# GIAGOS Vol.25 issue 1

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# BOOM LIFTS ALTERNATIVE LIFTING

POWER SOLUTIONS

CONEXPO PREVIEW



### MODULAR DESIGN

85% of components are common















Working Height

### **Modular Boom Series**

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While the self-propelled boom seems to have become a mature product the number of manufacturers has exploded in recent years as have the number of innovations. We review the reasons behind this, see the market reaction to JLG's innovative 670SJ Self-Levelling boom and interview Desmond Soh, chief operating officer with Sinoboom.

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The growing preference to prefabricate as much as possible off-site is leading to larger and heavier components, all of which need to be moved and lifted into place. But what about the road infrastructure? Can it cope? We talk with ESTA - the European Association of Abnormal Road Transport and Mobile Cranes - about the growing and damaging restrictions when using ageing infrastructure and look at several interesting projects from around the world.

### **POWER SOLUTIONS 42**

The number of companies looking at electric power alternatives to their internal combustion powered equipment is growing in leaps and bounds with most focused on battery powered solutions. We take a look at the constantly improving technology for use in cranes, telehandlers and aerial work platforms.

### **CONEXPO 2023 PREVIEW 47**

Conexpo 2020 will be remembered as the 'Covid 19' show when the reality of the pandemic really hit home for most of us. This year North America's largest construction equipment show should be back in full swing, the first of the big international construction equipment exhibitions to be operating as normal in terms of timing. While some of the major companies will not attend, there will still be plenty to see. We round up some of the potential highlights.

### VERTIKAL DAYS FIRST PREVIEW 54

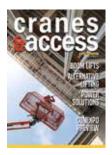
This year's Vertikal Days returns to Peterborough on the 10th and 11th May - a few days after the King's Coronation - with a fully loaded display of the latest lifting equipment. We outline the show's major elements and new exhibitors. The full Vertikal Days Show Guide will be in next month's C&A.

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### **ON THE COVER**

JLG's 670SJ Self Levelling boom lift is now being used on real life projects, five years after the first concept was revealed. On page 20 we see if this innovative boom really is a 'game changing machine' or just a 'solution looking for a problem'.



IN THE NEXT ISSUE Scheduled for publication in early May, the bumper next issue of Cranes & Access will include the full Vertikal Days 2023 show guide and features on Crawler cranes and heavy lifting, Van and small truck mounted platforms, a preview of the APEX show and the Conexpo review from Las Vegas. If you have any contributions or suggestions to make or are interested in advertising in this issue, please contact our editorial or sales teams.



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# COMMENT

### IT'S GOOD TO TALK...

For those of us of a certain age - able to remember a time before mobile phones and personal computers - it was the accepted practise to talk to each other during mealtimes and chat with the family in the evening gathered around the TV.

How times have changed...

The latest Smart phones now mean you are carrying around more computing power in your pocket than was needed to land on the moon capable of messaging friends around the world, watching TV, films and YouTube or sorting your bank finances. As a result, all you seem to see in restaurants and coffee shops is people glued to

All this tech is wonderful and amazing stuff, given that 35 years ago I purchased my first fax machine - the successor to the Telex (ask your parents if you don't know what those are). Developments in communication technology have been astounding and have shrunk the world for everyone. But 'face to face' contact has diminished.

This was exacerbated by the pandemic, with people forced to meet virtually from the safety of their homes, and deal with work issues without physical contact with the outside world. Some companies even used Zoom meetings to dismiss

We are currently in the middle of an extended show season following a delayed Bauma in Germany, the ARA and Conexpo in the USA, as well as Vertikal Days, APEX and JDL to name a few.

What becomes stunningly clear when attending such events is how much more you gain from

being there by seeing, smelling and tasting the atmosphere, chatting face to face with people, sensing how a company's staff interact and seeing products in the metal rather than on screen.

Many manufacturers claim that AI (Artificial Intelligence) is the next big thing in development. It certainly has a place - possibly eliminating human error and achieving a faster, more reliable result - but it still has a very long way to go before it can outperform the human brain - if it ever will.

Driverless trains, busses and cars can bring enormous advantages in many applications. Sat Nav is almost indispensable and now people are talking about chat bots replacing a personally composed email or letter, or even writing an article or book.

Perhaps this is the future... a world designed by and for millennials who have grown up with PlayStations, iPads and Smart phones. But for me being more technologically advanced does not always make it better. Smart speakers may play music but they are nothing compared to the experience of a proper Hi-Fi system playing a full album or CD... and that is a shame. The return of vinyl might be one positive sign that people want to recapture this fuller experience?

Next week we will be at Conexpo in Las Vegas, a sensory feast on all levels that, if possible, has to be experienced first hand. It's the difference between visiting somewhere like St Peter's Basilica in Rome - smelling the incense, hearing the amazing organ and choir and feeling the peaceful reverence - or looking at a picture in a book. There really is no substitute - being there in person delivers so much more.

### Mark Darwin

Comment and feedback is most welcome via post, email, fax or phone stating if we may publish them or not: editor@vertikal.net

Kran & Bühne: The Vertikal Press also publishes a German magazine which deals with the same issues as Cranes & Access, but is written for German users and buyers. Details available on request. While every effort is made to ensure the accuracy of information published in Cranes & Access, the Editor and Publisher can accept no responsibility for inaccuracies or omissions. Views expressed in articles are those of the authors and do not necessarily reflect those of the Editor or Publisher. Material published in Cranes & Access is protected under international copyright law and may not be reproduced without prior permission from the publishers

### **NEW 80T SENNEBOGEN TELE CRAWLER**

Sennebogen is to launch its own version of the new 80 tonne telescopic crawler crane which first appeared as the Grove GHC85 last April. The 683 E has virtually the same specification as the version it builds for Grove, with a five section 42 metre full power main boom topped by an eight to 15 metre solid construction bi-fold swingaway which takes the maximum tip height to 59 metres and can be offset by up to 40 degrees.



The crane has an overall extended track width of five metres retracting to 3.48 metres with standard 800mm track pads. Overall transport width can be reduced to three metres with tracks removed. Tracks can be set asymmetrically with the load charts calculated automatically to reflect track width and slope angles of up to four degrees. The crane can load/unload itself using the radio remote

control for the jacks, and counterweight installation. Total operating weight is 90.5 tonnes including six tonnes of chassis counterweight and up to 28.3 tonnes on the superstructure. Power comes from a Stage V Cummins and the remote controller can also be used to operate the crane functions.

Sennebogen's Maxcab is standard with 20 degrees of cab tilt, while an elevating cab - with up to 30 degrees of tilt - is optional with an eye level height of 5.55 metres. Cameras extend the operator's field of vision to the rear and right side and the winches. A central lubrication system feeds the boom base, lift cylinder pins and slew ring.



### A NIFTY SETTLEMENT

Just over a year ago UK aerial lift manufacturer Niftylift filed a lawsuit against JLG regarding the contravention of a number of its patents, including its Hybrid power system for boom lifts.

Proceedings were initiated in the UK
High Court (IPEC) in October 2021 for
infringement of Niftylift's European Patent
(UK) No. 1,967,486 in relation to JLG's 80ft
H800AJ hybrid articulated boom lift.
We understand that the two parties
have now resolved the issue through a
mediation/arbitration process. Niftylift
has kept its comments low key, but from
what we understand JLG has agreed
to some form of 'cease and desist'
regarding the conflicting design.



### **LGMG ADDS ELECTRIC RT SCISSORS**

Production has started on the latest addition to LGMG's new range of battery powered electric Rough Terrain scissor lifts - the 46ft SR1418E. The company showed a prototype of the 46ft/1.8 metre wide lift at Bauma last October.

The model has a maximum working height of 15.8 metres with a platform capacity of 365kg. The 1.52 metre roll-out deck extension expands the deck length to 4.31 metres with a capacity of 140kg. The overall weight with levelling jacks is 6,260kg.

The SR1418E joins three other models in the range - the 25ft SR0818E, 32ft SR1018E and 39ft SR1218E. All models including the 46ft can be driven at full height both indoors and outdoors.



### **NO-OIL NANO FROM MEC**

MEC has introduced a new 10ft all-electric - zero oil - Nano10-XD scissor lift with lithium ion battery pack.

It has a working height of five metres, platform capacity of 227kg and all-up weight of 560kg. Overall height is 1.6 metres when stowed while the overall width is 760mm and overall length 1.15 metres. A standard 'Xtra Deck' provides an extension that can pass through a 600mm by 600mm false ceiling grid.



# FINAL RULING IN MECCA CRANE COLLAPSE

The Criminal Court of Appeal in Mecca, Saudi Arabia has found the Saudi Binladin Group guilty of negligence and safety breaches regarding the overturn of its 1,350 tonne crawler crane in which the boom came down on the Grand Mosque in Mecca, killing 111 people, mostly pilgrims attending the annual Haj, and injuring more than 390 others.

The court has fined the company 20 million riyals (\$5.3 million). It also said that the company was not required to pay blood money to relatives of those who died. Seven individuals were also found guilty, three were sentenced to six months in prison and fined up to 30,000 riyals (\$8,000) while four were jailed for three months with 15,000 riyal (\$4,000) fines. The trial followed a ruling by Saudi Arabia's Supreme Court last year, after an appeals court had cleared the company of responsibility.





### NEW 90T/M EFFER CRANE

Hiab has announced the 90 t/m Effer i0.950 HP loader crane with the 12 sided V12-Power boom profile and new SPACEevo operating system.

The new crane is designed for a wide range of lifting work combining precision with high speeds. The crane can be equipped with up to a 10 section boom, which offers a maximum capacity of 16 tonnes at 4.7 metres, and a maximum radius of 23.8 metres with a capacity of 2,340kg. An eight section luffing jib option takes maximum



# TEREX INVESTS IN ROBOTICS

Terex has made an equity investment in Austin, Texas based Apptronik which specialises in the development of mobile robotic systems. The two companies have also reached a codevelopment agreement to work together to create potential robotic applications for Terex products.

Apptronik was established in 2016 by co-founders Nick Paine and Jeff Cardenas, as a spin out from the 'Human Centred Robotics Lab' at the University of Texas in Austin.

The founders have worked on some of the most advanced human centred systems in the world, including the NASA Valkyrie Robot for the DARPA Robotics Challenge as well as Astra, a compact upper body robot that has state of the art actuation enabling it to be placed on any mobility platform.



### **LINK BELT TO LAUNCH 250T AT**

Link-Belt Cranes will show a new 250 tonne All Terrain crane - the 300AT - at Conexpo in March

The five axle crane features a seven section 72.5 metre pinned main boom with a 12.8 to 21.6 metre bi-fold swingaway extension which can be hydraulically luffed or offset. Two 7.6 metre lattice inserts take the maximum tip height to 112 metres. Alternatively, a high capacity 2.4 metre heavy duty extension provides line separation for two line lifting for applications such as precast wall panels installation. Maximum counterweight is 73.5 tonnes, the crane can travel with the basic 3.6 tonnes of counterweight on board and not exceed axle loads of 10.4 tonnes per axle.

Product manager Andrew Soper said: "We spoke extensively with our customer base and feel like we have delivered a crane that travels down the road efficiently, goes together on a jobsite quickly, has a strong chart, and is reliable."



### **ALL ELECTRIC TRUCK MOUNT**

Ruthmann has announced the 26 metre Ampero TBR 260 E electric powered truck mount on the new Iveco eDaily battery powered 5.2 or seven tonne chassis.

The TBR 260E is much the same as the standard TBR 260, with up to 17 metres of outreach over the rear with 100kg in the platform, or 14 metres over the side. The maximum platform capacity is 250kg with the 1.4 metre by 700mm platform, or you can specify a 1.6 metre by 700mm platform with 300kg

platform capacity, both of which are available at an outreach of between 11.5 and 13 metres.

The new all-electric truck mounted lift is powered by a chassis-mounted 74kWh battery pack, offering a combination of up to 150 kilometres of travel and 30 full working cycles on a single charge. The battery pack can be fully recharged from zero in an hour when using an 80kW fast charger, or four hours on a standard 22kW charger.



### **AXOLIFT PARTNERS WITH POP UP**

Italian aerial lift manufacturer Axolift has appointed Pop Up Products as its distributor for the UK and Ireland.

The two companies have formed a partnership that will initially cover a new model that Pop Up is calling the IQ Lift - Pro 7 ACTIVe, a manually powered push around lift, which appears to be a development of the Axolift Manulift

200. The new Pop Up product has a working height of 4.1 metres with a platform capacity of 125kg, the overall width is 760mm with an overall weight of 249kg.

The flywheel type lift & lower crank employs a patented wire rope extension mechanism which does not require gas springs.



The Axolift built Pop Up Pro 7 ACTIVe

### **ALL ELECTRIC TRAILER CRANE**

German aluminium crane manufacturer Klaas has launched its new battery electric K280 E trailer crane. The original fuel/AC plug in version of the K280 launched in 2020 and has proved popular. The company unveiled a prototype of the battery version last year and the reception was strong enough for it to start accepting 'pre-orders' in October, with the final production machine now on test.

The specifications are mostly the same as the standard with a maximum capacity of 800kg at up to six metre radius at a height of 21 metres. The three section main boom and fixed length offsettable jib provide a maximum tip height of just over 26 metres. Maximum radius is 22 metres at which it can handle 250kg at a height of around four metres.

The power pack is said to provide at least a full day's work, including the self-propelled drive function and heavy use. Recharge times have not been confirmed but it will go from zero to fully charged

overnight on a standard 13 amp outlet. The outrigger extension is manual with several widths available, while the long throw hydraulic jacks are equipped with auto levelling. The crane's stability is constantly checked and monitored via the ASC system, which also takes wind speed into account.



