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NEW ELECTRIC MODELS DOMINATE

The growing truck mounted platform market is increasingly dominated by the current preoccupation with electrification. While seen as a short rather than long term solution in some quarters, manufacturers are embracing it whole-heartedly, offering a variety of solutions from hybrid, part electric and more recently full electric lifts.

The cost of the chassis has always been a major problem with all electric truck mounted lifts, however developments in battery technology, cost savings due to increased production volumes and improving availability - coupled with the increasing pressure to go 'green' - has resulted in chassis that are beginning to reach acceptable price points.

Obvious target markets for 'green' machines include municipalities, internal work on airports and large public buildings, green maintenance companies and large rental companies looking to offer a product for clean operation in residential areas, construction sites or night time jobs. However, while most truck mounted lift manufacturers have at least one electric or hybrid model in their range, demand is still restrained by the cost and ease of charging and travel range.

Italian truck mounted and spider lift manufacturer CTE is the latest to launch a new 20 metre all-

electric truck mounted platform. The MP 20 Ev - said to be 100 percent Italian made - was formally launched at Bauma, created in partnership with Green-G Electric Vehicles of Gorizia which produces zero emission electric commercial vehicles under the 'ecarry' name.

Power for the MP 20Ev comes from a 35 kWh Webasto lithium ion battery pack, which is Li-ion NMC, R100 certified giving a range of up to 70km along with 25 full work cycles. The power supply system offers the advantage of being able to work entirely on battery or 'plugged-in' mode, connected to a 220/380 volt AC outlet with the supplied charging device. There is a 7.5kW electric PTO, coupled to a 380V motor and a Smart inverter which powers the functions of the platform.

The unit features a single fixed section riser/lower boom topped by a two section telescopic boom and articulating jib, offering up to 13 metres of



The Italian-made all-electric CTE MP 20 Ev

outreach and 250kg platform capacity.

The MP 20 Ev has an overall width of just under 1.6 metres is 5.2 metres long with an overall height of just 1.96 metres, while managing to keep within the overall weight limit of 3,500kg. The lower control console is linked to a wireless remote with integrated display, while the upper



Bronto showed its battery/hydraulic Hybrid Pack concept at Bauma mounted on its new compact 35 metre S35EM

controls have the same look and feel of the ground controls with integrated display for easy learning and familiarisation for the operator. It is also equipped with CTE's S3 EVO management and control system.

Marco Govoni of CTE says: "This agreement is the natural consequence of our green vision of the future. We chose 'ecarry' and Green-G because it is a vehicle entirely designed and manufactured in Italy and we believe in the value of Italian excellence."

Antonio Chiello of Green-G - Electric Vehicles adds: "With its compact dimensions and 3.5 tonne weight, the ecarry is the most advanced vehicle in its category, with performances clearly above the standard. It has been designed specifically for service companies and public bodies operating in metropolitan areas, carrying out repetitive activities with frequent stop/starts."

POWER PACKS

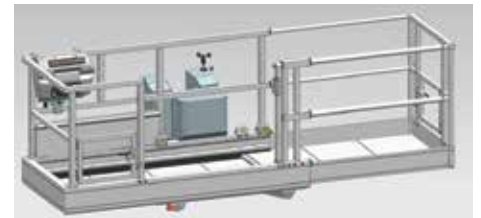
While there are very few all-electric truck mounted lifts available, several manufacturers including Bronto and Palfinger are developing electric power packs particularly on the larger truck mounts so that at least the platform operation is all electric. The packs fall into two categories - battery/electric and battery/hydraulic, providing a simple cost effective solution to eliminate noise and emissions.

Bronto showed its battery/hydraulic Hybrid Pack

concept at Bauma mounted on its new compact 35 metre S35EM. The Pack uses a lithium ion battery and electric motor driving the hydraulic pump and is said to have sufficient power for a typical working day. However, if the battery is low, the lift can still be operated as usual using the chassis PTO pump. Bronto plans to offer retrofit kits for existing machines where possible.

Product manager Arne Denks said: "You could say we made our first hybrid aerial work platform in 2010 when we delivered a tailor made solution with lead acid batteries to a customer in Sweden. After acceptance from our customer base and possible further co-development with some of them, the concept will be expanded to other Bronto models."

