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MAGNI
TELESCOPIC HANDLERS



Gehl branded versions will also be available as the GCT 3-14 and GCT 3-14+



Manitou ULM attachments include a pot clamp, branch cutter, Big Bag handler and snow blade



Kramer's latest offering is the compact 1,450kg/4.3 metre 1445

ADAPTING TO MARKET DEMANDS

The telehandler has established itself as a hugely popular and essential materials handling machine in many countries around the world, particularly in the construction and agricultural market sectors. The range of products offered continues to grow as does the types of work they are able to carry out.

Over the last 50 years or so there have been many variations in telehandler design but all tend to fall within three distinct categories: fixed or rigid frame machines, 360 degree or roto models and heavy duty or high capacity machines. Recent additions have expanded the spread of products from the ultra-compact models that can be transported on a standard two axle trailer, to 360 degree machines that can take loads to a height of 51 metres and heavy duty models capable of lifting up to 50 tonnes. In addition battery powered electric models are proving popular at the compact end while some manufacturers are dabbling with hydrogen. We take a look at some of the new product launches.

MANITOU MICROS

A few months ago, Manitou revealed details of its new ultra-compact ULM 412H and ULM 415H micro telehandlers aimed at users in the construction, agriculture and landscaping markets. The two machines are physically similar, with a lift height of 4.3 metres, while capacities are 1,250kg and 1,500kg respectively, which they can handle at their maximum lift height and at up to 1.2 metres forward reach. Maximum forward reach is 2.62 metres with capacities of 450kg and 550kg.

The new models have been designed for transport on a two axle equipment trailer towed behind a 4x4, with an all-up weight of between 2,500kg and 2,900kg depending on specification.



The new models have been designed for transport on a two axle equipment trailer towed behind a 4x4, with an all-up weight of between 2,500kg and 2,900kg depending on specification. Overall length is 3.47 metres, width 1.49 metres and height 1.92 metres. They were designed entirely by Manitou's design office at Lailé where the company will produce all of its 'super compact' telehandlers.

Power is provided by a three cylinder Yanmar Stage V/Tier 4 Final diesel, driving a two speed forward, two speed reverse hydrostatic transmission with standard four wheel drive, oscillating rear axle, four wheel steer and 290mm ground clearance. A Stop/Start option - which cuts in when the machine is left idling - is said to provide a fuel saving of about €10 an hour. Gehl branded versions will also be available as the GCT 3-14 and GCT 3-14+.

A range of attachments includes a pot clamp, branch cutter, Big Bag handler and snow blade. Cab entry is easy with no step, while visibility is unrestricted through 360 degrees. A screen on the dashboard displays all the information required to operate the machine in the form of pop-ups. Deliveries should start in Europe, North America and Australia in the next few months.

TWO NEW KRAMER TELEHANDLERS

Another company with a history in small telehandlers is Kramer - a division of Wacker Neuson. Its latest offering is the compact 1,450kg/4.3 metre 1445 along with the mid-range 3,600kg/9.5 metre 3610. The 1445 is Kramer's smallest and replaces the 1245. Although slightly larger than the Manitou ULM at 1.56 metres wide and 1.99 metres high, it can lift 1.45 tonnes to 4.6 metres and manage 725kg at its maximum forward reach of 2.28 metres. Weighing 2,750kg,



The mid-range Kramer 3610

it is 3.94 metres long or 2.97 metres with forks removed.

Features include the company's quick-hitch system with mechanical locking as standard with hydraulic locking/common quick coupler systems as an option. An electronic parking brake with hill hold function and all-wheel co-ordinated steering are also standard, while front wheel and crab steering are optional. It can also be fitted with low-speed control and hand throttle, as well as up to four different operating modes. A choice of two Stage V Yanmar diesels is available.

The mid-range 3610 can take its 3.6 tonne maximum capacity to a height of 4.6 metres and out to 1.8 metres on full extension, while offering a maximum forward reach of 6.5 metres. Weighing 8.2 tonnes, the 3610 has an overall stowed length of just over five metres without forks and an overall width of 2.28 metres. Overall height with standard cab is 2.31 metres, while an optional raised version takes it to 2.49 metres. Power comes from a Stage V Deutz diesel which offers travel speeds up to 40kph. Features include the company's 'Smart Handling' and intelligent overload protection systems, an automatic boom stow function and its EquipCare telematics system.