The new Klaas K280 E

# JLG COMPLETES HINOWA ACQUISITION

JLG has completed the acquisition of leading spider lift manufacturer Hinowa that was announced in

November



Founded in 1987 in Nogara, Italy, Hinowa is not only the leading manufacturer of spider lifts, but an access industry pioneer in lithium-ion battery technology. It employs 200 across two facilities, a 23,000 square metre manufacturing plant and a 5,000 square metre parts facility. The company has produced JLG branded spider lifts for more than 10 years, and more recently began building its electric articulated beam lifts.

The Hinowa brand will be retained for spider lifts in markets where it is currently used and also on its mini dumpers, lift trucks and tracked carriers.

### **USED TELEHANDLERS ELECTRIFIED**

Manitou and French international rental group Kiloutou have signed a partnership agreement to convert used diesel telehandlers to battery electric power. Phase one of the project is underway at Manitou's Ancenis facility, installing a battery electric retrofit kit in a 'high reach' Kiloutou telehandler.

The machine now goes to Kiloutou's test centre in Lille where a full test programme will evaluate it for both for technical and economic feasibility. Assuming the test programme is positive, Manitou will provide retrofit electrification kits to Kiloutou for an exclusive 12 month period from the start of 2024.

The kits use a lithium-ion battery pack to power a large electric motor which will drive the pumps in place of the diesel engine. Kiloutou will put the machines retrofitted in 2024 back into its French rental fleet where it expects them to stay for around five years.



Michel Denis of Manitou (L) with

François Renault of Kiloutou

# **NEW ANTI- ENTRAPMENT GUIDE**

Industry associations in the UK have collaborated on revised safety guidance to help reduce trapping and crushing incidents when using aerial work platforms. The 22 page Good Practice Guidance for Reducing Trapping/Crushing Injuries to People in MEWPs is published by the Construction Industry Plant Safety Group in partnership with IPAF.

Between 2016 and 2020, the IPAF accident reporting portal noted 73 fatalities from entrapment incidents across 15 countries. The original guidance, published in 2010, has undergone significant revision and been restructured to improve readability and understanding of the topic, while new illustrations have been added. The content reflects on recently published Health & Safety Executive Research Report (HSE RR1180:2022), which examined the effectiveness of secondary guarding in a range of different entrapment scenarios.

The document is available to download free of charge from either the IPAF or CPA websites.



### KLAAS TO DISTRIBUTE MAEDA

Klaas has also been appointed as the exclusive dealer for Maeda spider and mini crawler cranes in Germany.

The appointment - announced by European master distributor Kranlyft - is effective from the start of March.



### **QUICKER OFF-HIRES**

UK rental company AFI-Rentals has launched a smart QR Code system for rental terminations/ off-hires.

The system uses a unique QR code on each machine which the customer scans with their smart phone camera. After entering the relevant email address, they follow the link received via email and then select the off-hire dates and press 'submit'. The QR codes also provide direct links to information specific to the machine, including LOLER and PDI details, reporting breakdowns and machine familiarisation videos.

Donna Stonall of AFI said: "We have invested in this latest technology to streamline our end to end hiring process and improve the user experience whilst further reducing our carbon footprint."



### **RUTHMANN SHIPS FIRST 30M HYBRID**

German rental company Gerken has received the first production unit of Ruthmann's new 30 metre T300 XS Hybrid truck mounted platform.

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 unit is mounted on a regular 7.5 tonne diesel powered MAN or Iveco chassis.

The superstructure is battery powered with a 12.8 kW 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. A full recharge takes four hours. It can also operate from the truck's PTO. Function speeds are said to be close to that of the diesel model.







### **BACK TO NORMALITY**

The ARA Show was held in Orlando, Florida returning to its traditional February time slot and fully back to normal for the first time since 2020.

Most aerial lift and telehandler manufacturers attended with the noticeable absence of JLG and Skyjack, although there were JLG machines on the MTA Distributors stand which has been appointed to handle sales to smaller rental companies on a national basis. There were also a good few new products while almost half of the exhibitors will not attend Conexpo. Given space limitations we have picked just a few stands: you can see more on www.vertikal.net - put ARA in the search box.





















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### **EXECUTIVE HIRE SHOW**

The Executive Hire Show - the UK tool and general rental exhibition was held in early February with several aerial lift and telehandler exhibitors - here is a brief glimpse from the show.







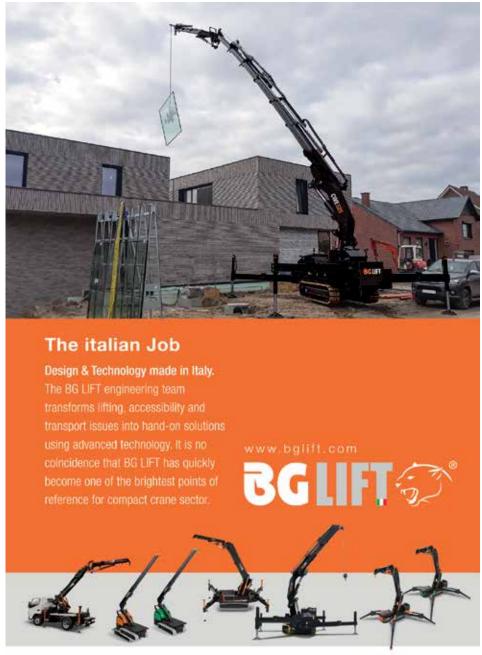












# **FINANCIALS** ROUND-UP

### **Record sales lower profits** for Palfinger

Palfinger revenues increased 21% in 2022 to €2.23 billion, the first time it has exceeded €2 billion. Pre-tax profits slipped 7% to €133.7 million due to steep rises in the cost of components, energy and materials. 2023 has started strongly and the company is PALFINGER ) forecasting €3 billion by

### **Strong finish for Manitowoc**

Manitowoc saw revenues improve 18.2% in 2022 to \$2.03 billion, while fourth guarter sales increased 24.9% to \$621.6 million. The company reported a pre-tax loss of \$120.2 million,

compared to a profit of \$17.1 million last year due to a \$171.9 million non-

cash asset write downs. The company expects revenues for 2023 to be flat to five percent growth.

2027.



### A year of change for Alimak

Alimak revenues grew by 21% in 2022 to SK 4.51billion (€403 million) with strong growth in the Façade Access and Construction. Pre-tax profit improved 17% to SK485 million (€43.3 million). Fourth quarter sales were 36% higher at SK1.40 billion (€125.3 million) helped by

acquisitions of Tall Crane and Tractel. Pre-tax profit for the quarter was SK169 million (€15.1 million) up



### Strong performance from Haulotte

Haulotte has reported 23% revenue growth for 2022 at €609.7 million. Fourth quarter sales were

24% higher at €180.6 million. The company expects sales to grow by more than 20% in 2023.



### Strong quarter for Genie/Terex

Genie achieved sales of \$2.48 billion in 2022, up 14% on the year, while order intake grew 27% to \$2.49 billion. Operating profit increased 28% to \$196.2 million. Fourth quarter revenues were 25.7% higher at \$671.8 million, more than doubling operating profits to \$54 million. Terex full

year revenues improved 13.7% to \$4.42 billion, with pre-tax profits 39% higher at \$366.6 million.





### Konecranes on the up

Konecranes reported full year sales of €3.36 billion, up 5.6% on 2021, while profits were marginally lower at €190.7 million. Fourth quarter

order intake was flat at €879 million, while sales improved 7.6% to just over €1 billion, and pretax profits grew 21.4% to €99.1 million.



### Strong finish for Hiab

Hiab reported full year revenues of €1.58 billion, up 26% on 2021, while operating profit increased 50% to €217.1 million. Order intake for the year grew 5% to €1.81 billion, leaving the order book 20% higher at €1.18 billion. Fourth quarter sales

increased 35% to €456 million while operating profit jumped 81% to €61.3 million.



### Mixed results from Kalmar

Sister company Kalmar posted revenues of €1.94 billion, up 28% on the year, while operating profits slumped 59% to €142.1 million due to a €36 million write off however the comparable operating profit grew 58% to €190.1 million. Fourth quarter sales improved 44% to €618 million with operating profits doubling to €67 million.

### **Cargotec**

Hiab and Kalmar parent Cargotec posted revenues of €4.09 billion, up 23% on 2021, while pre-tax profits slumped 76% to €79 million.

### JLG ends on a high

JLG revenues for 2022 increased 17.5% to just under \$4 billion, with a 37% growth in telehandler sales. Operating profit grew 8% to \$313.2 million, with the liquidation of "an overseas operation" adding a further \$4.6 million. Fourth guarter sales improved 29% to \$1.07 billion, while the order

book was 22% higher at \$4.36 billion. The company completed the acquisition of Hinowa at year end.



### Strong finish for Manitou

Manitou revenues increased 26% to €2.36bn, with fourth quarter sales jumping 54% to €730 million thanks to an easing of supply chain issues. All regions posted strong growth led by Southern

Europe. The year end order book was 17.5% higher at €3.52 billion.



### Record year for United

United Rentals saw revenues increase 20% in 2022 to \$11.6 billion including a small contribution from Ahern rentals acquired in the fourth quarter. Pre-tax profit jumped 52% to \$2.8 billion. Fourth quarter revenues were \$3.3 billion, up 18.5%, while profits improved 39% to \$639 million. United

is forecasting 2023 revenues of up to \$14.2 billion, with capital expenditure of \$3.3 to \$3.55 billion.



### **United acquires Able**

United Rentals has acquired privately owned Able Equipment Rentals of New York. Able was

established in 1996 and operates from six branch locations in addition to its New York headquarters.



### Welti-Furrer acquires Kran Hag

Swiss crane rental company Welti-Furrer has acquired crane and transport company Kran Hag. Its Biel location and staff have been transferred to the Welti-Furrer group.



### **Bay Crane expands in Chicago**

The Gatwood Crane subsidiary of New York's Bay Crane has acquired the Joliet, branch of Chellino Crane, on the south west side of Chicago. The deal includes 43 cranes ranging from 20 to 300 tonnes along with related support equipment. Gatwood has also moved into the Chellino facility.

Bay acquired Gatwood last year while Chellino was acquired by M-L Crane in October 2017.

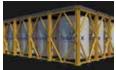


### SARENS BUYS INTO TUGDOCK

Belgian international crane, heavy lift company Sarens has invested in UK start up business Tugdock, as part of a larger scale partnership.

Based in Falmouth, Cornwall Tugdock has patented and produced an innovative inflatable solution to lift vessels and floating structures from the water. The technology enables heavy marine structures to be built, assembled and loaded out in ports with water depth or space restrictions. The Tugdock submersible platform is modular and comes in a range of deck sizes from 12 to 120 metres square, with a lift capacity up to 35,000 tonnes. A key application is offshore wind construction.







# 26 TEREX CRANES FOR MCT

Terex tower crane distributor for Israel -Mayer's Cars & Trucks (MCT) based in Rishon Le Tsiyon, Tel Aviv - has added a further 15 cranes to a previous recently placed order for 11 units.

Mayer's was appointed last March and has already gained significant market share. The new order comprises a variety of flat top and luffing jib tower cranes including the new 12 tonne CTT 292-12 with jib lengths of up to 70 metres and jib tip capacity of three tonnes.





### DINGLI HOSTS ACCESS LINK

Access Link - the UK/Irish association of independent access rental companies - held its quarterly meeting at Dingli UK headquarters in West Bromwich/Birmingham in early February - the first time an Access Link meeting has been hosted by a Chinese manufacturer.

The meeting covered the challenges facing the industry including increased equipment costs, rising interest rates, credit management, rental yields and environmental challenges and opportunities.







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Cranes



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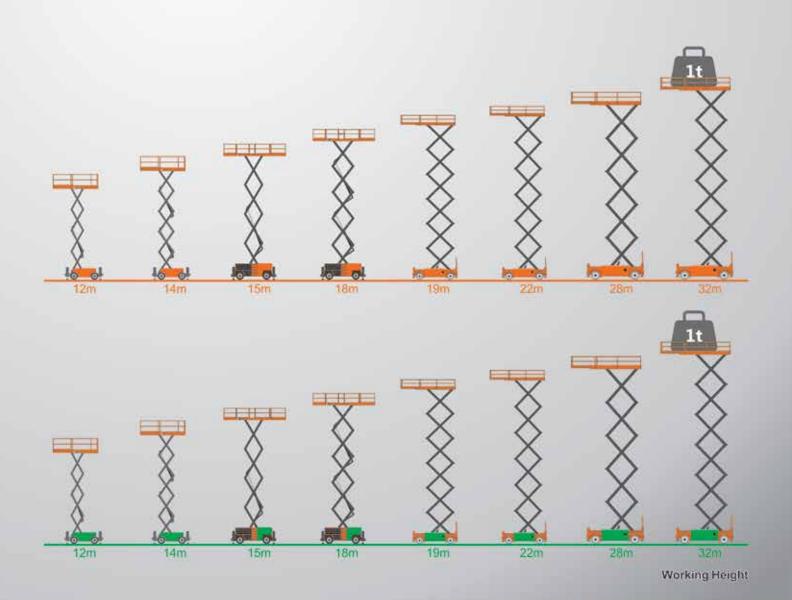


### HEAVY LOADING 363kg - 1000kg









### **Large Scissor Lifts Series**

### ZHEJIANG DINGLI MACHINERY CO.,LTD.

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- Tadano has appointed Adriano Battazza as vice president sales for South America
- Sims Crane & Equipment in the US has added the first 250t Liebherr LR 1250.1 Unplugged on the US east coast



- CTE has appointed France's SNM Lift as a dealer
- Haulotte has appointed Sara Fakhraei as marketing director for
- Liebherr has shipped four offshore cranes to Umid Babek Operating Co - its first in Azerbaijan