The new S35EM was launched at Vertical Days in May with UK based Nationwide Platforms taking delivery of the first unit. Mounted on a Scania L320 chassis the lift features a five section telescopic boom topped by an articulated jib giving an outreach of up to 29 metres. The Nationwide unit was supplied with the extendable 3.4 metre platform with a maximum capacity of 350kg, additional features include Bronto's new 5+ control system, automatic variable outrigger set up and automatic levelling. The chassis features the new Scania L320 cab with a number of safety innovations including being closer to the ground for easy entry, with substantially improved visibility including its 'City Safe Window' which



Bronto's extendable 3.4 metre platform with a maximum capacity of 350kg

offers significant increases to the driver's ability to detect and avoid pedestrians and cyclists.

PALFINGER EDRIVE

Palfinger Platforms was another company displaying a prototype battery/hydraulic pack at Bauma with its eDrive solution. The company's Vision & Strategy 2030 sets a clearly defined goal to achieve emission-free lower noise work and highlights the importance of electric power towards achieving it.

The prototype eDrive battery packs highlight the ease and flexibility with which mobile and retrofittable electric power packs can provide emission free operation for its truck mounted lifts when working in places without a mains power supply.

Electric drive has already been integrated into some Palfinger models, including the 37 metre P 370 KS E which uses a diesel engine combined with an electric drive for the platform, combining benefits of diesel power with significant fuel savings and lower operating costs. Palfinger also unveiled fully all-electric platforms, including a 28 metre P 280 CK on an eVolvo electric chassis and the 25 metre P 250 BK on an Iveco eDAILY. The 25 metre P 250 All Terrain combines the off road capability of an Unimog chassis with the electric power pack for quiet operation, something that utility teams state is a great aid to safety in that it allows those on the ground to communicate more easily with those in the platform.

Palfinger is currently expanding its plant in Löbau, Saxony to around 32,000 square metres in order



The Palfinger eDrive being shown on its stand at Bauma



The 37 metre Palfinger P 370 KS E uses a diesel engine combined with an electric drive for the platform



The prototype emission-free P 250 BK was seen at Bauma



The 25 metre P 250 All Terrain on a Unimog chassis

to add products currently built at the company's facility in Krefeld, North Rhine-Westphalia which will close next year when the lease expires. This will create a single substantial production site for much of its truck mounted platform range. The two plants were the result of two acquisitions - Löbau based Bison in 2004 and Krefeld based Wumag in 2008. Gerald Pschernig of Palfinger said: "From 2023, as well as the light and premium type machines, large truck mounts will be assembled at the plant in Saxony which will be a significant hub for future design and developments in all specialist disciplines from mechanical engineering to mechatronics and application programming."

ANOTHER FULL ELECTRIC TRUCK

Italian manufacturer Multitel Pagliero offers 30

models of truck mounted platforms on 3.5 tonne chassis in addition to its larger models. With production this year reaching 2,220 units Multitel is the world's largest full range truck mounted lift manufacturer and continues to develop new products. Five new truck mounts include three telescopic - the 23 metre MTE 230 Hybrid, the 27 metre MTE 270 EX and the 24.7 metre MJE 250 - along with 25 metre MZ250 and 35 metre MZ 350 articulated boom models.

Mounted on a 3.5 tonne chassis the 23 metre MTE 230 Hybrid uses a 48V lithium battery capable of at least eight hours standard work cycles. All functions including outrigger set up can be carried out in full electric mode. The 230 volt battery charger completely recharges the battery pack in four hours, however the chassis mounted alternator

and inverter provides around 15 percent of top up for every hour of travel.

