



# A SHOCK TO THE SYSTEM

Last month Vertikal.net reported the death of a 52 year old man working for a telecoms contractor in New Jersey, USA. He was electrocuted after he made contact with a high voltage power line while working from a van mounted lift.

**The police statement said: "Hamilton Fire Department was already on the scene attempting to extinguish the fire when they noticed human remains in the fire on top of the box truck. Further investigation determined the deceased was working on fibre optic lines in the area and was electrocuted by a live power line."**

A month or so earlier a 24 year old man died in a truck mounted lift in Oakvale, West Virginia, USA after also coming into contact with an overhead power line while installing a new fibre optic cable. As is the case in all such incidents, the fire and rescue services could not reach the man until staff from the utility company arrived and confirmed that the line was safe.

What both of these incidents highlight are just how dangerous it is working near overhead power cables or lines and the simple fact that truck and van mounted work platforms are the access methods most commonly involved in this type of incident due to the applications they are often used - telecom cable installation & repair and street tree pruning etc. In many cases we report - especially with tree work - the operator was unaware of the power line. Given their use in street work, operators of truck and van mounted platforms need to be particularly aware of the problems and how to avoid them.

IPAF's accident report statistics show that in the latest 10 year period, 169 'electrocution' reports were submitted from 12 countries involving 179 people, with 129 fatalities. As if this is not sobering enough there has been a worrying

upward trend since 2015, although that may be down to the IPAF's reporting portal becoming more widely used. What we do know is that these statistics are just a fraction of the actual number as the majority have not historically been posted on the portal.



## NO LESS SAFE

While the incidents above give the impression that vehicle mounted lifts are more dangerous than other types of platforms, that on this is not the case. They just happen to be the platform of choice for such work. They are also mostly used on the open highway where traffic and bad drivers are a risk.

A less typical fatality around the same time occurred when a 24 year old man was pulled out of a van mounted platform in Rangeley, Maine, USA. He had remained in the elevated platform while his co-worker drove the rented van mount between two work points. According to the police the man became tangled in some low cross lines suspended over the road - he fell to the ground and died from his injuries. Cables do not have to be live to kill.

As a result of the rising statistics, IPAF launched new guidance at Conexpo - 'The Safe Use of MEWPS in the vicinity of Power Lines'. More details later in this feature.

## PRODUCT ELECTRIFICATION

It is slightly ironic that the biggest killer when working with truck and van mounted lifts is electrocution when the most significant



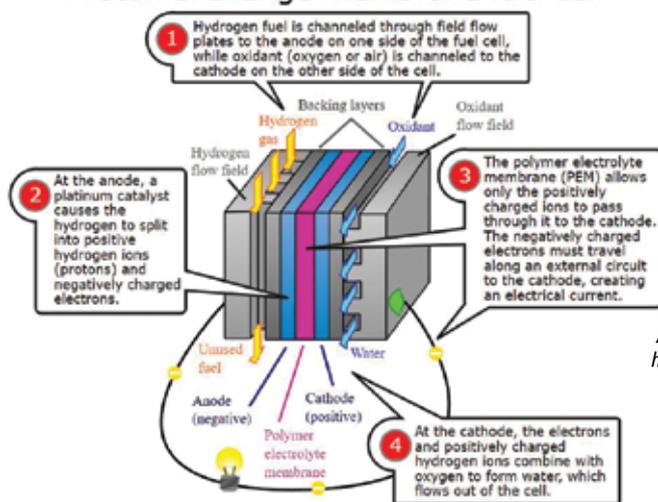
development in the sector is the move towards all electric powered products.

No matter what type of equipment we cover these days, the move to battery power is always at the top of manufacturer's agendas. Vehicle mounted lifts feature a different set of technical issues than other types of lift. On the one hand Gross Vehicle Weight is more critical, due to the need to meet road regulations so less room for a jumbo battery pack. On the other hand, with no drive function to worry about the power demands are lower. On top of that jobs are shorter and

Klubb 100% electric van mount



Proton exchange membrane fuel cell



A typical hydrogen fuel cell

usually involve travel between each one - an opportunity for top up charging, assuming it is mounted on an internal combustion powered chassis.