- Pennsylvania's Best Line Equipment has acquired Chesapeake Supply & Equipment of Jessup, Maryland
- Germany's NKS Niessen Kranservice has taken its third Tadano AT in six months
- Germany's Paul Becker has taken two Bronto's - an S56 XR and an S70 XR
- Magni Telescopic Handlers has opened a new subsidiary in Sweden
- Arup Saha Deuri, head of R&D at India's off road tyre specialist BKT, has died
- Almac/AlmaCrawler has appointed Mateley as its Multiloader and T-Crane distributor in France
- Dingli has opened a new office in Chennai, India covering South Asia
- Thimbleby & Shorland is organising a major aerial lift auction in early March
- Manitou has appointed Shawmut Equipment as its telehandler dealer for Massachusetts, Connecticut, Rhode Island, and Vermont
- Paolo Balugani has joined Valla as general manager
- Italian rental company ATI has taken 10, Socage Forste 20D Speed truck mounted lifts
- Gheysens has taken the first 450t Tadano AC7450-1 in Belgium
- Italy's Campostano Anchor has ordered a 125t Konecranes/Gottwald ESP.6 mobile harbour crane
- Germany's Mietpark Gushurst has taken the last of seven Jekko cranes - an 8t SPX1280CL
- Briggs Equipment has acquired forklift sales & rental company Neckar Forklifts and subsidiary Maxim GB
- Shortlists for the IAPAs 2023 have been published
- Finnish aerial lift manufacturer Dinolift has appointed CPL as UK distributor
- UK distributor APS has promoted Linda Betts to key accounts director
- Germany's F&H has taken a factory refurbished 180t Tadano ATF 180G-5

- CTE has opened a new subsidiary in France -**CTE France SAS**
- Jekko has started working with FA.RO. Italian Technology in South America
- Link-Belt has appointed Central Cranes & Service as distributor for Oklahoma
- United Rentals has acquired Able Equipment Rentals of New York
- Spierings has expanded its sales team with Mark Oudshoorn and **Ralph Disveld**
- Multitel Pagliero has created 35 video tutorials for its truck mounted platforms



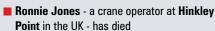
- Bay Crane has added 43 Chellino cranes to its **Gatwood** subsidiary in Chicago
- Sicily's Mandalà Noleggi has taken its first Grove a GMK6400-1 AT
- **XCMG** platforms has appointed Thomas Dohmen as sales manager for German speaking regions
- Palfinger has started building a 'flagship store' in Poing, near Munich



- Terex Cranes has appointed IIE as distributor for its RT and Franna cranes in Oman
- Previous Snorkel owner Tanfield's claim against the current owners has been pushed into 2024
- Hiab and Kalmar owner Cargotec has appointed Casimir Lindholm as CEO designate





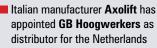


- Leppo Rents of Ohio has acquired Bobcat of Jacksonville in Florida
- Paul Gallacher, co-founder and co-owner of Pop Up Products has stepped down
- German company Jaromin has taken two more Tadano ATs
- Eurogate Container Terminal in Germany ordered two Liebherr dual trolley ship to shore container cranes
- Mexico's GMVykon has taken the first Liebherr MK88-4.1 in the Americas
- Manitex has appointed Takashi Kiso of Tadano to its board of directors
- A new 250t AT owned by Australian Century Cranes was vandalised
- Tadano chief marketing officer Ingo Schiller has left the company
- Germany's BSH has taken a 55t Tadano AC 3.055-1
- CTE has appointed GSE as a service operation for Catalonia
- Swedish manufacturer Safelift has appointed HDW as its distributor for the **Netherlands**

- Germany's Wille & Dulies Krane has taken two five axle Liebherr ATs
- The UK's ALLMI has appointed Alan Johnson as chairman
- Multitel Pagliero has appointed FA.RO Italian technology to represent it in South America



Dynamic Load Monitoring (UK) has appointed Chris Scrutton as a director





- Austrian company Engl has added a 100t Grove GMK4100L-2 AT
- Time Versalift has opened a new sales, service and installation facility in Ireland
- Rope manufacturer **Samson** is to acquire Spain's Folch Ropes
- Tadano has appointed Robbert Kreber as business leader for its Benelux sales operations



■ Haulotte China held a meeting for its dealer network

- Dubai crane group Al Faris has ordered 27 new **Liebherr** cranes
- Denmark's **Trackunit** has acquired German software developer Flexcavo
- The Sarens PSG JV in Scotland has purchased an 800t Liebherr LTM 1750-9.1
- German distributor Hematec has sold its first Klubb van mounted lift
- Australia's Kennards Hire has merged Top End Access Hire in Darwin into its network
- UK's AIS Wind Energy has taken a new 750t Liebherr LG 1750
- Liebherr Container Cranes has completed its first contract with its new 'Liebherr Transform' jacking system.
- JLG has appointed Tjitske van Hellemond to lead a restructured European commercial team. David Courtin becomes GM sales & service operations Europe. Ian Hume GM distribution and strategic key accounts, Amadeus Bissot becomes director - 'order to delivery' and Laurent Montenay heads all manufacturing operations at the Tonneins, plant in France.













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# AN OVERLY CROWDED MARKET?

You could easily be forgiven for thinking that the self-propelled boom lift is a mature product will little opportunity for change or improvement or for new entrants. However, the number manufacturers has exploded in recent years, while innovations are plentiful, partly down to the ongoing growth in the use and demand for powered access.

A key fact in the changes over the past few years has been the rapid growth in the number of Chinese manufacturers, thanks to booming demand in their home market, while the leaders are also participating more widely in the global market. In less than a decade, China has gone from a non-user to become the second largest powered access market in the world. A handful of its more popular brands - Dingli, Sinoboom, LGMG, Zoomlion, Mantall and XCMG - are now producing lifts in numbers unimaginable a decade ago.

The biggest surprise is how quickly North America and Europe have widely accepted platforms from the new Chinese manufacturers and not as some would have you believe based purely on lower prices. The proof here is how fast many rental companies have moved from small low cost Chinese-built micro scissors to purchasing large high unit cost booms and scissors based on quality, design and backup as well as availability. They are no longer seen as 'cheap copies', much of which is down to the massive investment in modern sophisticated production facilities spurred on by a rapidly growing domestic market. This is nothing new - it is exactly how North American manufacturers managed to dominate the European market when it took off in the 1980s. It is also how the German car makers out-classed the previously dominant

British auto industry from the 1960s.

The return of exhibitions such as Vertikal Days, JDL, GIS, Platformers Days and Bauma, means manufacturers once again have a focus for new product launches and a chance to speak to customers. It seems strange therefore that two of the largest and most established boom lift manufacturers - Genie and JLG - appear to have withdrawn from such events, although Genie made a strong appearance at the recent ARA Show and has maintained a presence through local dealers. What it has done, according to some major buyers we have spoken to, is 'leave the door open' to the up and coming manufacturers.

In terms of new product launches, Chinese manufacturers have been most active, with companies like Dingli unveiling new models and concepts at a dizzying pace. This is in part due to employing several engineering teams, compared to the usual one or two. Many have been surprised by the rapid acceptance of larger battery electric boom lifts where China has an advantage thanks to its high levels of research and investment in Electric Vehicles over the past decade - driven by the horrendous pollution, a result of the export of dirty manufacturing by the west - which in turn has provided the country with its strong growth and prosperity. Its odd how things work out. The rapid move towards





electric may well slow as countries fail to invest in the infrastructure to maintain it. This is likely to play into the hands of companies like Niftylift that has pioneered hybrid power systems for its boom lifts. It recently settled a 'cease & desist' patent complaint with JLG.



Most Chinese manufacturers have remained in the 'bread & butter' boom market from 40ft to 135ft. Only Zoomlion and XCMG have attempted to challenge Genie and JLG in the mega boom sector with Zoomlion launching the 217ft ZT68J in 2020. In October it followed this up with its 186ft ZT58J with a working height of 58.8 metres and an outreach up to 25.5 metres with an unrestricted platform capacity of 300kg. Its maximum capacity of 454kg is available at an outreach of up to 22.5 metres.

### **BIG ZOOMLIONS**

At Vertikal Days 2022 Zoomlion launched several new boom lifts including the electric 86ft ZT88JE/ZT26JE, the 32ft ZA32RJE/ZA10RJE compact zero tailswing industrial lift with an 11.5 metre working height and the new 64ft ZA64JE/ZA20JE electric articulating boom lift with a 21.5 metre working height. All three are equipped with a large battery pack and direct electric AC drive motors.

### 135FT BOOMS

Demand for boom lifts in the 135ft range has also been growing as more rental fleets venture into this market. Having focused on developing and refining its boom lifts up to 85ft, Skyjack is just one manufacturer now looking to go higher as its new plants in Mexico and China come on stream adding essential capacity. Dingli introduced its new lithium powered models topped by the 139ft BT44RT which offers 27.2 metres outreach and 454kg maximum platform capacity at 24.9 metres and greater jib articulation. The BT44RT is just one of three 'larger' Dingli telescopic booms including the 112ft BT36RT, and 129ft BT41RT. Each available in three power variants - Lithium pure electric, Hybrid - with a 'range extender' diesel generator - and straight Deutz diesel for a total of nine new models.

### **LIGHTER WEIGHT**

In the 60 to 80ft market there is a need to make machines easier to transport. Genie unveiled its S-60J and S-80J in 2020, while Dingli has also launched its D series based on its modular low centre of gravity concept. The range comprises seven base models: four articulated booms with working heights of 16, 18, 20 and 22 metres, plus three telescopics with working heights of 16, 18 and 20 metres. All seven are available with three power options - All electric, Hybrid or Diesel. The company has also introduced some M series telescopic boom lifts starting with the 106ft BT34ERT electric and diesel BT34RT, with four section booms and articulated jibs for a 34.1 metre working height, and 454kg platform capacity.

### **OTHER BOOM LIFTS**

Until Zoomlion announced the ZT68J, the largest boom on the market was Snorkel's 210ft 2100SJ shown at Conexpo 2020. At this year's Conexpo the company will show the production version of the new mega boom.

Sinoboom's latest is the 72ft AB22EJ Plus all electric boom, launched at Bauma. With a 24 metre working height its boast three platform capacities - 230, 340 and 454kg - and an overall weight of 10.9 tonnes.

Manitou is pushing into North America and will show the new 85ft TJ85 at Conexpo alongside the 46ft 160 ATJ+E electric and new 53ft 180ATJe. MEC is also set to launch an 85ft boom at Conexpo, its largest to date.

Skyjack will unveil its new lighter weight, 45ft SJ45 AJ and SJ60 AJ articulated booms with smaller engines and Smartorque drive and is hinting that electric booms are coming soon.

LGMG has four new lithium electric and four diesel articulated boom lifts from 30ft to 65ft alongside four telescopic electrics - from 65ft to 92ft. The new models initially intended for



international markets outside of North America are the T20JE, T22JE, T26JE and T28JE with working heights of 21.8, 23.8, 27.9 and 29.8 metres. All four models feature dual - 300kg/450kg - platform capacities and are equipped with 2.4 metre wide triple entry platforms, four wheel drive, four wheel steer and oscillating axles. Overall weights range from 12 to 18.7 tonnes. Other new LGMG booms - dubbed the H-Series - include the new 85ft T85J-H/T26J and the 92ft T92J-H/T28J.

Genie's electric and hybrid versions of its 60ft S-60 light weight telescopic boom lifts are now available in the Americas and Asia Pacific region. The all electric S-60 DC and hybrid S-60 FE were launched at Vertikal Days and at last month's ARA for North America.

JLG's innovative 67ft self levelling 670SJ boom is reviewed on page 18 but its main recent



news was the acquisition of Italian spider lift manufacturer Hinowa which has more experience with Lithium-ion battery powered platforms than anyone. Hinowa now builds JLG's 45 and 52ft articulated lithium electric booms. JLG has also announced a lithium battery electric conversion kit for older 66ft 660 SJ diesel boom lifts.

JCB has been slow to launch its boom lift range but showed its 48ft AJ48D articulated boom at the ARA show. At Bauma Dinolift unveiled all-electric versions of its 'semi self-propelled' low weight RXT boom lifts. The new RXTE models are derivatives of the two current RXT 4x4 boom lifts with outriggers - the 86ft 280RXTE and 66ft 220 RXTE. The diesel RXTs were previously available with a plug in supplementary power pack for indoor work.

And finally Niftylift launched two new 'low weight' all electric booms - the 45ft HR 15E and 50ft HR17E - at Vertikal Days, both weighing less than five tonnes.







# ELECTRIC DOWE!

The Snorkel SR626E is the electric version of the SR626 rough terrain telehandler – an industry first. Its full-time 4-wheel drive is powered by lithium-ion batteries for long-lasting durable performance. Built compact, the SR626E is highly maneuverable with reduced noise and zero emissions that is suitable for indoor use.

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### **BOOM LIFTS**





# LEVELLING UP

Sloping and uneven jobsites are challenging for traditional self-propelled boom lifts which are usually rated for firm level ground, with tilt alarm lockouts now a requirement at five degrees or less. In late 2021 JLG began shipping its 67ft '670SJ Self Levelling' boom lift. We look at how two contractors have used the new boom lift on real life projects.

Working on uneven or sloping ground is a fact of life on most job sites, and all too often it is a factor in overturning incidents. Those working on site typically ignore the tilt alarm - traditionally set at five degrees - or disable it. The new ANSI standard in the USA now mandates function cut-outs when the machine's approved operating angle is exceeded. This will have a major impact for boom lift users. Operators will no longer be able to ignore the slope limitations and will either have to reposition the boom, carry out additional site preparation work, use a larger lift to work from further away or use cribbing to level the machine. Some booms can be equipped with levelling jacks, but few companies have been willing to pay for them.