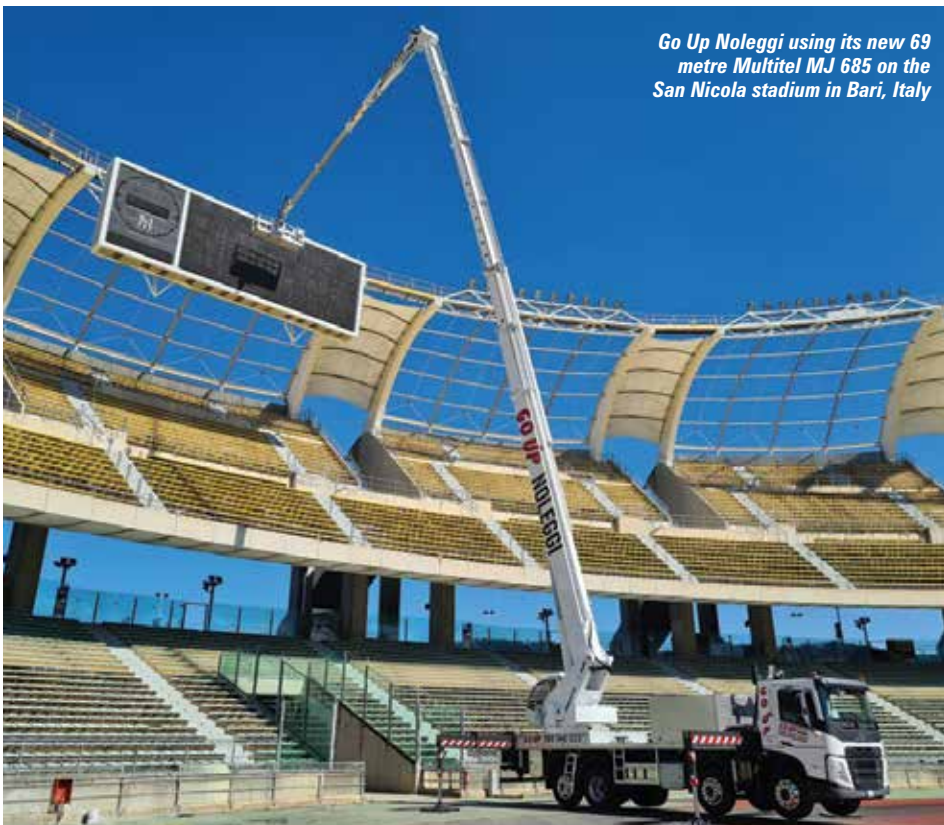
The MTE 230 also features Multitel's MUSA X (MULTitel Self Adapting Outreach) which monitors the outrigger set up, weight in the platform, boom position/slew and inclination of the chassis to calculate the best safe working envelope. The system is currently also available on the MTE 270 and MJE 250.

The new 25 metre MZ 250 articulated lift offers up to 14.3 metres of outreach and is mounted on a 3.5 tonne/three metre wheelbase truck. Its bigger brother - the 35.3 metre working height MZ 350 - is mounted on a 12 tonne chassis and can be specified with the optional Hybrid pack with 210Ah lithium batteries powering a 12kW electric motor. It also can be fitted with a 500kg winch in place of the platform. All models feature the EVE telematics system which includes GPS tracking, machine status display and remote diagnostics.

FULL ELECTRIC MULTITEL

Multitel is also developing full electric models for launch in the third quarter next year. The 16.5 metre MT 162 DS will be mounted on a 3.5 tonne Iveco e-Daily 35S chassis with up to 130km range and an additional battery pack for the platform. At the same time, Multitel expects to have the larger 4.2 tonne e-Daily 42S C license all -electric chassis available for all of its models up to 27 metres. Fitted with dual battery packs, the chassis will have a range of about 250km.

Multitel's largest truck mount is the 77.5 metre MJ775 mounted on a 44 tonne five axle chassis, with an outreach of 38 metres. The company indicated at Bauma that it is looking to introduce further large machines next year.



Go Up Noleggi using its new 69 metre Multitel MJ 685 on the San Nicola stadium in Bari, Italy



Multitel is also developing a full electric version of the 16.5 metre MT 162 DS to be mounted on a 3.5 tonne Iveco e-Daily 35S

ACQUISITIONS ABOUND

Apart from electrification, a major talking point in the truck mounted market over the past year or two has been acquisitions, the most recent being the acquisition of Italian manufacturer Isoli by Klubb in mid-October. A few months earlier Time Manufacturing/Versalift acquired FE group - owner of France Elévateur and its Spanish affiliate Movex - have taken over Ruthmann last year. The two acquisitions follow the participation of private equity firms - Time has been majority owned by H.I.G. Capital since the end of last year, while Andera Partners acquired a 'significant minority stake' in Klubb last July.

France's Klubb acquired all of the shares in Isoli along with the freehold of its 77,500 square metre purpose built plant in on the edge of Fontaniva, between Verona and Venice. Isoli employs around 120. The deal closed on the Friday before Bauma opened. Klubb is not only interested in Isoli's aerial lift business, but also keen to maintain its recovery truck/crane product line.

Klubb's founder and majority owner Julien Bourrellis said: "We have been the Isoli dealer since 2006, so it was natural for us to go further. It is a really nice brand which needs to be refreshed and my team is really excited by this project. Klubb is probably number one in market share in the utility sector in Europe but not in the rental market. Isoli will help us to develop sales to rental companies."