To date, few van or truck platforms have been mounted on all electric chassis, primarily due to the huge cost differential - up to four times the diesel equivalent. Other issues include the additional weight of batteries leaving less available payload for the platform and battery position restricting the installation location of components such as outriggers.

However, more efficient, lighter batteries and a wider choice of suitable electric chassis means more manufacturers are looking seriously at the full electric solution. Some were launched at last year's Bauma where most producers highlighted

all electric models, mostly under 3.5 tonnes - a common size for light commercial van chassis - and a logical place to start with vehicle mounted platform electrification and ideal for inner city applications.

When it comes to medium to heavy truck chassis development lags behind. This may be due to the public charging infrastructure for such vehicles lagging even further behind that for cars. According to the UK's SMMT - The Society of Motor Manufacturers and Traders - there remains considerable uncertainty around the location, type and speed of infrastructure needed for these vehicles with National Grid estimating that 70 to 90 percent of HGV energy provision will be carried out overnight at a depot or destination and only 10 to 30 percent at service stations/truck stops.

Whether or not battery electric powered heavy vehicles will be the long-term solution remains to be seen. Significant development work is also being carried out with hydrogen fuel cell technologies which could prove a viable alternative to batteries for zero emission vehicles.

One example is reach stacker and marine crane manufacturer Kalmar working with Toyota Tsusho America and environmental engineering consultancy Ricardo on a project to develop hydrogen fuel cell powered equipment, starting with its marine terminal tractors. A Kalmar customer in the USA will take two Kalmar Ottawa terminal tractors powered by fuel cell technology for a long-term trial and test. UK based Ricardo is responsible for the design, integration and assembly of the fuel cells which should offer users

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extended operational time and reduce the need for new investment in the electrical infrastructure.

NEW PRODUCT ROUNDUP

ALL ELECTRIC CTE

CTE announced several new products at Bauma last October, including its 20 metre all-electric MP 20Ev mounted on a 3.5 tonne chassis. The platform uses a single fixed riser, two section telescopic boom and articulating jib for 13 metres of outreach and 250kg platform capacity. Overall width is just under 1.6 metres, with an overall length of 5.2 metres, while easily clearing a two metre overhead restriction. Power is supplied by a 35kWh Webasto lithium ion battery - which is Li-ion NMC - R100 certified and capable of travelling 70km and completing 25 full work cycles on a single charge. The machine has an onboard charger and can also work while plugged into a mains outlet.

The lower control console is linked to a wireless



CTE's 20 metre all-electric MP 20Ev mounted on a 3.5 tonne chassis

remote with integrated display, while the upper controls have the same look and feel of the ground controls for ease of operator training and familiarisation, while the company's advanced S3 EVO management control system is standard. The project was developed in partnership with Green-G Electric Vehicles of Gorizia, which produces zero emission electric commercial vehicles under the 'ecarry' name.

THE FUTURE 'ZED'

CTE has also launched the totally new 22 metre, Zeta 22 which slots into its range between the Zed 21.3 and Zed 23.3. It is the first model in a brand-new range of articulated truck mounted platforms which will take over from the highly successful 'Z' models which began in 1993 with the Z-16, followed by the hugely popular Z-20 in 1996. The 'Z' nomenclature was changed to Zed in 2009, while the 10,000th Z/Zed 20 was shipped in September 2015.

Mounted on a 3.5 tonne Isuzu or Iveco chassis, the Zeta 22 features a dual sigma type riser - the



The totally new 22 metre, Zeta 22 slots between the Zed 21.3 and Zed 23.3

lower arm being shorter than the upper - with the two connected by a boomerang shaped linkage. The riser is topped by a three section telescopic boom with an end mounted platform. Maximum outreach is 10 metres with 100kg, at an up & over height of 9.8 metres, while 8.5 metres outreach is possible with 200kg, and the maximum platform capacity of 250kg can be extended to 7.5 metres.



