telehandler at Intermat. The compact machine has a maximum lift height of 6.1 metres at which it can lift 2,000kg. The maximum capacity is 2,500kg, while the maximum forward reach is 3.5 metres at which point if can handle 800kg. The compact machine has an overall width of 1.83 metres, an overall length of just over four metres and a 1.95 metre overall height.

Zoomlion has also launched two other fixed frame models - the seven metre/3,500kg ZTH3507 and 12.7 metre/3,500kg ZTH3513 - along with two 360 degree machines - the 18 metre/4,500kg ZTH4518R and the 24.8 metre/4,500kg ZTH4525R. The smaller unit can take three tonnes to its maximum lift height, while the larger model can handle two tonnes at full height. Maximum forward reach is 15.1 and 19 metres respectively with a capacity of 600kg and 300kg.

Hydrostatic 4x4 drive, 360 degree continuous slew, a 10.1 inch integrated display and floating forks are all standard, while options include an integrated work platform, buckets and lifting jib.