Isoli was founded in 1946 by the Isoli brothers to design and manufacture aerial work platforms, tow trucks and special equipment, including cranes and military recovery equipment. Over the years it has won a number of prestigious contracts for institutions such as the UN and sold its equipment all over the world.

BAMBOO DECKING

Klubb has been a pioneer of low emission truck mounted platforms, but its latest development is a new decking material made from bamboo/balsa composites replacing energy intensive aluminium or steel. At Bauma the company displayed bamboo decking on a KL-26 lift mounted on a Renault Master chassis, which usually uses aluminium decking. The bamboo deck material is not only far more efficient to produce, but the raw material is grown locally in Southern France significantly reducing shipping costs. Klubb says that the development of environmentally friendly and more sustainable materials is one of the main activities of its R&D department.



Klubb's new bamboo deck on a Renault Master chassis



Dinolift's hybrid version of its 23 metre lift, the 230VTH

"A significant advantage of renewable materials such as bamboo is that it absorbs CO2," says Bourrellis. "The material absorbs two tonnes of CO2 rather than the 21.8 tonnes emitted to produce a tonne of aluminium."

Other benefits include a 20kg weight saving, while the top layer of bamboo composite material is non-slip. The KL-26 was also equipped with biodegradable oil and battery pack to power the platform. As Bauma closed Klubb announced the appointment of Hematec Arbeitsbühnen as its exclusive distributor for Germany. Hematec distributes Isoli, and also offers Dinolift's 23 metre 230VT truck mounted lift.

Late last year Dinolift launched a new hybrid version of its 23 metre lift, the 230VTH. Mounted on a 3.5 tonne Mercedes Sprinter Basic chassis it has a battery electric powered superstructure, with a four section telescopic boom and pedestal mounted platform offering a maximum outreach of 15.1 metres with 100kg, or 11.3 metres with the maximum 230kg platform capacity. The machine is powered by a 48 volt lithium-iron phosphate (LiFePo) battery pack, said to be good enough to work a full day without the need for recharging. However, should this be needed the machine will operate in a traditional manner from the chassis engine, which also recharges the battery pack thanks to a standard 1kW inverter and high voltage battery charger.

TIME MARCHES ON

The company structure at Time Manufacturing has always been complicated and the recent

acquisitions mentioned above have only complicated that further. The business now includes: Versalift, Ruthmann, BlueLift, France Elévateur, Movex, BrandFX and Aspen Aerials.

Owner H.I.G, based in Miami, Florida was founded in 1993 and has assets under management of more than \$45 billion. When it acquired Time, it said: "The acquisition of Time Manufacturing will catalyse the company's global growth plan, which has been in place since 2017, since when Time has experienced significant profitable growth, both domestically and internationally, including nine acquisitions and the addition of distribution hubs across Europe and in Asia.

Today the business is managed by Jay Jeffrey president of Time Manufacturing, Kim Bach Jensen president of Time Manufacturing Europe, Martin Christiansen managing director of Versalift Europe including the UK and France, Uwe Strotmann chief executive of Ruthmann, and Charles Goffin chief executive of France Elévateur and Movex. The European group now employs around 1,300.

Bauma saw all the companies and senior managers on one stand and while there were clear company divisions, it will be interesting to see how the product ranges - particularly FE and Movex - develop. At the show the group unveiled several new truck mounted lifts.



Time management all together at Bauma: (L-R) Charles Goffin chief executive of France Elévateur and Movex, Martin Christiansen managing director of Versalift Europe, Uwe Strotmann chief executive of Ruthmann, Jay Jeffrey president of Time Manufacturing and Kim Bach Jensen president of Time Manufacturing Europe