Maximum outreach is 10 metres with 100kg at an up & over height of 9.8 metres

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## TRUCK MOUNTS

The Zeta 22 is also equipped with CTE's S3 EVO platform management system, while the outriggers are variable with a minimum footprint of 2.3 metres by 2.44 metres long extending to 2.54 x 2.94 metres, with automatic monitoring and work envelope adjustment. Options include a wired remote control for all functions, with a seven metre cable and an 'automatic boom return to stowed position' button. A fully integrated cloud-based telematics system is also available.

### 90 CTE TRUCK MOUNTS FOR SMART

UK based rental company Smart Platforms ordered 90 CTE 3.5 tonne truck mounted lifts in a deal worth more than £7 million. CTE UK's largest order to date includes the 20 metre Zed20.4HN, the 23 metre Zed23.3JHL which has one sided narrow jacking, 10 metres of outreach and 250kg platform capacity. The order also includes several units of the all new 24 metre MP24C with twin telescopic booms articulating jib and up to 14 metres of outreach which was launched at Vertikal Days last year.



*The all-new 24 metre CTE MP24C*

### ALL-ELECTRIC RUTHMANN

Bauma also saw Ruthmann announce a larger all-electric truck mount - the 26 metre Ampero TBR 260 E - mounted on the new battery powered Iveco eDaily 5.2 or seven tonne chassis, with a 74kWh battery pack offering a combination of up to 150km of travel and 30 full working cycles on a single charge. The battery pack can be fully recharged from empty in an hour when using an 80kW fast charger or four hours on a standard 22kW charger.

The TBR 260E is similar to the standard TBR 260 with up to 17 metres of outreach over the rear



*The 26 metre Ampero TBR 260 E can be mounted on the new battery powered Iveco eDaily 5.2 or seven tonne chassis*



*The first Ruthmann T300 XS Hybrid to be delivered*

and 100kg in the platform, or 14 metres over the side. The maximum platform capacity is 250kg with the 700mm by 1.4 metre platform. A 1.6 metre wide platform with 300kg platform capacity is optional.

Ruthmann has also delivered its first 7.5 tonne, 30 metre T300 XS Hybrid truck mounted platform to German rental company Gerken. Launched at Bauma it features a five section telescopic boom topped by a jib with up to 185 degrees of articulation, providing up to 23 metres of outreach with 100kg or just over 17.5 metres with the maximum platform capacity of 350kg. The choice of 7.5 tonne MAN or Iveco chassis is available - both diesel powered - while the superstructure is powered by a 12.8kW lithium battery pack - good for up to 13 full working cycles - and can be recharged by the truck engine when travelling between jobs or simply plugged into a mains outlet with a full recharge taking four hours. It can also operate as a normal machine from the truck's PTO pump. Function speeds are said to be close to that of the standard diesel model.



*The T300 XS Hybrid control station*

### TIME EXPANDS FURTHER

Ruthmann was of course acquired by Time Manufacturing a couple of years back. The group's acquisition trail has continued with French truck and van mounted lift manufacturer France Elévateur and its Spanish affiliate Movex acquired last June. Versalift International's managing director Kim Bach Jensen heads the group's expanded operations in Europe which also includes Versalift, Time International, Ruthmann and Bluelift.