**360 DEGREE
SECTOR HOTTING UP**

The 360 degree market has long been dominated by Merlo and Manitou followed by Dieci, however over the past five years or so, the market has grown substantially spurred on by Ricardo Magni's entry into the market with his own brand in 2013. Magni has made a substantial impact in the US market, possibly overtaking both Manitou and Merlo to become 360 degree market leader? Although growing in popularity they remain a slightly niche product, but more growth and user uptake is on the cards as Manitou introduces new models, JLG starts delivering its Dieci-built models and JCB ramps up its participation in a market it previously dismissed as too niche - as did JLG. Perhaps Don Ahern will be encouraged to introduce a 360° Xtreme?



Magni built its brand by providing a very high specification for which it charged a premium, followed by record breaking models such as the 51 metre RTH 6.51 with a six tonne capacity.

After a year or two of rumours JCB finally entered the 360 degree market in the summer of 2019 with the 5,500kg/20.5 metre 555-210R.

It said that the launch was prompted by the growing popularity of higher capacity models in several European countries - but not the UK. It hoped that changing construction methods with modular homes would create more demand in its home market. It launched a second model, the 5,500kg/25.5 metre 555-260R at the end of last year and there was talk at Vertikal Days that a 30 or 35 metre model might be on in the horizon.



The new telehandler has a similar four section synchronised boom to the smaller model, but with longer sections to achieve the additional five metres reach. The 360 degree models share a high level of componentry with JCB's regular fixed frame models.

Features include radio remote controls for lift functions, auto one touch outrigger set up and levelling - with the ability to vary the spread/short rig - and a RFID attachment recognition system

which automatically identifies and adjusts the load chart depending on the attachment in use. Additional options include lighting and camera systems. Power comes from either a Tier 4f or Stage V Dieselmix engine, the latter features Auto Engine Idle and Auto Engine Stop functions. The unit is equipped with a two range hydrostatic transmission and can achieve a 25mph/40kph top road speed.



JLG BADGES DIECI

JLG announced the addition of three Dieci built 360 degree telehandlers to its North American range last September with the first units arriving in April. The three models are the 20 metre/6,000kg R1370, the 24.1 metre/6,000kg R1385 and the 30 metre/5,000kg R11100. The JLG machines are based on Dieci's latest Pegasus models.

Features include front and rear scissor style outriggers with up to six degrees of automatic levelling. Power is supplied by a Perkins diesel

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**NEW HEAVY DUTY
JLG TELEHANDLER**



The 30 metre/5,000kg R11100 - JLG machines are based on Dieci's latest Pegasus models

on the R1370, while the R1385 and R11100 are equipped with FPT diesel engines. All models feature a two speed, 'stop to shift' hydrostatic transmission that delivers a smoother ride over uneven terrain. Foam filled tyres are standard on all models, with the option of air filled tyres in two different treads.

A line-up of 13 attachments includes work platforms, lifting jibs and winches, standard and rotating carriages, forks, buckets, truss booms and coupler mounted hooks. Technology on the three machines includes automatic attachment recognition, a Load Management Information System and a Load Stability Indicator.

Dieci has a long history of building/badging specialist models for other manufacturers. It had a long term arrangement to build Bobcat's 360 degree models, which ended in late 2020 when it switched to Magni. Dieci has also built compact models for Ahern's Xtreme Manufacturing and New Holland as well as heavy duty/high capacity models for Haulotte.

JLG has also just added a new heavy duty model in the form of the 12,000kg/10 metre 2733, topping the three model heavy duty/high capacity line-up. The 2733 has a two section boom offering a maximum forward reach of 5.36 metres with 3,600kg capacity and can take 7,000kg to its maximum lift height. It features a Cummins Tier 4F diesel driving a two speed hydrostatic transmission with optional ride control and boom float to improve load stability and provide smoother operation on uneven terrain. The unit has up to eight degrees of frame levelling. Overall width is just under 2.5 metres, with a stowed length of 6.32 metres and height of 3.05 metres. Total weight is 17.6 tonnes and maximum speed is 17mph.



Inside the JLG 2733 cab

The cab is said to offer more space, improved visibility and intuitive controls and includes JLG's Longitudinal Stability Indication (LSI) system which monitors the load and warns of an impending overload situation. It is available with JLG's SmartLoad Technology which combines

JLG has added a new heavy duty model - the 12,000kg/10 metre 2733



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attachment recognition a load management indication system (LMIS). The unit includes precision gravity boom lowering and soft stop controls.

The 2733 can also be equipped with an optional right side electronic mirror for greater visibility on that side of the machine. This system has three components - two cameras (one facing forward and one facing the rear), an internal display located inside the cab and right side cameras that replace the usual right side external mirror. The machine is also available with radio remote controls for all lift functions, something that is growing in popularity.