So is the new JLG Self Levelling boom "a solution looking for a problem" as one rental company described it or a game changing machine?

JLG first showed its Self Levelling concept at Conexpo 2017, exhibiting the 670SJ prototype at Conexpo 2020 and based on the feedback began producing them around 18 months ago, initially only available in North America.

The self-levelling chassis can cope with slopes of up to 10 degrees in either direction. The levelling range was based on site surveys, which included talking with operators about ground problems they faced on a day to day basis. The lift has a working height of 22.3 metres, a maximum outreach of 17.5 metres with an unrestricted platform capacity of 250kg or just over 15 metres with the 340kg maximum capacity. It has an overall width of 2.5 metres, an overall length of

10.7 metres and is 2.77 metres high, although this can be lowered to 2.22 metres for transport. It has an all up weight of 11.5 tonnes and apart from the sophisticated display the controls are basically the same as JLG's standard booms.

The self-levelling technology automatically levels the chassis using four independent axles with intelligent sensing technology meaning the boom can be driven at full height over uneven ground with the system actively levelling the chassis as you go.

### THREE MODE LEVELLING

The operator can select from three operating modes. 'Auto Level Mode' selected before raising the boom dynamically levels the chassis while driving with the boom in an elevated position.

High-Speed/Manual Levelling Mode allows the machine to travel at the maximum speed when the boom is stowed, with the machine operating much like a standard Rough Terrain boom lift with one axle fixed and one providing the oscillation. Once in the working position the operator can press level and the machine will automatically level up. Once level the boom can be raised.

The third is Shipping Mode, once the lift is loaded on a trailer it lowers the chassis almost to the deck, reducing the transport height.

### Initial projects convince Skanska

As an early user of the 670SJ, Skanska USA says it has lowered the risks of 'tip overs', provides operators with a more comfortable ride while traveling at height, can often get closer to the work area and saves time spent levelling the site before work can begin.





Mason Ford, director of sustainability and equipment services at Skanska says: "We have been a supporter of the self-levelling boom since the moment we heard they were building it back in 2017."

# ACCESS WITH ZOOMLION G











### **BOOM LIFTS**

As soon as it was available Skanska put a 670SJ to work on the Lynnwood Link L300 project in Mountlake Terrace, Washington - a four mile raised extension of the Sound Transit rail line outside of Seattle, where Skanska is the sole contractor.

The contract was the perfect test case for the concept, due to the preponderance of unprepared and uneven ground below the girders for the line. Normally Skanska would have used a regular 60ft Rough Terrain boom lift, having carried out significant grading work to level up the ground. At best this can take several hours as well as involving cribbing and blocking, while also requiring additional equipment to carry out the unproductive work. On top of that ground often has to returned to its original state once the work has been completed, involving more work, time and equipment.

"It would also mean slower project transitions and production, because to carry out a lot of the work, the operator would have to boom down, move the lift on an uneven surface to get to the next prepared work surface, and then raise it back up and stretch back out to do the work," says Ford. "On top of this, the creation of the pad in congested areas may prevent other equipment from accessing the site. It's more than time and direct cost - it's whether you even have the opportunity to make that footprint available. There are even cases where instead of using the 60ft boom lift, we'd have to go to an 80ft, because we needed more outreach to reach the work area."

The 670SJ's LCD screen within the control box provides real time machine status notifying operators if they are nearing the slope limits of the machine, informing them through on-screen icons, rather than a simple audible or illuminated alert.

Skanska has also used the 670SJs on the Hunts Point Peninsula interchange project in New York City and on the State Route 60 road widening project in Southern California. As a result the contractor has purchased further 670SJ's and Ford says they have become an essential part of their fleet.



### **Electrical installation contract**

After requesting a 60ft straight boom to install switches and electrical components as part of the Bowman Street substation expansion in Farmingdale, Maine, local contractor Cianbro received a 670SJ instead, and became a convert. Cianbro was also responsible for the earthworks, concrete foundations, steel erection and electrical work for the project.

Chad Burgess, dispatch supervisor for Cianbro says: "The time and cost savings made the most impact for us. Typically on such sites we would need to have earthmoving equipment, including excavators, dump trucks, skid steers and even rollers to prepare the base for the lift. In most cases, the 670SJ has negated the need for such additional equipment, saving time on permits, hiring trucks, the number of operators with special licences and countless other costs. As a result, it can radically change equipment planning and selection, as well as project timelines."

Operators on the job reported similar benefits as Skanska. "They liked that the platform wasn't moving around when travelling around," says

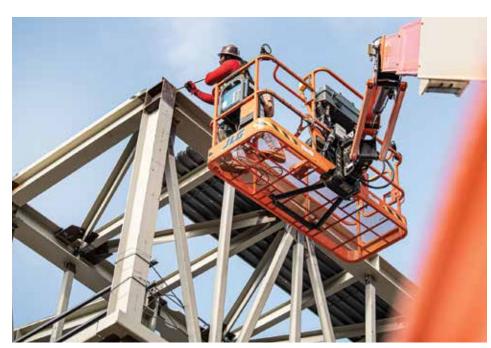
Burgess. "Not only does the smoother ride of the 670SJ cause less fatigue on the operators, but it also minimises equipment contact. In a substation, our primary concern is preventing aerial platforms from contacting the equipment. When travelling, the JLG 670SJ keeps the platform stationary. This feature helped avoid unintentional equipment contact."

"Companies performing work in cities where one side of the machine needs to be on a sidewalk would also benefit from this unit. The cost savings we have seen are endless."

















# GOING GLOBAL BUT STAYING LOCAL

Privately-owned Chinese aerial lift manufacturer Sinoboom has been in expansion mode for the past 15 years, evolving from follower to innovator and now claims to be the leading premium aerial work platform manufacturer from Asia. At Bauma, the company launched its first spider lift and several new scissors and booms. Mark Darwin spoke with Group Chief Operating Officer, Desmond Soh about the company and the changing landscape for Chinese manufacturers.

Over the past few years, the perception of Chinese access equipment has changed dramatically. But this can be no surprise to those that have witnessed the cultural and industrial changes within the country over the past 40 years.

"Over the past three decades, I have had the privilege to witness the transformation of rural china into being the world's second largest economy. China has come a long way from the early 1980's when 500 million bicycles were on the roads every morning. Now China which has become the world's largest automobile market and its shoddy transport system now has ultrahigh speed trains that travel at 330km/h."

"Every year China produces about two million graduate engineers, even if sceptics claim that half are not qualified by international standards, we are still staring at massive engineering talent that will continue to power China's economy."

Originally from Singapore, Soh lived in China for more than two decades and is an aerial industry veteran who helped nurture and develop the Chinese powered access market into becoming the second largest market through a US-China Work Safety Public Private Partnership promoting work at height safety.

China eventually passed its first Work at Height regulations on 5th December 2012 however enforcement took a couple of years - the trigger coming with a massive mastclimber/scaffold collapse at Feng Cheng Power Plant in 2016 that caused public outrage.

"China has the world's largest construction industry with about 40 million construction workers but like many other countries around the world it is shrinking as it struggles to recruit the younger generation," he said. "Coupled with China's former one child policy, the population is rapidly greying. In fact, China now is the world's fastest ageing population resulting in a shrinking workforce and severe manpower shortages in various sectors of the economy."

As a result labour costs for the average construction worker have more than quadrupled from \$3 an hour in the early 1990s to \$12 to \$15 an hour today - and it is still rising leading more companies to look for increased efficiencies and productivity.



### BUT WHY ARE CHINESE COMPANIES EXPORTING MORE PRODUCTS TO EUROPE AND NORTH AMERICA?

"All companies want to increase sales, make more profit and become a market leader," says Soh. "Sinoboom aspires to be the world's number three aerial lift manufacturer."

"Industry recognises us as the leading premier brand because of our robust design, the use of trusted components, good aftersales service & support and total cost of ownership and our focus on customer satisfaction."

"We focus relentlessly on engineering innovation, quality and reliability of our products and match that with strong aftersales support. For example, our parts order fulfilment rate is at about 95 percent."





"At Sinoboom, we do not cut corners to compete on price. Instead we focus on providing true value for our customers," he said. "We offer both cost competitive and high quality products through full factory automation where robots have reduced our reliance on workforce requirements."

"Every company has its DNA. Our owner/founder chairman Steven Liu and global CEO Susan Xu have instilled the core values of honesty, integrity, respect and excellence in everything we do, as well as continuous engineering innovation and hard work to earn us place as a supplier of choice and partners in access. As a result, we are now the leading Asian brand in Europe and many other parts of the world. Our company has a strong presence in Europe, North America, East Asia, Southeast Asia and down under in Australia & New Zealand where many large national rental companies choose Sinoboom."

### WHAT ABOUT DIFFERENCES IN EASTERN AND WESTERN CULTURE?

"Presently, I work for a true blue Chinese manufacturer but have been thoroughly trained in the western-style management," he says. "Yes, there are major cultural differences and some can be quite challenging. For example, in the West, most would answer a direct question with a 'Yes' or a 'No' response. In China there is always a third answer, where it's neither a yes or no. As such, in business negotiations that can be very confusing."

"Most Chinese companies operate at the speed of the high speed train, however we all know, fast can translate into slow. In the West, strategic decisions often go through a rigorous process followed by strategy deployment, whereas in the East quick decisions might lead to oversights. At Sinoboom, I try to include the best of the East and West to achieve the vision of becoming a truly international global company."

For example, Sinoboom now uses state of the art management tools such as Windchill for engineering, SAP for enterprise wide management, SRM for global sourcing, Salesforce.com for CRM and Siemens MOM for high tech manufacturing.

"A company must have consistent execution to enable long-term sustainable growth. Not many Chinese/Asian companies achieve success in the global arena, at Sinoboom we believe that we have all the building blocks for success, so keep a lookout for us in the coming years as we go international in a big way."

### **MARKET SHARE**

"The size of an enterprise is only a relative reference, often big does not translate into being better or stronger. On the contrary, big can mean bureaucracy, lacking in agility and responsiveness," he said. "As an aerial platform manufacturer that is 100 percent dedicated to developing aerial solutions, we are very focussed in addressing needs and requirements of each market we operate in as we have the advantage of not being distracted by other non-aerial products."

"Primarily, we serve customers that value performance, high quality and durability. Our products are time proven and we offer the most



complete range. As such, we have the highest market share in our target market segment."

At Bauma, Sinoboom launched several new products including the 72ft /AB22EJ Plus articulated boom, the ML10 EJ boom lift, a new AC drive, lithium battery scissor lift, and a spider lift - the SPA33HJ - in a new partnership with Danish manufacturer Falcon Lifts.

### **FALCON PARTNERSHIP**

"Our strategic partnership with Falcon Lifts opens up exciting opportunities for both our companies but more importantly serving our customers with another product line to meet their total needs," said Soh. "For example, in the near future we could possibly expand our manufacturing capability in Poland to scale up significant volumes to meet market demand."



### WOULD YOU PARTNER WITH OTHERS?

"The next partnership will be very interesting. One possible product would be telehandlers where there is high demand," he said. "On this front, we are now at the initial stages of our alliance with a renowned brand from Europe. Combining both our strengths we could possibly in future, incorporate lithium powered solutions for this product."

China is now the world's largest electric vehicle market and an off-shoot of this is the rapid development of lithium batteries.

"The industrial boom in China in the 1990's resulted in heavy pollution and back then China had to set 100 day goals for Blue Skies and they celebrate when they achieve their goal," he said. "The benefits of heavy investments in renewable energies over the past decade have resulted in more Blue Skies. This technology is now being applied to the aerial sector because lithium battery supply chain has been very well developed. Currently Sinoboom has a full range of lithium powered scissors and booms and we

want to see that benefit applied to other product lines in future."

### **TECHNOLOGY DEVELOPMENTS**

"Talking about innovation, our new generation of scissors and boom lifts are designed with two philosophies, zero multi-meters and zero service manuals for service support or product diagnostics," said Soh. "For example, we introduced the industry's largest seven inch smart screen on our boom lifts - it is a game changer. The smart screen is able to precisely indicate which part of the boom is having issues, allowing quick diagnostics and trouble shooting. It makes it entirely user-friendly for job sites and rental customers."

"What is even more exciting is that each of our products comes standard with Telematics Ready connector. In the internet of things (IoT), our customers can do remote diagnostics and even perform software upgrades. With rising labour costs and skilled labour shortage, customers are able to reduce downtime and improve return on investments."

### AI IS THE FUTURE

"Al is the next major development. The cost is high at the moment but economies of scale will reduce prices. An example of Al and boom lifts is in ship maintenance and repainting the hull in dry dock. Al can be used to carry out the work without human operators because the ship is one giant flat surface and Al can do a better job than humans. We already have that solution, but it is the timing of adoption that is critical."