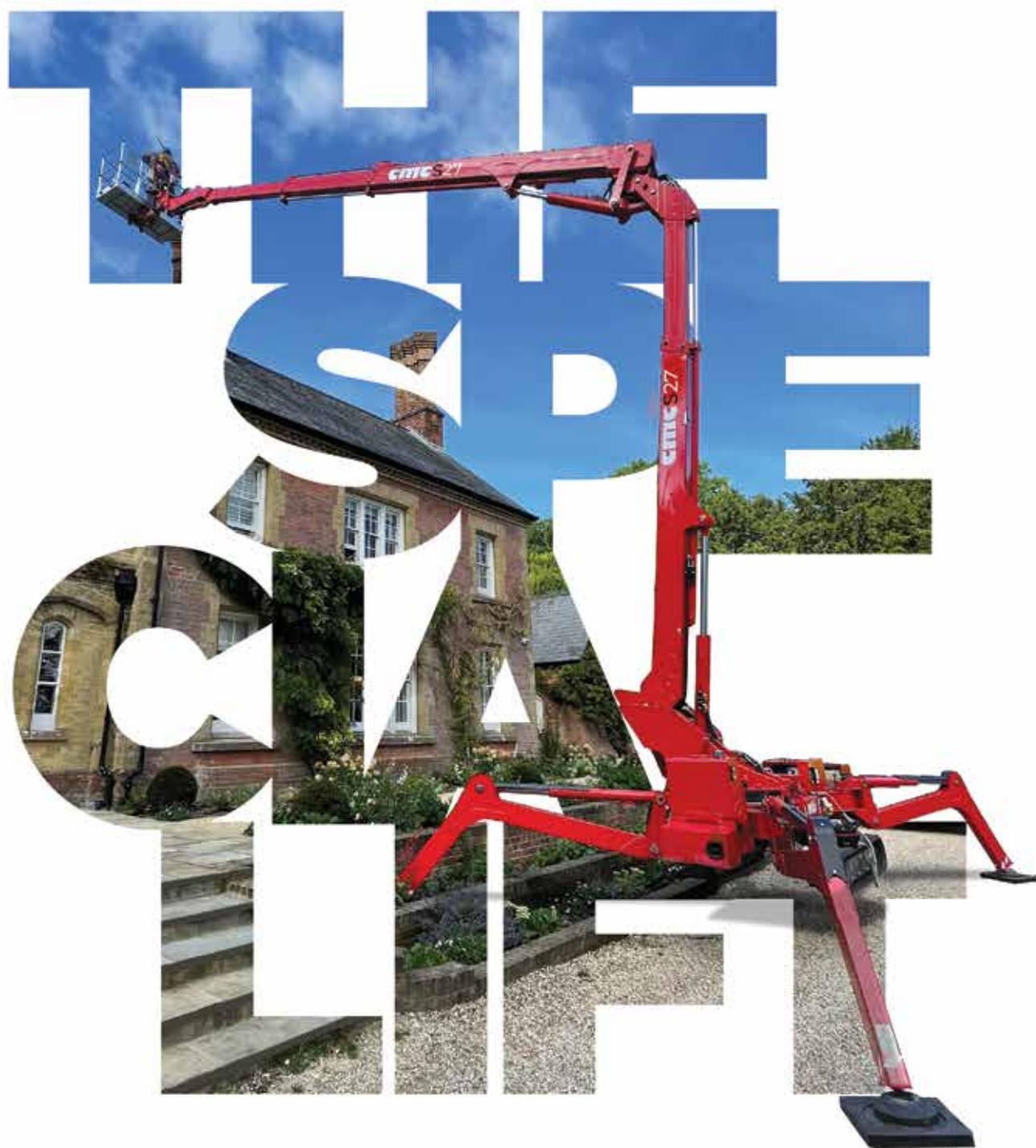
*The Time team at Bauma (L-R) Charles Goffin FE, Martin Christiansen Versalift Europe, Uwe Strotmann Ruthmann, Jay Jeffrey president of Time and Kim Bach Jensen Time Europe*

France Elévateur - or the FE group - was founded in 1984 in Flavigny-sur-Moselle, eastern France and produces a range of truck and van mounted aerial lifts ranging from standard rental models to fully insulated custom builds. It acquired Spanish truck mounted lift manufacturer Movex in March 2021. The deal also includes wholly owned distribution outlets - FE Benelux and FE Deutschland.

The addition of FE and Movex puts Time Manufacturing at the top of the global vehicle mounted lift market and the dominant player in some European market sectors. The acquisitions take the group well beyond the \$500 million revenue level however it still has plenty of strong competition particularly from France's Klubb - which was set up by Julien Bourrellis from the Time licensee Time France in 2015. Over the past year it has continued to expand through several acquisitions including Italian manufacturer Isoli in October.