Other options include a multifunction display and a reverse sensing system. The display features integrated electronic load charts, a reversing camera, diagnostics and analyser capability to assist the operator during operation.

JLG says the machine is versatile enough to replace a wheeled loader in certain applications, while offering greater lift height and forward reach, as well as higher travel speeds and rough terrain capability.

NEXT GEN SENNEBOGEN

Another new heavy duty telehandler that combines the benefits of a wheeled loader and telescopic handler is the Sennebogen 3.40 G series. The four tonne 3.40 G has a lift height of 7.7 metres and a state of the art new cab that can elevate to 4.1 metres for an improved view when loading into closed side containers. The new machine is designed as a dual purpose machine able to work full time as a wheel loader replacement or as a heavy-duty compact telehandler.

It is an unusual size for a telehandler. Merlo builds a similar model in the form of the 7.8 metre/5,000kg TF50.8T-170-HF which has comparable specifications in terms of dimensions and weight but offers significantly more capacity.



Another new heavy duty telehandler that combines the benefits of a wheeled loader and telescopic handler is the Sennebogen 3.40 G series.

The Sennebogen 3.40 G can lift 2.6 tonnes at the 7.7 metre maximum lift height with the oscillating axle free to float, or 3.3 tonnes when locked. Maximum forward reach is 3.9 metres with a capacity of 1.7 tonnes. The overall weight of the new model is 9.4 tonnes. It has an overall width 2.43 metres, an overall height of 2.47 metres and an overall length of 5.4 metres. The maximum default drive speed is 20kph, although 30 and 40kph/25mph can be specified.



The four tonne 3.40 G has a lift height of 7.7 metres and a new cab that can elevate to 4.1 metres for an improved view when loading

HIGH BOOM MODELS

Two recently launched North American high boom models include the 26 metre/5,400kg XR1585-C fixed frame from Xtreme Manufacturing and the 4,500kg/17.2 metre Pettibone T1056X Traverse model.

The Xtreme XR1585-C features a five section boom with rollers rather than wear pads and offers a 20.4 metres of forward reach. It has an overall weight of 29.7 tonnes, an overall width of 2.6 metres and a stowed height of 2.7 metres. Power comes from a Cummins Tier 4 Final diesel.

The XR1585-C also features a new patent pending option, the Operator Station - a one

person platform attached to the rear of the fork carriage - from which a person can operate all of the machine's boom functions via a wireless RF pendant type remote controller. The operator travels with the load, so that he is better placed to position it at height.

Another new patented feature is the Coordinated Motion boom control function which uses two sensors on the boom to coordinate the horizontal and vertical boom operation to achieve a true horizontal or perfect vertical fork movement, regardless of the chassis angle. It is also available on the Xtreme XR944-B and XR1147-B telehandlers and will be rolled out across the rest of the range.

Ahern has also reached a distribution agreement with Spanish manufacturer Ausa, to offer its full product range in Australia via its subsidiary Ahern Australia Ausa.

TRAVERSE PETTIBONE

Pettibone launched the 4,500kg/17.2 metre T1056X last year. Product manager Mitch Fedie said: "We introduced the Traverse T1056X in 2021. This was our first 10,000lb (4.5 tonne) traversing model, filling an important gap between



The 26 metre/5,400kg XR1585-C fixed frame from Xtreme Manufacturing



Pettibone launched the 4,500kg/17.2 metre T1056X last year

TELEHANDLERS

our 9,000lb (4.0 tonne) and 12,000lb (5.4 tonne) Traverse models. We also officially launched our new X-Command telematics, which is standard for two years on all Pettibone X-Series telehandlers." Pettibone also says that it has no plans to offer electric powered X-Series models.

FARESIN NEXT GEN

Last October Faresin announced a new generation of telehandlers starting with the seven metre/3,200kg FS 7.32 Compact with a 7.1 metre lift height and 3.65 metre forward reach. Overall width is 2.1 metres and the length 4.6 metres. The transmission can either be supplied with a 45 percent self-locking limited slip differential or a hydraulically operated differential lock. A choice of five Stage V engines combine with a new 'Ecodrive' dual range hydrostatic transmission which gives a 40kph top road speed while the low range allows the slowest of creep speeds for carrying heavy loads.



A single range transmission is available as an option with a maximum road speed of 30kph. A standard 'Auto Start-Stop' function cuts the engine when the operator leaves the cab and restarts it when they return. The company has also gone to great lengths to make the look of the new models more distinctive and sophisticated. The new side covers are not only a design statement, but they also improve the airflow into the engine compartment while maximising visibility from the cab. The engine and componentry layout has also been improved to provide better access to all routine service areas.