### **GOING GLOBAL**

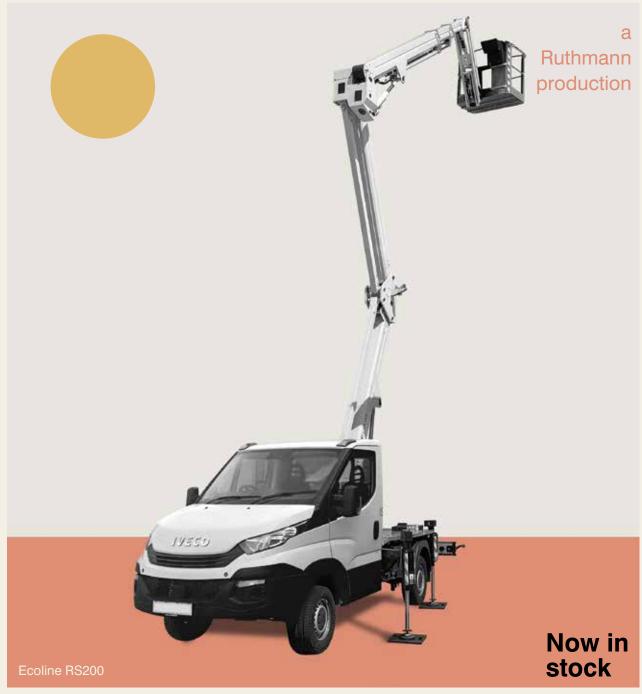
"In Changsha, Hunan, we are building Sinoboom City and our new world headquarters. Globally, we are strengthening our foot print and overall capability. Our ability to hire global talent speaks volumes of our brand and market recognition."

"Whether it's ANSI, CE, CSA etc. standards, we are ready in all aspects. More importantly we are expanding our product support centres to truly serve our customers. For example, in North America, we are expanding and relocating soon to our new North American headquarters. At the product support centre will be a product training centre, ground support and parts support etc."

"In mature markets such as Europe, Australia, North America we are gaining positive momentum," he said, "however to achieve success, we firmly believe in 'going global but staying local'. That fundamentally is our cornerstone for success."



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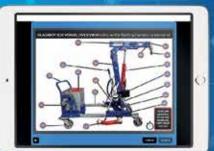
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# THE ABC OF LIFTING WITHOUT CRANES

The growing preference to construct as much as possible off-site by prefabricating modules in factory type setting, is leading to building larger and heavier components, all of which need to be moved and lifted into place. As a result contractors are looking for innovative alternatives to big cranes which are in short supply or require more space than is available.

Offsite production is nothing new, oil rigs have been built in production yards for more than half a century as have power station components and more recently wind turbines. Over the years lifting equipment manufacturers and heavy lift and rigging companies have risen to the task devising innovative solutions to handle the heavier loads. In this feature we cover just a few examples of engineering ingenuity showing some alternatives to using large cranes.

While heavy lift companies are managing to keep up with handling the larger modules, the challenge now is transporting them on the world's road networks. As one European heavy lift company put it: "We have the capability of building these massive components, but are rapidly getting to the stage of not being able to transport them due to an inadequate road infrastructure." This issue is discussed on page 30 with input from ESTA - the European association for the abnormal road transport and mobile crane rental industry. The problem is exacerbated by a growing number of bridges in a state of disrepair, leading to reduced axle weights and permitted loads.

This issue is possibly even worse in the United States, with the American Society of Civil Engineers (ASCE) reporting that 42 percent of the country's 617,000 bridges were built more than 50 years ago, and of those almost 20 percent are structurally deficient. The sheer number of bridges needing to be repaired or replaced has led to a new methods

of construction such as Accelerated Bridge Construction (ABC), which according to the Federal Highway Administration is a process that involves constructing large sections of bridges offsite, then installing them quickly, often within 48 to 72 hours, helping reduce road closures, traffic delays and overall project costs. Thankfully the new structures are also being designed to have long service lives.

According to the Administration there are three ABC technologies employed:

- Prefabricated Bridge Elements and Systems with bridge components - the deck, beams and railings - built offsite or adjacent to a site and then installed in place.
- Slide-In Bridge Construction installing the prefabricated elements or replacing an existing bridge with a new one.
- Geosynthetic Reinforced Soil-Integrated Bridge System - a method for constructing abutments and approach embankments that are less likely to create the common issue of a bump at the end of a bridge.

While this speeds up the bridge replacement times - especially the actual installation - it does not mean the whole process is quick. The design and engineering phases can take a significant time since everything has to be perfect for the installation to go smoothly. However, the many benefits also include improved safety, lower construction costs, reduced environmental impact along with a higher quality, longer lasting structure.







The Texas Department of Transportation says: "The ABC method marks a paradigm shift in the project planning and procurement."







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A distinguishing factor of ABC is that it utilises Ultra-High Performance Concrete (UHPC), which is exceptionally strong and durable resulting in a longer bridge life. According to the Federal Highway Administration (FHA), "UHPC has been used in prestressed concrete girder simple span bridges, precast concrete deck panels, and field cast connections between prefabricated bridge components. The mechanical and durability properties of UHPC make it an ideal candidate for use in developing new solutions to pressing concerns about highway infrastructure deterioration, repair and replacement."

### **ENGINEERED RIGGING**

One company that specialises in ABC is Engineered Rigging which has locations in North and South America as well as Europe. Its co-founder and principal Eddy Kitchen says: "When it comes to streamlining the planning, procurement and construction portions of bridge projects, our clients appreciate the fact that we provide the engineering services, specialist equipment rental and technical support. By offering this trio of services under one roof, we can save bridge contractors time and money."

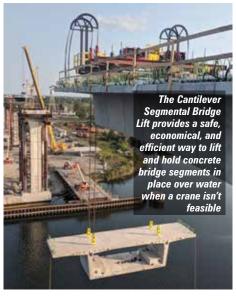


Resources critical to its success include detailed planning by engineers with the relevant knowledge and experience, the specialist equipment to transport the prefabricated concrete elements and then lift or lower them into position, not to mention the highly trained technicians skilled at operating the equipment and understanding the concept.

"We have extensive first hand experience in Accelerated Bridge Construction," says Kitchen. "Our engineers have developed detailed lift plans for the placement of bridge decks and bridge trophies as well as their demolition. We also have a team of heavy lifting professionals to provide on-site technical support."



The company's rental fleet includes a 2,200 ton jack-up system, strand jacks, sling adjusters (synchoists), self-propelled modular transporters (SPMTS) and a custom built Cantilever Segmental Bridge Lift.



### **POND CREEK BRIDGE**

A recent contract which highlights the approach was the construction of the Pond Creek Bridge on US460 in Pike County, Kentucky. Incremental bridge launching is ideal when a bridge is very high and access for cranes is difficult or impractical. Contractor Bush and Burchett of Allen, Kentucky, constructed what would become the tallest bridge in the Bluegrass state and one of the highest traffic bridges in the country. The rugged terrain on site coupled with a bridge height of nearly 100 metres created several challenges.

According to Paul Burchett, co-founder of Bush & Burchett: "Being 324ft /98 metres high and 1,000ft (305 metres) long, the slopes on each side of the bridge were extremely steep making conventional crane erection almost impossible."

Bush and Burchett determined that the safest and most economical strategy was to build the steel bridge on the embankment and incrementally move the girders into position onto the eight sets of piers. Engineered Rigging brought in a range of equipment, including two 63.5 tonne HSL7006 strand jacks, a SLPP7E strand jack pump system, strand guide, strand recoiler, gold box, a laptop and industrial Hilman rollers. Engineered Rigging also provided an on-site technician to operate the strand jack system.

As one section of girders was completed in the launch bay, the strand jack system pulled it onto the bridge pier, thus allowing the next section of the bridge to be constructed on the embankment. In total, 10 jacking evolutions were necessary to pull the entire bridge into position. The pulling weight for the first pull was approximately 7.3 tonnes and increased with each subsequent pull reaching 36.3 tonnes.



The pulling force is a function of how easily the bridge slides on the rollers and on the dead weight of the steel span.

"The launch went as well as we could have imagined," said Burchett. "We encountered a few challenges during the launch related to the small tolerance margin. On the piers, we only had about a half inch (12.7mm) of tolerance with each gap. Any lateral movement or minimal inconsistencies in fabrication of the girders or rollers leads to rollers not lining up with the gap in the splice plates. While this caused a bit of a delay on the eastbound launch, we modified the splice plates on the westbound bridge that helped reduce the frequency of these issues."

Once the launching of the bridge was complete, it was lifted off the Hilman rollers and lowered onto its bearings. This step of the bridge construction process used additional Engineered Rigging heavy lifting equipment including one SFP421SJ split flow pump, hydraulic hoses, four 145 tonne LPL1602 locking pancake jacks and four HCL1006 90 tonne locknut cylinders.

"This was the first time a girder launch has ever been performed in Kentucky, and I was glad to be a part of it. We would definitely use the approach again if the conditions called for it. The designer, Stantec led by David Depp, Engineered Rigging and the inspectors from the Kentucky Transportation Cabinet did a great job working with us to make this happen."











# **HEAVY TRANSPORT HIT BY BUREAUCRACY AND CRUMBLING** INFRASTRUCTURE

European heavy and abnormal transport companies are facing growing and damaging restrictions caused by inefficiency, bureaucracy at a local level, along with aging infrastructure. That is the view of ESTA, the European Association of Abnormal Road Transport and Mobile Cranes and its network of national associations and members.

**ESTA** director Ton Klijn, a former managing director of Dutch company Wagenborg Nedlift, said the increasing problems make the industry less safe and increase costs to the detriment of both the transport



companies and their clients.

The problems are also hindering the growth of the wind industry and come at a time of increasing off site and prefabricated construction in both the building and civil engineering sectors - all of which rely on heavy transport services to deliver structures and equipment to their final destination.

Klijn says: "We understand that in macroeconomic terms, the heavy transport industry is very small but it is crucially important and is becoming more so. We are appealing to our political leaders, both in Brussels and the various national parliaments, to take action, and soon."

### **GERMAN CHAOS**

In recent weeks, the focal point of the debate has been Germany, but the situation in other countries is just as serious. The issue was raised in the German parliament at the end of January and follows a growing chorus of complaints from industry, port authorities and transport companies.

ESTA has been pressing the country's authorities to deal with the difficulties of obtaining heavy

transport permits since the country introduced its controversial new VEMAGS permitting system over a year ago. VEMAGS is the German online system for the application and approval for oversized and heavy transport in all 16 federal states.

The new system was meant to be simpler and more efficient, but transport companies and their clients say that it is leading to higher costs, unnecessary paperwork and ever greater delays. They also complain that permit issuing offices are often under resourced and lacking in the necessary expertise.

"We fear that a large number of transports in Germany are being forced to work without the necessary permits in place - simply because the system is not fit for purpose," says Klijn.

Other industries have joined the debate, saying that the situation is badly harming German business. At the end of last year, the Bavarian construction association Bayerische Bauindustrieverband launched a scathing attack saying that the current rules and regulations are inefficient, expensive and often impractical.

One of the many examples it cites, concerns the transport of large construction machinery. It says that the rules demand that the cargo is precisely identified, including the exact type, manufacturer and model. But this is often not possible, as the type of machine required on site and its availability is often not known far enough in advance. The contractors say that the regulations governing large and heavy transport must be streamlined and simplified - and follow common sense.





Similar concerns have been expressed in Hamburg where some companies are reportedly using alternative ports such as Rotterdam and Antwerp because of the delays in Germany.

ESTA member and German heavy transport and crane association BSK - Bundenfachgruppe Schwertransporte und Kranarbeiten - issued a



### **ALTERNATIVE LIFTING**





internet.

authorities will see that a European registration system - as part of accepted best practice guidelines - will save time and money as well as

joint statement with fellow organisations in the engineering, construction, transport, logistics and wind energy sectors, complaining loudly about the poor state of the country's roads and bridges. They said: "A real fiasco is threatening, especially for larger heavy duty transports and the affected sectors of the capital goods industry, due to a failure of the transport infrastructure. For example, there are no new wind turbines without corresponding transport routes."

Now German chancellor Olaf Scholz has been pressed to intervene. Speaking in the German Parliament on January 26th, MP Bernd Reuther - the transport spokesman for the FDP, a minority party in the ruling government coalition - called on the Federal Government to take urgent action and speed up the planning and approval procedures for all modes of transport. Scholz replied that the government will be presenting new measures soon, although details are not yet available.

The situation is little better elsewhere. In France, heavy transport and crane companies have long complained about petty regulations and the lack of coordinated heavy transport routes between different regions which sometimes mean they do not connect to each other.

**ITALIAN CONFUSION** 

In Italy, companies have objected to the "excessively large" number of permit issuing organisations in the country, leading to confusion, delays and unequal treatment of permit applicants. Italian heavy transport and lifting company Fagioli and the association ANNA have both complained, while ESTA has written in their support.

ESTA said: "The slow and opaque processing of applications leads to unnecessary costs and delays which in turn incentivises companies to drive without a permit at all."

Of further concern are the repeated technical reviews of bridges needed for the application of permits over a certain gross vehicle weight. While the Italian regulation stipulating that only the owner of a crane can apply for a permit causes difficulties for leased cranes - as the legal owner is the finance company, rather than the user who needs the permit. In its letter, ESTA said that "it sees no valid grounds for this restriction...no other EU country requires this".

Fagioli chief executive Fabio Belli - the current ESTA president - said: "Infrastructure problems and transit restrictions is an issue all over Europe. In Italy we are facing a situation in which some transports are delayed by months and in specific cases the cargo has to be 'sectioned' or divided in order achieve an acceptable load, with enormous cost to re-assemble on site."

The situation is compounded by a loss of expertise. "There is a lack of engineers, specifically civil engineers and this will affect the planned infrastructure renewal. This is causing local authorities serious

difficulties as they do not have the expertise needed to allow non-standard transports."

### A SIGN OF PROGRESS?

ESTA has members in 25 countries and companies each of which has similar stories to tell. Yet the solutions are not difficult - and there are some reasons for guarded optimism, at least in the EU, where the European Commission is showing signs of appreciating the importance of the heavy transport sector to the wider economy.

A number of companies and organisations - ESTA included - have been lobbying for the creation of a European network of heavy transport routes that would give clients increased certainty, while saving money. Investment could be focussed on ensuring those routes have the necessary facilities and standards. It is an approach that has received a sympathetic hearing from some in Brussels.