### KLUBB'S RAPID RISE

Klubb began manufacturing its van mounts in January 2016 and has since expanded at a rapid pace, both through organic growth and



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*Klubb's new 33 metre EGI Meteor 330 fire fighting and rescue platform - a result of the acquisition of the Comilev and EGI businesses*

acquisitions. In 2017 it added French van and vehicle mounted lift manufacturer Comilev and the following year its UK dealer CPL which also built van and pickup mounted platforms. Later that year it added French specialist platform manufacturer EGI.

The company secured an injection of capital from private equity firm Andera Partners in July 2021, allowing it to step up the pace still further, acquiring Italian manufacturer Isoli adding both the aerial lift and recovery truck manufacturing operations as well as its 77,500 square metre purpose-built plant in Fontaniva - between Verona and Venice - with around 120 employees.

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. Klubb - and its previous incarnation Time France - was the Isoli distributor for France since 2006.

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 all my team is really excited by this project. Klubb is probably number one in market share on the utility sector in Europe but not yet in the rental market. Isoli will help us to develop sales to rental companies."

### NEW 29M ISOLI

A few months prior to its acquisition Isoli

launched the new 29 metre PNT 290 articulated truck mounted platform on an 11 tonne, two axle chassis. The new lift employs a classic dual sigma type riser topped by a four section telescopic boom with internal extension mechanism and power track, with brush type debris protectors between sections. It offers a maximum outreach of 16.5 metres at an up & over height of 12 metres with its unrestricted platform capacity of 250kg and a 2.2 metre by 750mm top mounted basket/platform.

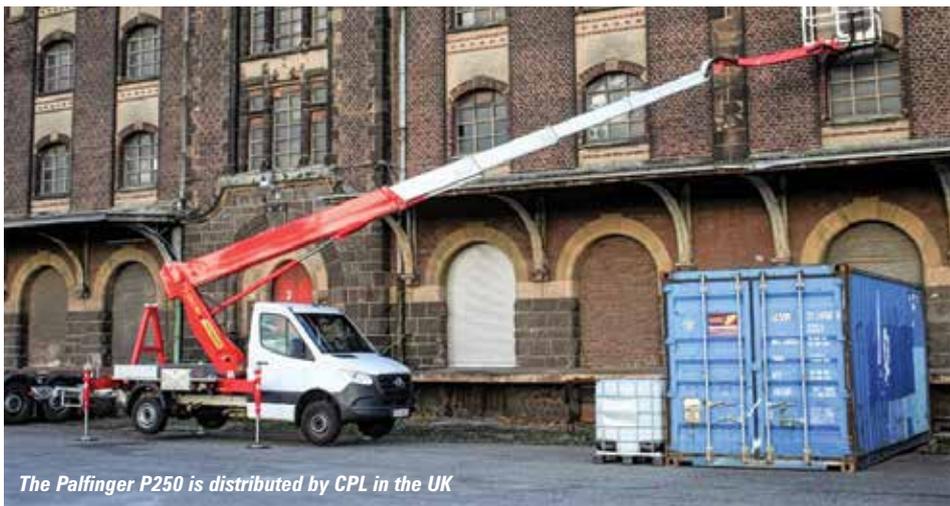
Slew is 400 degrees, while the aluminium basket has been designed to be quickly and easily removed and stowed on the deck to reduce

the overall length when required. It can also be replaced with a lifting hook for light duty crane work. The overall stowed length is 8.1 to 8.2 metres depending on the installation, with an overall height of 3.43 metres.

As part of the Klubb group Isoli has access to Klubb's hybrid and all-electric van mounted range - a type of platform not that popular in Italy. Most of the Klubb van mounted platforms do not require stabilisers, making them ideal for short repetitive tasks such as street lighting maintenance or telecoms. Isoli now offers the complete set of van platforms from the KL21B on a Renault Trafic chassis up to the K42p on a Renault Master.

CPL - Klubb's UK subsidiary - says that it continues to see a sharp rise in demand for Klubb's fully electric KL26 Renault Master ZE with more than 100 currently on order, in build or being delivered. CPL - which claims market leadership in the UK - says it has worked with Renault Trucks to ensure the base vehicle has the autonomy and correct weight class to function as a practical commercial aerial work platform.