The cooling system incorporates a new integrated exchanger and electronically controlled fan system with a reverse airflow mode. It is said to both reduce energy consumption and reduce noise levels. A range of auto detect attachments are available that can be installed or changed from the cab with a hydraulic locking cylinder.

ALTERNATIVE POWER

While several manufacturers including Faresin, Manitou and JCB are already producing battery

electric telehandlers, JCB has also invested £100 million in a project to produce clean hydrogen engines.

The company is dedicating a team of 100 engineers to the project, with plans to recruit up to 50 more to meet the company's target to have the first machines production ready by the end of 2022.



JCB chairman Anthony Bamford said: "We make machines which are powered by diesel, so we have to find a solution and we are doing something about it now. We are investing in hydrogen as we don't see electric being the all-round solution, particularly not for our industry because it can only be used to power smaller machines. We will carry on making engines, but they will be super efficient, affordable, hydrogen motors with zero CO2 emissions."

Bamford's son Jo, a JCB director, founded and owns hydrogen manufacturer HyGen Energy and distributor Ryze Hydrogen which recently teamed up with HyNet to accelerate growth in the sector.



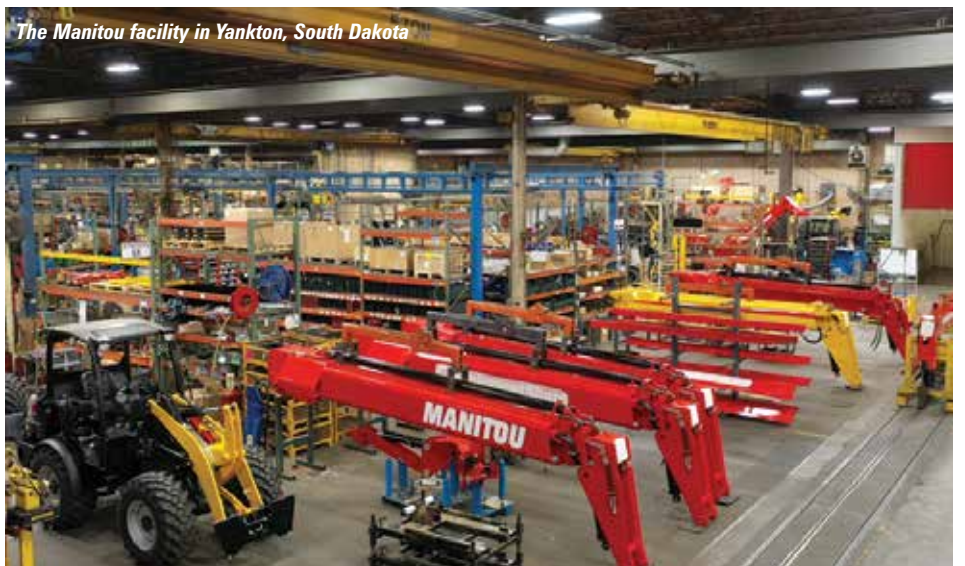
JCB does of course produce a battery electric telehandler, launching the all-electric six metre/2.5 tonne compact telehandler - the 525-60E - at the end of 2020.

It employs two electric motors in place of the diesel, one drives the transmission/driveline while the other powers the hydraulic pumps for lifting operations, both fed from by a 96 volt lithium-ion battery pack. The new hydraulic system features 'smart regeneration' with power recovered during boom lowering and retraction which is fed back into the battery.

MANITOU'S ALL ELECTRIC MRT

Manitou unveiled its new 22 metre/6,000kg MRT 2260E battery powered 360 degree telehandler at Matexpo in Belgium last year. The new MRT Vision and Vision + range was announced last April with the new 22 metre model available in three versions. The first is a full electric version equipped with a lithium-ion battery pack, which the company says can work continuously on a typical application for up to four hours before needing a recharge. The same machine can also be equipped with two lithium-ion batteries to double the time between recharges and is designed for customers who typically use the machine up to 1,000 working hours a year. Finally, a hybrid 'range extender' version is available with a diesel engine to recharge the battery in order to allow continuous use.

Manitou has also announced plans to invest \$80 million in its two North American manufacturing facilities, Yankton, South Dakota, where it manufactures telehandlers and wheeled loaders and Madison, South Dakota, where it builds skid steers. ■





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On 'Electric Avenue' GGR revealed higher rated lithium ion battery options for the Faresin 625 Full Electric telehandler



GGR hosted the UK launch of the diesel Faresin 1740 telehandler



Manitou exhibited its new MRT1645 Vision and the MRT3060 Vision Plus telehandlers

TELEHANDLERS ON PARADE

Nick Johnson checked out the telescopic handlers on show at this year's Vertikal Days

This year's event had a good spread of telehandlers on show, many of them new or recently launched. GGR highlighted the latest developments to the Faresin range of compact battery powered models. Using its typical marketing flair, the company appropriately labelled the aisle running alongside its stand as 'Electric Avenue' reflecting the impressive line-up of these new compact Faresins.