The European Commission is also showing fresh interest in adopting the European Best Practice Guidelines for Abnormal Road Transport, first published in a European Commission Transport Directive back in 2005. The directive contains SERT, the Special European Registration for Trucks and Trailers, intended to reduce the paperwork and bureaucracy faced by the industry.

To date only the Dutch road traffic authority RDW issues SERT documents for new vehicles, which are accepted as an information document by the Belgian, Swedish and English road traffic authorities. But ESTA hopes that national making the industry safer.

ESTA believes that a lot of Brussels' aims can be achieved by revisiting the guidelines. But it is also crystal clear that without making the new regulations compulsory, no changes 'on the ground' will come about. A revived best practice guide would help create a European abnormal transport system of regulations and permits that is fair and harmonised, a one-stop shop across the continent that can be accessed through the

Experiences in other parts of the world - in particular, the United States and Australia - show that the introduction of effectively designed online permitting systems leads to a rise in the number of transport permits applied for, and at the same time reduces costs for the issuing authorities. In addition, the number of infrastructure damage incidents is significantly reduced. None of this is ground-breaking...the systems are already in use in various parts of the world. The only reason we are not using them in Europe is because of regulatory barriers at a national level.

### CHANGES IN MINDSET ARE LONG OVERDUE

Fabio Belli said: "Politicians must understand that for every transport, there is a manufacturing company behind it, not all of which can be moved to more accessible locations. If this topic is not correctly and urgently addressed many European industries will risk closure and their production transferred elsewhere."

"Some countries have already created 'special corridors' to simplify transport routes. The same strategic approach must be adopted by others, if their manufacturing companies are to survive and thrive, with alternative solutions like rail and river transportation being considered as well, to help make transportation as sustainable as possible. We know what needs to be done. We now need our political leaders to take notice and act."



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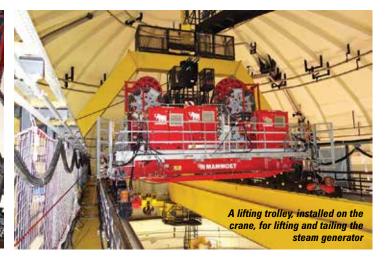


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# ALTERNATIVE LIFTING The steam generator is manoeuvred out of the reactor building



# CUSTOM ENGINEERED SOLUTION

Any work inside a nuclear reactor building has its challenges, but carrying out large scale maintenance and engineering work is another thing particularly as little regard was given at the design stage to the removal of the large and heavy components. Working alongside a nuclear reactor makes meticulously planning and co-ordination essential. Failure to do so leads to substantial penalties and safety risks.

Dutch international heavy lift and transport company Mammoet was approached five years ago by France's Framatome to assist with the removal and replacement of four steam generators from inside its nuclear power plants. The first project - Flamanville FA1 - has been successfully completed and demonstrated the efficiency of the equipment and procedures designed for the job.

The project was led by a combination of Mammoet specialists from France and its main engineering offices in Schiedam, the Netherlands. The steam generators had to be moved out in one piece due to possible contamination and for a shorter downtime for the power plant.

Mammoet designed a specific method to lift each of the 25 metre long, 6.5 metre diameter, 520 tonne generators from their compartments, then carefully rotate and manoeuvre them into a position allowing them to be skidded out of the building and lowered to ground level using a jacking system. They were then transported away for decommissioning. These steps were then reversed for the installation of the new generators.

The polar crane inside the reactor building is normally used for servicing and replacing parts, however it could not cope with the size and weight of the whole generator which was installed in two parts, thus the need to design and build a specific solution to work in concert with it.

Olivier Vanesse, nuclear activities manager and project director at Mammoet France said: "The facilities and infrastructure inside the reactor buildings mean you cannot simply use a basic tailing operation. You need to be able to steer the steam generator, and rotate it. There are a number of steps that need to happen in order to move each of them through the main hatch, it is a really difficult operation."

"The lifting and tailing operation for a 1300MW nuclear unit is very complex - each generator weighs 520 tonnes, far more than the capacity of the polar crane. Therefore, you need to use a support in the middle of the polar crane to ensure that during the tailing process it has sufficient capacity - constraints and deflections wise."

As Mammoet had no handling equipment capable of completing the task, it set out to design, prototype, manufacture and test a solution, ensuring that it complied with the stringent technical and regulatory rules of EDF.

The solution comprised four parts - a lifting trolley installed on the polar crane for lifting and tailing the steam generators, a supporting mast to reinforce the centre of the polar crane, a device for down ending and tailing the generators and the saddles and skidding tracks to move the generators in and out of the reactor building. The space around the generators was tight, with just a few hundred millimetres to spare.



### **3D EFFICIENCY AND SAFETY**

A very accurate 3D computer model of the inside of the reactor building highlighted this lack of space. "We had scans, as well as high resolution photos, and were able to make virtual visits to take measurements and see the equipment going inside the reactor building," said Vanesse.

The data gathered informed the project's site execution studies, with the work rehearsed hundreds of times to ensure absolute safety before any equipment ever went to site. Framatome now has a set of equipment and a method to safely and efficiently replace 1,300MW steam generators which will now be utilised on the other nuclear units.



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#### **ALTERNATIVE LIFTING**









Each of the 71 concrete structures has a 31m diameter base, is 48-50m high and weighs 4,800 tonnes

# FÉCAMP OFFSHORE WIND PROJECT

Belgian international heavy lift and transport company Sarens played a major role in the construction of the Fécamp offshore wind farm at a yard in Le Havre, France. Commissioned by the consortium BSB - Bouygues Travaux Publics, Saipem and Boskalis - the company carried out the lifting, moving and load out operations for the 71 concrete mast foundation structures which have a 31 metre diameter at the base and heights of between 48 and 50 metres, while weighing up to 4,800 tonnes. They had to be moved from the manufacturing site in Le Havre onto transport barges which moved them to their final locations 13 to 22km off the Normandy coast.

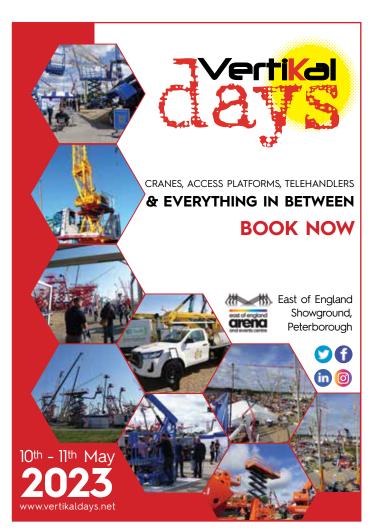
To lift and move each structure, Sarens designed a system of two, SPMT mounted moveable gantry units, which were positioned either side of the structure. The load was secured to four cast in lugs and lifted with the two gantry systems connected by data cables allowing them to operate as one. After raising the structure, it was lowered into position on 180 SPMT axle lines and moved to one of three cargo barges at the quay side.

Sarens had installed a sounding system on each barge capable of measuring the amount of water in the ballast tanks, and a series of interconnected pumps for de-ballasting was used during loading operations. To ensure the offshore installation process did not suffer downtime, Sarens conducted a 24 hour loading regime. Three foundation bases are loaded onto each barge in a continuous operation with a maximum of 38 hours per barge - a process that must be repeated 24 times - requiring skilled personnel not only for the loading manoeuvre itself, but also the handling of the winches, the preparation of the gantry system and reconfiguration of the SPMTs prior to the loading of each barge.

Sarens equipment on site required 120 delivery trucks over a three month period. The 71 turbines will generate 500 MW of electricity - enough for 770,000 homes.











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#### **ALTERNATIVE LIFTING**







### IN-HOUSE SOLUTIONS

UK based heavy lift specialist Allelys provides specialist lifting, heavy haulage, industrial installations and logistics services along with specialist rental equipment, primarily to customers in the UK. Mark Darwin met managing director David Allely and his team at its Warwickshire headquarters to find out more...

Established more than 60 years ago Allelys has consistently invested, evolved and grown to maintain its status as one of the leading UK players in the heavy lift and shift market. Its yard in Studley has doubled in size to 12 acres over the years as have the facilities, including new warehousing and fully equipped workshops. The business has annual revenues of around £20 million and employs180.

"As we have grown so has our arsenal of equipment, allowing us to cover most jobs and provide the best solution for our customers," says Dave Allely. "We have a 550 tonne Liebherr LG1550 which is mostly kept busy on our contracts, but it is also available for external hire. We have also had a variety of lower capacity mobile cranes over the years - our biggest at the moment is a 200 tonner. These, combined with skidding, jacking and gantry units, as well as the associated equipment means we can carry out most larger contracts including bridge installation."

The company's bread and butter work is transporting and installing transformers and generators, however it also works in automotive facilities shifting power presses and with forges and energy from waste projects.

"Over the years loads have grown in size and weight, which means you have to be much more careful when moving and installing. In the 1980s 100 tonnes would be classified as large, in the 1990s it was 300 tonnes and now we have a few thousand tonnes lift for a bridge install."

"There is a lot of investment and work in the electrical sector due to the changing UK power generation landscape. We are generating a lot more electricity from wind which is moving generation from the traditional coal field areas to more remote regions such as the North of Scotland, turning the transmission system on

its head, and requiring delivery systems to be upgraded."

However, with the increased electricity demand the upgrades cannot keep up. "Transformers are on 36 to 48 month lead times. European and Korean-built equipment is lighter with slightly better designs, but companies are looking at Chinese units because of cost and quicker delivery."

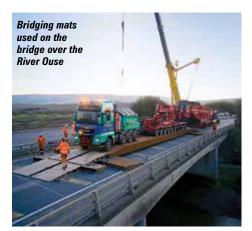
"Currently the major issue is the road infrastructure, with bridge downrates leading to routing problems. Most of the problems are due to data loss rather than weak structures. Local authorities are becoming more risk adverse due to loss of experienced staff, work is then subcontracted and data lost. We have transported heavy loads over many such structures over the years without problems."

Coupled with this is the upheaval of the electrical supply system, the 400kVA system was built in the 1950s and 60s when the motorway network was also being built.

"There was joined up thinking then - power stations were served by motorways with good routes in and out etc. With the demise of coal fired power stations we have to take big loads to places that the road network was never designed for."

One of the company's most complicated projects - delivering a 150 tonne reactor and 195 tonne transformer to National Grid Ninfield near Catsfield, Kent - highlights these problems. Using specialist girder frames with a combined transport weight of 667 tonnes, it was the first ever double girder frame convoy in the UK.

The cargo was delivered in three stages - from Stafford to Ellesmere Port, via sea to Shoreham Port then on to Ninfield. The final stage by road to Ninfield was the most challenging and saw the two girder frames used in convoy, one for





each of the components and configured with low set hangers for the reactor. The major A27 road was closed and the bridge over the River Ouse had to be overbridged in order to reduce the load on the structure. To do this 27.5 metre bridging mats were positioned with a tandem lift involving 500 and 300 tonne cranes.

Once on site, Allelys installed both units. The transformer was jacked up off the transport and lowered onto skates and skidded 25 metres into position. The reactor was transhipped to SPMTs and lifted and positioned by Allelys 200 tonne lift n lock system.

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#### **BATTERIES**





### POWER TO THE PEOPLE

Growing environmental demands along with higher health and safety requirements and increasing pressure on costs means more companies than ever are looking at electric power alternatives to their internal combustion powered tools and equipment. And most of that interest is focused on battery powered solutions. We take a look at the constantly improving technology for use in cranes, telehandlers and aerial work platforms.

Almost every equipment manufacturer in the market has been 'pressured' into offering battery electric versions of its product line...but is it the ultimate solution?

Electric powered machines certainly address emissions and noise reduction at the point of use, but as we highlighted in our October issue, there is the growing problem in most countries with electric supply infrastructure, not to mention the lack of charging facilities in remote areas. This is causing more companies to look at alternatives, as well as higher capacity battery packs.

While the production of petrol and diesel engines will drop dramatically over the next 10 years, there is a growing interest in hydrogen powered engines, particularly for the larger equipment. Research suggests that hydrogen engines will gradually become a practical option over the next five years but then grow exponentially over the next 20 years. But this requires the generation of green hydrogen and the infrastructure to delivery it - much the same issue as electric charging points. While the development and adoption of hydrogen engines appears to be a simpler lower cost alternative, the operating cost is likely to become a limiting factor.

However, it is worth noting that many of these issues may be resolved or improved

with the continued technological development surrounding hydrogen vehicles. At the same time the cost of producing green hydrogen should reduce significantly over time and, if it continues to fall at pace, hydrogen engined vehicles could become very competitive across a wider range of applications in the future.

#### **HYDROGEN DEVELOPMENTS**

There are several equipment companies currently developing hydrogen powered equipment. Late last year Niftylift revealed a prototype HR15 H2 Hydrogen Electric articulated boom lift powered by a hydrogen power cell capable of recharging the regular electric machine's battery up to three times from one small replaceable tank or cylinder.

At Conexpo next month JCB is set to unveil its new hydrogen combustion engine and has recently installed it into a 7.5 tonne Mercedes truck. Although the company claims to have developed the world's first battery electric mini excavator we should not overlook the progress made in reducing emissions from diesel engines over the past 20 years or more. JCB's latest diesel engines, for example, deliver a 97 percent reduction in NOx emissions since 1999 and a 98 percent reduction in particulates. They also emit 50 percent less CO2 compared with those manufactured in 2010.



#### **HYDROGEN FLYWHEEL GENSET**

Another interesting development is the world's first hydrogen generator set with integrated Flywheel Power Boost. In the C&A's October issue (Vol 24. 6) we covered the electric motor powered Punch Flybrid Flywheel Power Boost which is already being used on many construction sites in dynamic applications including tower cranes, hoists, mastclimbers and pumps - resulting in sizeable real world fuel and emission savings.