 BRONTO
SKYLIFT  50 YEARS



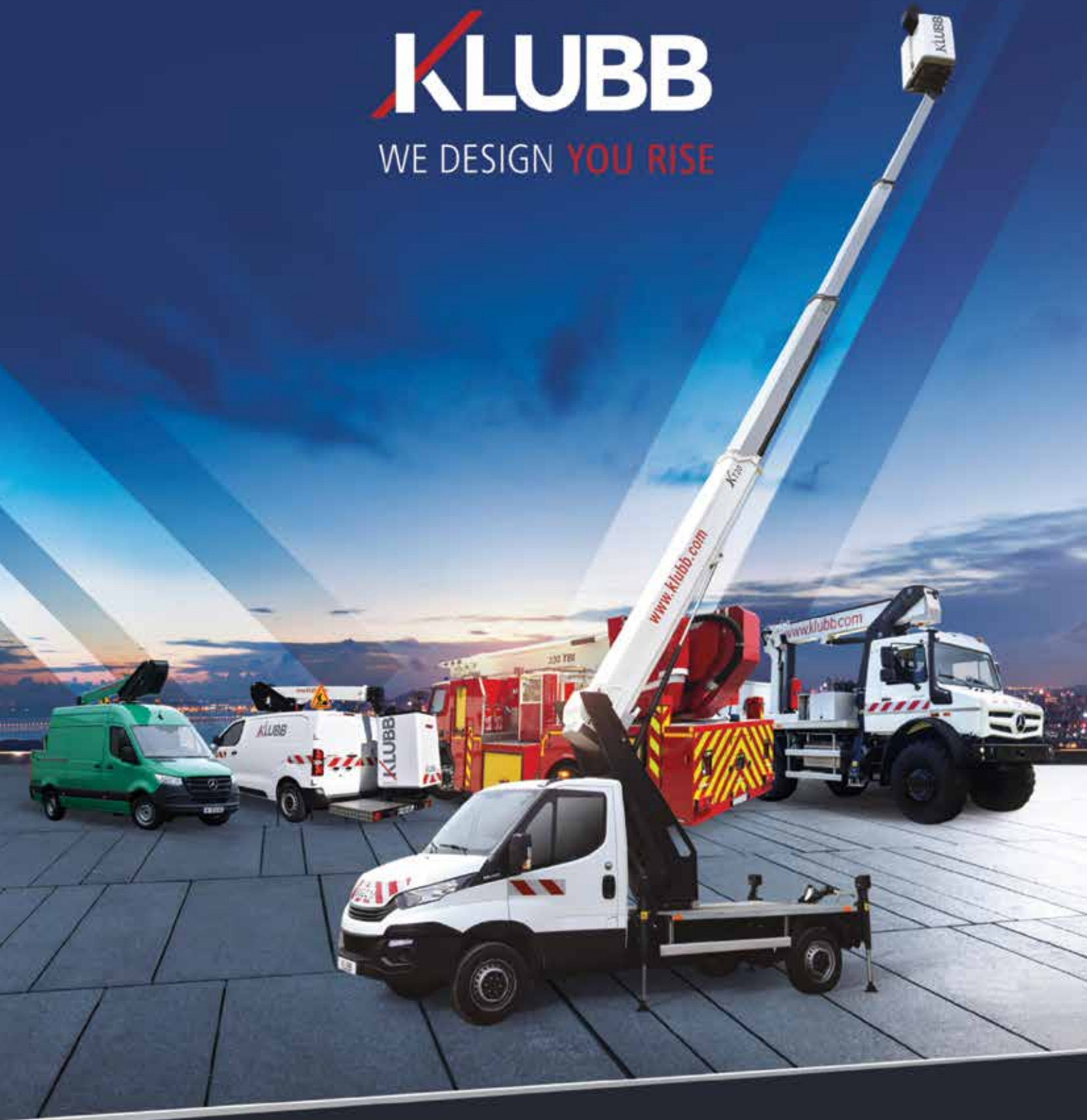
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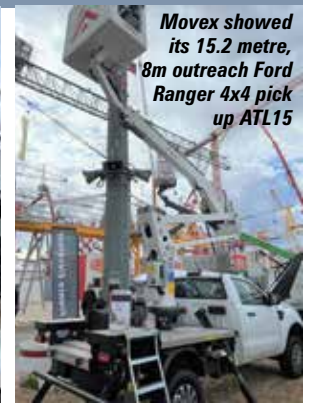
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Ruthmanns new 27m Ecoline 270 and T 300 XS Hybrid on its Bauma stand



The new 15.1 metre FE Upto 15 on a Renault Master van



Movex showed its 15.2 metre, 8m outreach Ford Ranger 4x4 pick up ATL15

RUTHMANN

Ruthmann has two ranges of smaller models, the premium TBR Steiger range and the budget Ecoline built in Italy. The new 27 metre Ecoline 270 is, according to Strotmann, “the next level in the low budget segment” and the first result of full cooperation between Italian and German R&D/design departments. Mounted on a 3.5 tonne chassis with an overall length of 7.53 metres it is 300mm shorter than the 23 metre Ecoline 230. It offers up to 16 metres of outreach, 230kg platform capacity and can work on a slope of up to five degrees. It also shares some componentry with the German built TB 270+ and the Italian built Ecoline 230.