With the pioneering introduction of the Faresin 626 full Electric telehandler to the UK in February 2020, Faresin and GGR stole a march on other manufacturers. The machine has subsequently proved increasingly popular with customers seeking an environmentally friendly compact telehandler with zero emissions and a significant reduction in noise levels.

The company proudly displayed a number of 626 Full Electric telehandlers carrying the names of prominent customers Galliford Try and Wilson Homes. The show was also used to reveal details of how GGR and Faresin have listened to prospective users and introduced more powerful Aliant lithium ion battery packs to reduce charging times and increase continuous use between charges.

The initial 300Ah and 400Ah battery options have been replaced by 330Ah and 440Ah batteries, a 10 percent increase, while a new 560Ah battery pack is now available. They raise continuous work times to 3.5, 5.5 and 10 hours respectively or 6.0, 10 and 20 hours typical use run times.

Faresin is also set to launch a larger all-electric model at Bauma this October. Meanwhile, GGR displayed the diesel powered 16.4 metre/4,000kg Faresin 1740 telehandler - the first time it has been shown in the UK.

WIDE FORK CARRIAGE

An interesting feature spotted on the Magni stand was its heavy duty, 6,000kg/10 metre T6.10P fixed frame telehandler with a special 2.4 metre wide fork carriage, which has been specially developed

to handle steel sections in stockyards and on construction sites.

The company also showed two of its 360 degree telehandlers - a 6,000kg/30 metre RTH6.30 fitted with an access platform attachment and a 6,000kg/39 metre RTH6.39 equipped with a winch and hook. The company also spoke of the additional production capacity following the opening of its new plant in Italy.



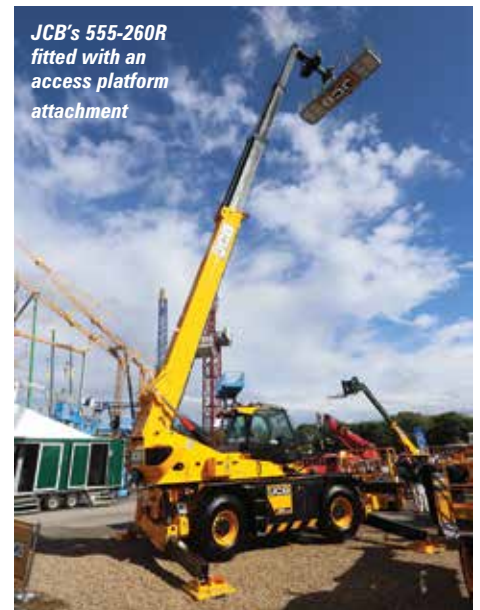
A special 2.4 metre wide fork carriage installed on a six tonne Magni T6.10P

MANITOU MRTS

The highlight of the Manitou stand was the appearance of two of the company's brand new MRT range of rotating telehandlers. Featuring distinctively shaped cabs, the machines displayed were the MRT1645 Vision and the MRT3060 Vision Plus. Powered by Stage V diesels and with maximum lift capacities of 4,500kg and 6,000kg respectively, the units have maximum lift heights of 15.9 and 29.9 metres.

JCB EXPANSION?

The largest JCB telehandler on show was the 360 degree 555-260R fitted with an access platform attachment. With a 26 metre lift height and a maximum capacity of 5.5 tonnes, this is the larger of the company's two 'roto' telehandlers. The company is expecting to build around 370 units this year, while production is predicted to move shortly from the telehandler line at its main Rocester factory to a new dedicated facility beside the A50 in Staffordshire. The facility will offer more capacity that will help cope with



JCB's 555-260R fitted with an access platform attachment

further introductions to its range probably with maximum lift heights of around 30 and 35 metres.

The all electric 525-60E 2,500kg six metre compact telehandler was also on display. The machine can now be charged with JCB's recently introduced Universal Fast Charge Unit with a protective Charge Guard. JCB claims that it can recharge the compact unit in less than two hours.

SNORKEL BY FARESIN

Another small electric telehandler was on show at the Snorkel stand. Produced for the company by Faresin, the Snorkel SR626E is an all-electric 2,500kg/six metre machine. ■



Produced for Snorkel by Faresin, the Snorkel SR626E is an all-electric 2,500kg/six metre machine

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