CPL also offers a 20 metre articulated platform on a 3.5 tonne chassis, with a maximum outreach of 8.4 metres and sits alongside the Palfinger P200 - also distributed by CPL in the UK - as a midrange option. The company has added to its



*The Palfinger P250 is distributed by CPL in the UK*



*Isoli's new 29 metre PNT 290 articulated truck mounted platform on an 11 tonne, two axle chassis*

# VERSALIFT

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The aluminium basket can be removed and replaced with a lifting hook for light duty crane work



The 10.7m KL26 mounted on the Piaggio Porter NP6 offers a dual fuel petrol/LPG or petrol/NGV

sales team in the past year with a dedicated team for Palfinger Platforms which range from the 3.5 tonne P220, P250 and P280 to 90 metre truck mounts.

Other recent Klubb launches include the K20L and KL21B on the e-Expert van, and the Klubb KL26 on Piaggio Porter NP6. Equipped with a 75KWh XL battery pack, the Klubb K20L is mounted on the cutaway e-Expert van - requires no stabilisers - and has a claimed travel range of 330km in addition to 32 work cycles in electric mode. It is compact at just 5.5 metres long and has a 10.5

metre working height and 5.8 metre of outreach, making it ideal for work in confined areas, such as underground car parks, inner city streets and pedestrian only zones etc... It is finding a good following among companies installing and maintaining CCTV as well as local authorities.

The slightly larger KL21B - also mounted on the e-Expert chassis - has an 11.4 metre working height and 6.4 metres of outreach yet features adequate storage capacity and payload to transport sufficient tools and equipment. Road range is less at 230km, while the 32 work cycles

remain. The model is also available in a diesel version with a Green Pack, which allows the aerial work platform on battery power while the vehicle's engine switched off.

The KL26 mounted on the Piaggio Porter NP6 offers a dual fuel petrol/LPG or petrol/NGV (natural gas vehicle). It has a working height of 10.70 metres and a six metre reach.

**LIVING DECK MATERIAL**

One highly unusual, original and innovative exhibit on the Klubb stand at Bauma - was a small pickup



socageworld.com





At Bauma Klubb showed a small pickup mounted lift with bamboo decking while bamboo tool boxes are also in development

mounted lift with bamboo decking, while bamboo tool boxes are also in development. The bamboo is actually marginally lighter than the aluminium that it will replace, but most importantly is dramatically more sustainable. Klubb is sourcing locally grown bamboo, with the manufacturing carried out close to its production facility. Bamboo grows rapidly and can be harvested regularly, while requiring very few resources. It is also biodegradable.

### BRONTO HYBRID

Finnish truck mounted lift manufacturer Bronto Skylift unveiled its prototype Hybrid Pack concept for its truck mounted work platforms at Bauma, displayed on a compact 35 metre S35EM. It utilises a lithium-ion battery pack, feeding an electric motor which drives the main hydraulic pump. The battery is said to be sufficient to power the machine for a typical working day. However, if the battery is low, the lift can still be operated via the chassis' PTO pump.

Bronto has had a number of recent sales successes with its smaller models, where it has to do battle with Italian manufacturers as well as the two leading German players. UK rental company Nationwide Platforms - part of the Loxam group - for example has ordered six of its 38 metre S38XDTs as well as two more 35 metre Bronto S35EM's mounted on Scania Low Cab L320s for urban applications, which join eight units already delivered. It also added two 56 metre S56XR's.

The S38XDT features a three section telescopic boom topped by a two section jib and articulating end jib for a maximum outreach of 25.3 metres with 120kg in the platform, while the maximum platform capacity of 600kg is available at up to 21 metres. The S56XR features a four section boom, topped by a similar jib arrangement to the S38 XDT. Maximum outreach is 37.3 metres with 200kg, while the maximum of 600kg is available at up to almost 32 metres.