Ruthmann also unveiled a 26 metre all-electric Ampero TBR 260 E on an Iveco eDaily chassis and last year announced the T 300 XS Hybrid which it claimed was the “world’s first 7.5 tonne truck mounted platform with hybrid drive”.

Versalift is also looking at higher strength steels to reduce weight and offer hybrid power on more models with a choice on its e-Tech battery packs of AGM 5C, and Lithium ion 20C, 30C and 50C - to suit all price points. They can also be retrofitted.

At the bottom of the price point is e-Tech 5C which uses a 12 volt/110Ah AGM battery capable of five to 10 full cycles, with recharging from the chassis, it can also be ordered with Bluetooth and an LMC control system. Top of the four battery range is the e-Tech 50C which uses a 48 volt/200Ah lithium ion battery capable powering 30 to 50 full work cycles, while offering optional plug-in charging it is also compatible with both the LMC and FPC control systems.

Versalift’s full electric offering is the 12.3 metre VTE-35-125 mounted on a 3.5 tonne Renault e-Tech chassis with a 52kWh battery, providing a range of up to 148km. A separate battery to power the platform functions. The Ford E-Transit chassis is also an option.

There are also four new Versalift truck mounted products planned for next summer, including the

17 metre/11.2 metre outreach, 300kg capacity V-170, the 19.9 metre/14 metre outreach, 300kg capacity V-200, the 21 metre/13 metre outreach 300kg capacity V210 and the 22.5 metre/12.6 metre outreach, 300kg capacity V-225-F.

FE AND MOVEX

With France Elévateur and Movex not joining the group until very recently they still offer a full and overlapping product range. So, it was interesting to see which models were shown to the public by each brand. France Elévateur had two products on the stand, the 11.2 metre Topy11 kit on a Mercedes Sprinter/Ford Transit and the new 15.1 metre Upto 15 on a Renault Master van. This is one of a new range of truck or van mounts with working heights from 11 to 18 metres with the option of a jib with 180 degrees of articulation and a smart control system said to eliminate 20 percent energy loss. Movex also had two models on display, the 16.4 metre TLR16 truck mount and the 15.2 metre/eight metre outreach Ford Ranger 4x4 pick up ATL15.

OTHER DEVELOPMENTS

Another company that launched its first all electric platform last year was Italian manufacturer Cela and it has also developed a new hybrid system called Hybrid+.

Fellow Italian manufacturer Socage introduced a new range of 3.5 tonne truck mounted which feature Speed - its automatic outrigger set-up and levelling system. The latest in the range is the new 24 metre forSte24D Speed with 12.7 metres of outreach.

Socage also has its relatively new 100 metre truck mounted lift in production. The FortSte 100TJJ requires a five axle, 52 tonne chassis and features a five section lower boom/telescopic riser, which can elevate to almost 90 degrees, topped by a four section upper boom. As with other TJJ models it features a jointed articulated jib which results in an up & over height of up to 68 metres with an outreach at this height of almost 33 metres. Maximum outreach is 43 metres at an up & over height of 14 metres and a capacity of 350kg.

Below ground reach is 26 metres at a 12.5 metre radius. Maximum capacity in the 2.3 to 3.6 metre



The FortSte 100TJJ has an up & over height of up to 68 metres with an outreach at this height of almost 33 metres

by 900mm telescopic platform is 600kg with a six person rating, which is also available at the maximum working height of 99.5 metres. The overall length on the road is 15 metres, with an overall height of just under four metres. The outrigger set up is variable with the company’s Multi-Zone system that allows the operator to set them to match the available space, the system then automatically calculates the optimum working envelope. Standard platform rotation is 180 degrees, but a manually rotating top jib can extend this to 360 degrees.

The latest truck mount from another Italian truck mount manufacturer Oil & Steel is the Scorpion 16 and Scorpion 16 Pro. The Pro has a working height of 16 metres, 11.3 metres outreach and 300kg maximum capacity. The Scorpion 16 has a similar working height but 10 metres outreach and 250kg maximum capacity. ■



A Cela DT25 showing off its low 2.1m height



Socage 100m FortSte 100TJJ



Oil & Steel’s Scorpion 16 Pro