The Hydrogen Genset uses a hydrogen engine developed by Punch Hydrocells and is based on a diesel engine already produced in high volume for other applications. An engine running on hydrogen has to be particularly robust against temperatures as well as vibrations. Furthermore, it is tolerant to low purity hydrogen, making this technology well suited to the generator set application which often operates in harsh environments.





MEC has introduced a new 10ft all electric - zero oil - scissor lift, the Nano10-XD with a lithium ion battery pack for even longer cycle times and faster recharging

The generator - developed with Italian company Tecnogen uses an ultra silent - just 55dBA - FUSTEQ canopy, electric radiator with variable speed inverter, stainless steel residual silencer, motorised circuit breaker, battery isolator switch and forklift guides. Maximum output is 120kVA and overall size is 3.9 by 2.28 metres with an overall height of 1.2 metres.

Having said all that hydrogen solutions are currently far and few between - so in the short term, battery power is still the go-to solution.

#### **ALL-ELECTRIC EQUIPMENT**

Since our last battery roundup a year ago manufacturers have continued to develop more all-electric cranes, work platforms and telehandlers. Some of the more notable include Böcker's six tonne all-electric AK48e aluminium crane mounted on a 27 tonne, battery powered Mercedes eActros electric chassis which uses

three lithium-ion battery packs for a range of around 300km between charges.

MEC has just introduced a new 10ft all-electric - zero oil - scissor lift, the Nano10-XD - similar to Dingli's oil-free JCPT0507PA - which features a lithium ion battery pack for longer cycle times and faster recharging. Meanwhile the growth in battery powered boom lifts and Rough Terrain scissor lifts continues to grow, with Dingli now offering battery electric versions of its full range.

On the telehandler front Faresin is leading the charge, having extended its full electric range from one to three models topped by the 17 metre/4,000kg 17.40 and the 17 metre/4,500kg 17.45. At the heart of the new telehandlers is a 45.36 kWh, 435V high voltage lithium-ion battery pack powering two electric motors - a 51kW for the drive transmission and a 23kW dedicated to the hydraulics. The new models



can travel at speeds of 25kph during which the batteries are topped up by the regenerative braking system.

Manitou is also accelerating its battery powered range and recently acquired high tech lithium battery manufacturer and developer easyLi,



#### **BATTERIES**



and is working on a conversion kit for used telehandlers in partnership with French rental company Kiloutou. It is however keeping its options open and has installed a green hydrogen station in its test bed in Ancenis.

One fact that is always mentioned with 100 percent/all-electric machines (Zero Oil) is the high cost. It is now more than two years since JLG began production of its all-electric 19ft Davinci AE1932 scissor lift - the first in a new DaVinci range of lifts designed from the ground up to maximise the latest technology, eliminating all hydraulics by using AC electric drive motors and electro-mechanical steering and lift cylinders.





Economies of scale and automated production lines brings costs down over time. A case in point are the latest no oil machines from Dingli, its new range of larger wheeled 'oil-free' micro scissors - the 12ft JCPT0607PAH and 18ft JCPT0708PAH - also use electric motors or screw type actuators, but at a price that is said to be less than half the JLG machine.

As one of the comments in last month's telehandler Rental Rate survey said: "We are seeing some demand for electric machines but trying to get the rate needed is not easy... people like the idea of clean and quiet but do not expect to pay for it." Perhaps these newer, more cost-effective machines will mean reduced rental costs?

#### **BATTERIES AND CHARGERS**

We have covered batteries for many years including the feature last year - C&A Feb/March 2022 - when we looked at battery developments from the first rechargeable lead acid battery invented in the mid 1800s - still the primary choice for many applications due to its low purchase cost and solid reliability - through to a number of credible alternatives such AGM (Absorbed Glass Mat), Gel and most

recently Lithium, with several manufacturers offering variations on the theme. Although more expensive these newer batteries have many



advantages and claim a lower overall cost of ownership, helped by the fact that they are generally maintenance free.

However, no matter how good the batteries supplied and fitted to a given piece of equipment, an appropriate charging system combined with an effective charge regime is the only way to exploit their full potential and for businesses to gain the maximum return on investment.

#### **WELL MATCHED CHARGERS**

Selecting the right battery for the application, the budget and the results required is of course paramount, but so is ensuring that they are optimally matched to the right charger. This should, of course be a given on new equipment, but if you change the batteries to a different type, the importance of an appropriate battery charger cannot be over emphasised.

UK distributor Ecobat Battery promotes the fact that this is an important part of what it does. It is the distributor for Italian manufacturer SPE - S.P.E. Elettronica Industriale - which manufactures chargers for all types of batteries but is particularly noted for its development of high frequency (HF) charging technology in the 1990s which can, it says, produce significant savings compared to traditional chargers. The company continues to develop its product range in this area and now also has an app that allows businesses to calculate the savings that they can make by switching from a conventional to an HF charging system.

SPE produces charging systems for a variety of applications including forklifts, aerial work platforms and floor care equipment, as well as automotive applications. It also manufactures on-board and stand-alone Smart battery

chargers for wet and gel traction batteries - both traditional and HF - with a fully programmable charging process providing standard and custom battery charging solutions.



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#### CHARGERS THAT CONSUME LESS POWER

One of the most practical, energy saving innovations in recent years has been the development of Ri Technology by charging equipment pioneer, Fronius. This allows operators to reduce the running costs of their fleet and prolong the lifespan of the batteries they use.

Whereas a normal 50Hz or HF charger will be selected with a specific output and will try to deliver that output to the battery during recharge, the Fronius Ri system continuously measures the internal resistance of the battery and adjusts its output from a defined amount, to whatever the battery can actually accept at that time. As a result of this process, far less heat is generated within the battery, which leads to less maintenance and provides a prolonged lifespan, but the key benefit is that no power is wasted generating heat, thus the electricity consumption compared to a normal charger, is greatly reduced.

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Fronius Ri

A properly specified Fronius charger can cope with any battery voltage from 24 to 80 volts, and once connected, will self-select the appropriate output. It can charge wet lead-acid, Gel, AGM and even lithium-ion batteries, by adjusting to the built-in factory profiles. Coloured LEDs show the charge status, but an optional LED strip across the front panel provides a clear indication of status, even from a distance. Important data is simply displayed by scrolling through an easy to navigate menu system. Comprehensive charge data can be downloaded via the integral USB port and analysed using free software. The chargers are very compact for their output and capability and can be wall mounted using supplied brackets.

#### **SPACE SAVING**

The declining cost of lithium batteries and improved energy density versus other battery chemistries provide the benefit of higher efficiency, faster recharging, almost zero maintenance and a much longer lifespan, all of which helps improve the total cost of ownership. If you change your machines out every five years or so, the fact that the lithium ion battery pack might well go on for 10 years may not be of

great concern. Most companies however that we have spoken to claim a pay back in year one, or at the very least two years. The fact that they are also more compact frees up space for other components creating more space for easier inspection and maintenance.

The advancements in charging technology has also paved the way for better suitability of mobile cranes, telehandlers and powered access equipment.

One example is Delta-Q's XV3300 charger which features a 3.3 kW battery charger, a 500W DC-DC converter to power auxiliary devices on the machine, and an optional interface to EV charging stations, providing space and cost savings while eliminating the need for additional components.





For enquires please contact LEOCH BATTERY UK LTD.

By phone on 01858 433 330, email us at

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#### DT Lead Carbon AGM Technology

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Easy Setup



Terex Power Match



T-Link



Electric by Nature









### **BUSINESS AS USUAL?**

Conexpo 2020 will be remembered as the 'Covid 19' show when the reality of the pandemic really hit home. The week began with 'business as usual' but on day three turned to panic as the pandemic caused a premature end with visitors making a dash for home before impending travel bans were implemented.

This year North America's largest construction equipment show should be back in full swing, the first of the big international construction equipment exhibitions to be operating as normal in terms of organisation and timing. However, while the pandemic might have passed its peak, there are several other challenges including sustainability concerns and other issues causing some manufacturers to question the environmental impact of mega shows compared to more local events.

Conexpo is missing several big companies including Manitowoc, Genie, JLG, Bronto and Ruthmann, along with tower crane manufacturers Wolffkran and Raimondi. However, most of the major crane, aerial lift and telehandler manufacturers are attending. For some of those missing the main reason is its proximity to the postponed Bauma - still the biggest and most important construction equipment show in the world - which was held October just five months ago. This also means there will not be too many radical new product launches - in fact most of the new products on display will be North American launches of products unveiled at Bauma - however there are still many interesting new products and a few firsts

One of the most notable changes compared to three years ago is the rapid shift towards more environmentally friendly products. Almost every stand will feature electric or hybrid products compared to a tiny minority in 2020.

This year the show has a changed layout with a new West Hall added to the Convention Centre as well as increased outdoor exhibition space. However, the vast majority of crane, access and telehandler stands are in the Festival Lot with just a scattering of others in the North, South and West Halls as well one or

two in the Silver Lot.

In addition to this preview we will be publishing our separate bi-lingual - English and Spanish - Vertikal Conexpo Guide to the show, which will be available online the week prior to the show with a printed version handed out at the event itself.

The guide includes large scale maps and detailed lists by product type and display area as well as an alphabetical listing. This can be downloaded in advance in order to plan your visit, however if you prefer to have a printed version, pick one up as you enter the show or from our stand in the Festival Lot.

#### Registration and entry tickets

There are three levels of ticket prices - the preregistration general entry Show Admission is \$249 which gives access to the show and the option to purchase educational sessions. The All Access Pass is \$679 which includes show access and all the education sessions but has the option to purchase Tech Treks and/or Fluid Power Workshops. \$879 gets you the all singing, all dancing All Access Pass Plus which has access to everything. Booking the show admission tickets on line has a 10 percent saving which includes a three-day ticket for the monorail. However, having said that, speak to one of your suppliers, they may have tickets for you.

#### Transport

Traffic on the Vegas Strip is very congested most times of the day. However, a three day ticket for the monorail is included in your Conexpo entrance ticket and it takes just 15 minutes to go from one end of the Strip to the other. The monorail opens at 7:00 and runs till midnight on Mondays, 2:00 Tuesday to Fridays and 3:00 on weekends. There are also free shuttle bus services between the convention



centre and most major hotels during the show. Visit the show website for the schedule.

Taxis - usually available from the front of hotels - charge a fixed fee of \$3.50 plus \$2.76 a mile or 54 cents a minute when stationary. There is a \$2 addition for airport pickups and a \$3 fee for use of a debit or credit card. Rideshare - such as Uber and Lyft - are convenient and affordable however most hotels and casinos have designated rideshare pickup locations that are a long walk from the main hotel and casino areas.

Elon Musk's The Boring Company has opened the Vegas Loop, the first stage of its all electric, zero emission, underground public transportation system at the Las Vegas Convention Centre. It features Tesla vehicles driven by human operators at speeds up to 40 mph (64 km/h), capable of carrying up to 4,400 passengers an hour between Resorts World hotel and casino and the West, North, Central, and South Halls in minutes.

#### CONEXPO/CON/AGG 2023 -SHOW DETAILS

Dates: March 14-18th 2023 Tuesday - Friday 9.00 - 17.00 Saturday: 9.00 - 15.00

Where: Las Vegas Convention Centre

#### **CONEXPO**

Here are some of the show highlights.

#### **CRANES**

Link-Belt will have a good few new products on show including a new 300 ton/250 tonne All Terrain crane - the 300AT. The five axle crane features a seven section 72.5m pinned main boom with a 21.6 metre bi-fold swingaway extension which can be hydraulically luffed. Two lattice inserts take the maximum tip height to 112 metres. Alternatively, a 2.4 metre heavy duty extension provides good capacities and line separation for two line lifting for applications such as precast wall panel installation. Maximum counterweight is 73.5 tonnes, and the crane can travel with the basic 3.6 tonnes of counterweight on board and not exceed axle loads of 10.4 tonnes per axle. Power is a single HVO-ready Cummins X15 diesel, driving a ZF Traxon automated manual transmission with integrated 'intarder' braking and paddle shift controls for easy stop and go on the road. Other new models include the 120ton/110tonne four axle 120TT all wheel steer Truck Terrain crane.

XCMG has its latest All Terrain - a new four axle 100 tonne/110 ton model - and possibly a version of its new 60 tonne three axle XCA60 E/EV electric /hybrid All Terrain crane that it unveiled at Bauma. It will also display a new boom truck - most likely a 50 ton unit - which will extend its range upwards.

Tadano will have a substantial display and the star of the show will be its much awaited All electric Rough Terrain crane - details of which will be unveiled at the show. Other new products will include many of the products unveiled at Bauma including the four axle 70 tonne/75ton AC 4.070-2 which can be equipped with the E-Pack emission free drive system, also look out for the new two axle A 2.040-1. The company is also promising some new tuck cranes to be launched at the show.

Broderson will unveil two new pick & carry cranes - the classic 25 ton IC-400-C industrial carry deck crane and a nine ton all-electric ICe-80 which the company claims will be a game-changer. It will also be unveiling a new 20 ton cab down Rough Terrain - the RT-400B - which it says is a completely redesigned version of the current RT 400 - a '20 ton crane with a 15 ton footprint'. Manitex also has a new 15 ton cab down Rough Terrain with Badger DNA but now branded as Manitex.