### NEW IPAF GUIDANCE ON THE SAFE USE OF PLATFORMS NEAR POWER LINES

Aware of the increasing occurrence of fatal incidents with truck and van mounted aerial lifts working near overhead power cables, IPAF has launched a new guidance document 'The Safe Use of MEWPS in the vicinity of Power Lines'. It launched the new initiative at Conexpo and promoted it through a series of live demonstrations showing the dangers of working near power cables.

Electrocution and electric shocks are sometimes spoken of as being one and the same thing - especially by local newspapers - but clearly this is not the case. Electrocution invariably involves death, and electric shock can leave a person with very serious injuries or none at all, depending on the voltage, the current and conditions.

IPAF puts it in greater detail and precision:

Electrocution is when a person dies because of contact with electricity such as accidental contact or the arcing or flashover from a power line. A flashover is a high-voltage spark or arcing that passes through the air between an electrical conductor and a grounded conductive object. Potential flashover distance is the distance that an arc can travel through free air and depends on the voltage and environmental conditions. High humidity can cause the flashover distance to increase as moisture in the air conducts electricity.

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*Bronto Skylift unveiled its prototype Hybrid Pack concept for its truck mounted work platforms at Bauma*

An electric shock occurs when a person comes into contact with an electrical energy source and electricity flows through a portion of the body causing a shock. This may result in no injury at all or may result in devastating damage, possibly leading to death. Victims of electric shocks often suffer life-changing injuries such as amputation, severe burns, brain and/or other nerve damage.

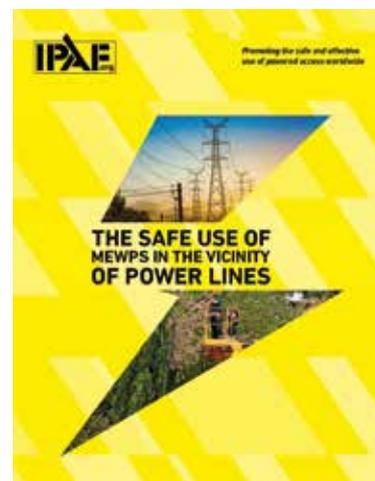
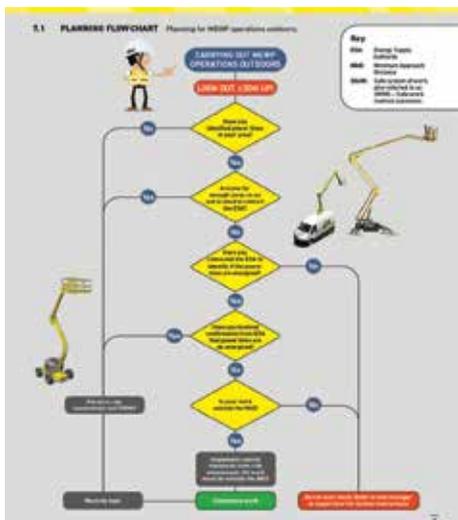
From the IPAF statistics generated from its global accident reporting portal, the top three industries globally for electrocutions and electric shocks are arboriculture - tree work - the electrical supply and maintenance sector and construction. Most incidents occur in public areas on or adjacent to highways and construction sites. Data also shows that non-electrical workers - those not directly employed or subcontracted by energy

reveal a lack of planning. This may be either a failure to identify the presence of power lines within the work area, the incorrect choice of access platform/work at height equipment, untrained operators and/or lack of machine specific familiarisation.

Failure to identify power lines can be fatal, while failure to understand and respect the risk of electrocution from power lines also puts people at risk. Electricity is invisible and when contact or arcing occurs, temperatures can be extreme, often leading to severe burns.

The message is clear: never take short cuts, if something isn't right - stop! Make sure everyone is trained - managers, supervisors, operators, spotters - and always have a healthy respect for power lines and the risk of electrocution or shock.

For further information search IPAF Safe Use of MEWPs in the Vicinity of Power Lines which has much more information on how to work safely near power lines. ■



*A Nationwide Bronto S35EM working in Regent Street, London*

10.-11.05.2023  
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