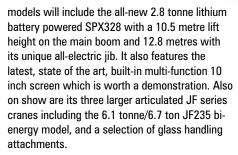
Liebherr will show several new cranes although most are models launched at Bauma. It is highlighting the new 100 tonne/110 ton five axle LTM 1100-5.3 with its 62 metre main boom and can travel with a substantial portion of its counterweight on board and can even meet nine tonne axle loads. Its new 130 tonne/140 ton two axle Rough Terrain the LRT 1130-2.1 has a seven section 60 metre main boom which it claims is the longest on any two axle Rough Terrain crane. The new 400 tonne/441 ton LR 1400 SX will be rigged with 41 metres of main boom topped with a 44 metre luffing jib. The new crane has been designed for easy transport between sites with the heaviest single load of 46 tonnes.

**Fascan** will show a wide spread of **Jekko** spider cranes and mini picker cranes. New









#### **AERIAL WORK PLATFORMS**

This year, the two largest boom lift manufacturers - **Genie** and **JLG** - are not exhibiting although both have some sort of presence through affiliated companies. There are, however, plenty of new and innovative boom lifts to see.

Shown as a prototype at Conexpo 2020, the largest mega boom at the show is likely to be Snorkel's 210ft SJ2100 which is now ready for production. Snorkel may well also have some major surprises. Close behind is **Zoomlion**'s new 186ft ZT186J/ZT58J which was launched at Bauma. It has a 25.5 metre outreach and dual platform capacity of 300kg and 454kg. Zoomlion will also show its 88ft ZT88JE/ZT26JE electric telescopic boom lift offering 22.1 metres of outreach and equipped with an 80V lithium battery.







**Leguan** will launch its all-new 22.5 metre Leguan 225 tracked spider

Zoomlion

ZT186J/ZT58J

metre Leguan 225 tracked spider lift. CMC/ALL Access Equipment will show the new 30 metre100HD+ Arbor Pro model and the 23 metre 123/75i with 48kVA insulation. Socage is launching three new models and a new brand called Socage Raptor, including the 15 metre Raptor 15S, the 18 metre Raptor 18S and the 21 metre Raptor 21S. Hinowa will be at the show, possibly with its new 40 metre spider lift, with one unit in JLG colours.

**Sinoboom** will highlight its 66ft TB660J Plus straight telescopic with jib and dual platform capacity - 454kg and 300kg - which was shown at Bauma.





MEC has promised plenty of new models which it is keeping secret for now, but it will launch and all-new 85ft boom lift, its largest to date which the company says with be 'different' - possibly with electric or hybrid power. Look out also for its new 'No oil' Nano10-XD with a lithium ion battery pack and standard 'Xtra Deck'

**Dingli** - which has been prolific in launching many new models over the past year - will have at least 39 machines on its stand so it will be packed. New models will include its new lithium battery powered boom lifts topped by the 139ft BT44RT telescopic and its new D series, lighter weight booms.



New to the North American access market is **Manitou** which will highlight its 85ft TJ85 telescopic with new high flotation sand tyres. Also on the stand are its electric models which feature an inboard motor and heavy duty axle drive

**Skyjack** will show its new 45ft SJ45 AJ and 60ft SJ60 AJ articulated boom lifts with smaller engines and Smartorque drive - electric versions might be close behind.

**LGMG** will have 11 lifts on display including its first mast boom in North America - the 10 metre M2640JE/M0810JE and two new boom lifts - the 65ft battery powered T65JE/T20JE and

H-series diesel powered 85ft T85J-H/T26J-H. The T65JE has a working height of 21.8 metres and outreach up to 16.6 metres. The T85J-H has a working height of 27.9 metres and a maximum outreach of 21.6 metres. LGMG will also unveil its next generation of electric scissor lifts.

#### **TELEHANDLERS**

Local manufacturer **Xtreme**/Snorkel is hinting that it may have the world's largest fixed frame telehandler ready to unveil - possibly reaching heights of around 30 metres. On the same stand Snorkel has a selection of Faresin built models - both diesel and electric - ranging from the Full Electric six metre model up to a standard 17 metre diesel.



#### **CONEXPO**



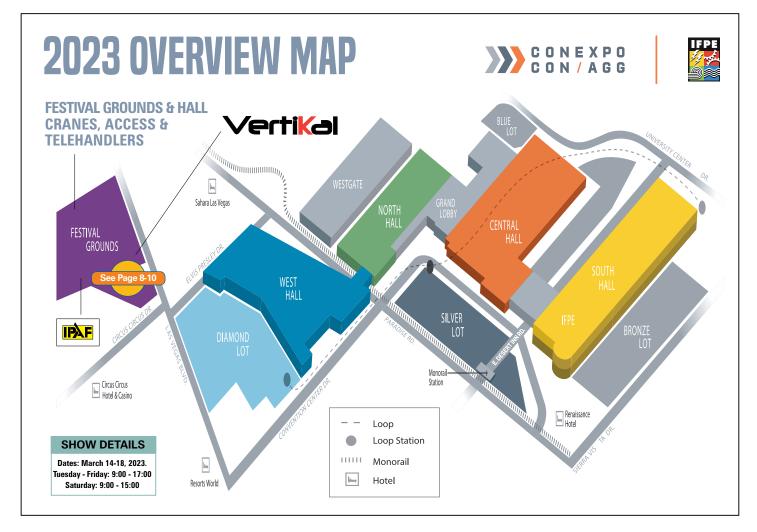
Manitou will have one of the most extensive line ups of new products on display, including an all-new five model range of North American models - the MTA line of fixed frame models with new chassis and longer wheelbases for improved capacities and stability. They are also equipped with new operating systems that enable such functions as automatic parking brakes, overload systems and seat belt warning lights. The show will also see the North American launch of its four metre/12ft ULM 415H micro telehandler and its first all-electric 360 degree telehandlers - the 22 metre MRT 2260e and 26 metre MRT 2660e - with lithium ion battery pack and the option to add a range extender generator or second battery pack.

Merlo will highlight its all-electric compact E-Worker unit, as well as its latest Roto 360 degree models which have been recently updated. **Skyjack** will have a SJ519 TH compact and the 17m/56ft SJ1256 THS, both of which are now being produced at its all-new production facility in Mexico.



**Pettibone**'s latest model - the Traverse T944X with a 13 metre/44ft lift height - has 1.75 metres of boom traverse allowing loads to be moved forward without changing height or moving the base machine. **Bobcat** will host the North American launch of its brand new compact model - the 2,500kg/5.8 metre CTL519 - with two speed hydrostatic transmission.

Wacker Neuson plans to launch a North American version of its ultra-compact 1.45 tonne/4.3 metre 1445 telehandler. Ausa is not sure, but might have one of its micro telehandlers on display. JCB has a stand for its hydrogen business, but no telehandlers on display.





Jekko USA and Fascan Int. organized a charitable lottery offering as a prize a \$90,000 worth MPK20 minipicker, with a customized design in the occasion of this initiative. All the proceeds will fund the Kennedy Krieger Institute.

Scan the QR code to buy your ticket and have a chance to win!



#### LIST OF EXHIBITORS

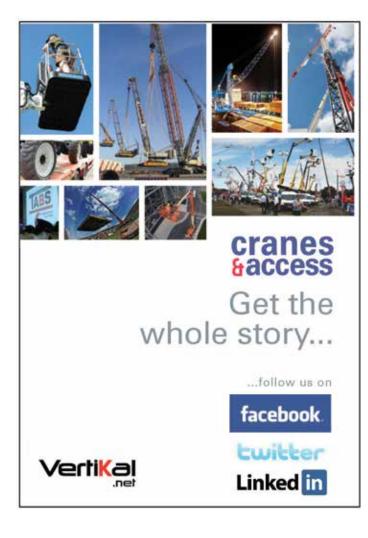
	LIST OF EXHIBITORS			
	STAND No			
Mobile cranes				
Altec	F9152			
Bailey Cranes	N12163			
Bigge	F9541			
Broderson Cormach	F9441 F9585			
Elliott	S63229			
Jekko	F9227			
JMG	F8353			
Liebherr Link-Belt	F9253 F9213			
LiuGong	F9205			
Manitex	F9727			
Ormig	F8748			
Palfinger PM	F9471 F9727			
Sany	F9553			
Sennebogen	N10827			
Smiley Lifting Solutions	F9741			
Spydercrane Tadano	F9741 F9707			
Terex	S5435			
Valla	F9727			
XCMG	F9413			
Zoomlion	F9615			
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Badger Bigge	F9727 F9541			
Broderson	F9441			
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Faundation Cuana	STAND No
Foundation Cranes	D4007
Bauer Casagrande	D1627 D2439
Liebherr	F9253
Mait	D3207
Sany Sennebogen	F9553 N10827
Soilmec	D2507
XCMG	F9413
Tower Cranes • Grúas To	
Comansa Jaso Tower Cranes	F9579
Liebherr	F9308 F9253
Linden Comansa	F9579
Sany	F9553
Terex XCMG	S5435 F9413
Zoomlion	F9615
Loader cranes & Boom tr	ucks
Altec	F9152
Cormach Custom Truck OS	F9585 S63906
Elliott	S63229
Fascan	F9627
Fassi	F9627
Ferarri HMF	S65028 N11215
IMT	N11215
Load King	S63906
Manitex Maxilift	F9727 F8445
MPG loader cranes	C22712
Next Hydraulics	F8445
PM	F9727
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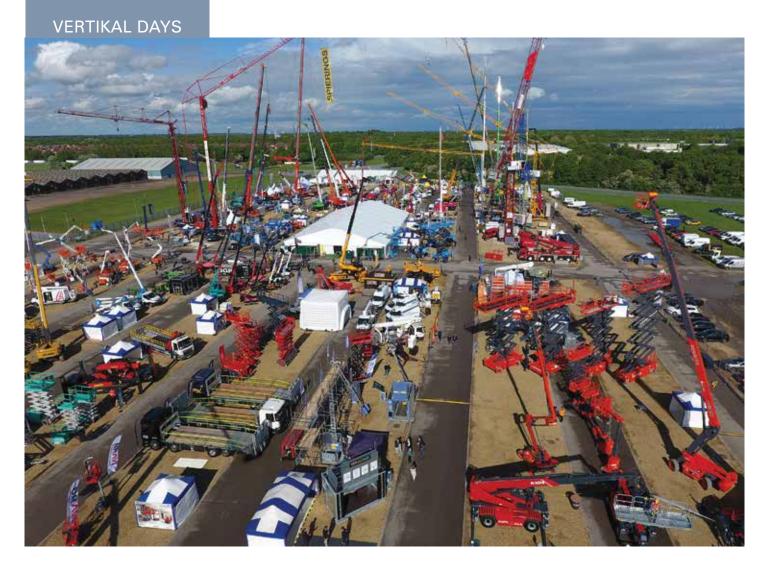
Truck Mounted lifts	STAND No
Plataformas sobre cam	ión
Altec	F9152
Anderson UnderBridge Custom Truck OS	S60853 S63906
Elliott	S63229
Manitex	F9727
Palfinger Socage	F9471 N10073
Terex Utilities *	S5435
TKA truck mounts	N10126
Spider lifts Platformas de Araña y remo	lcables
All Access Equipment/CMC	F8358
Avant Techno	D1408
CMC	F8358
Comet AMS Cormidi	F9626 F8152
Hinowa	W44066
Imer	D1332
JLG	W44066
Leguan Manitex	D1408 F9727
Oil & Steel	F9727
Platform Basket	F9330
Sinoboom **excl-USA	F8542
Socage Teupen	N10073 F9168
Mastclimbers & Hoist	
Plataformas de másti	
Century Hoists	F9484
Geda	F8645
Hydro Mobile Jaso	F9484 F9308
Powerclimber	F9484
Raxtar	F9484
Saeclimber Safi	D2101
Stros & Ucel	S5160 F9302
Low Level	
Dingli	F9167
Imer	D1332
LGMG MEC	F9527
Sinoboom	F8252 F8542
Skyjack	F9427
Snorkel	F9227
Telehandlers • Manipuladores Te	lescópicos
AMS - Merlo	F9626
Ausa	F9576 W41145
Bobcat Caterpillar	F9127
Faresin - See Snorkel	F9227
Gehl	F9313
JCB Landoll	S83751 S5838
Landoll LGMG	F9527
Liebherr	F9253
Magni TH	F9606
Manitou Merlo - AMS	F9313 F9626
Pettibone	W42417
Sany	F9553
Sennebogen	N10827
Skyjack Snorkel	F9427 F9227
Wacker Neuson	W43501
XCMG	F9413
Xtreme Manufacturing	F9227
Zoomlion	F9615

<sup>\*</sup>Terex has a stand, but wll not show Genie/Terex Utilities products \*\*Sinoboom brands Falcon spider lifts but does not offer them on USA









## VERTIKAL DAYS 2023 FULLY LOADED!

Vertikal Days returns to Peterborough on Wednesday 10th and Thursday 11th May just a few days after the King's Coronation - with a fully loaded display of the latest lifting equipment.

As always - and because we are true optimists - we're hoping for sunshine... but whatever the weather, our 2023 show will give our visitors more to see than ever before, both from the returning companies as well as the new exhibitors, with the largest and most diverse collection of cranes, access platforms and telehandlers as well as a myriad of associated equipment and services.

The show looks set to attract a wider range of visitors from all types of rental companies, contractors - both specialist and major - as well as utility companies and all manner of end users - many of whom have already registered to attend.

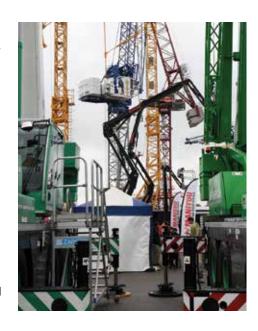
Vertikal Days is not for the half interested, it's a specialist event for professionals who use, or work with work at height and lifting equipment, and tends to attract highly interested and

motivated visitors along with plenty of industry 'movers & shakers'. It is the quality and relevance, rather than quantity of visitors that makes the event one not to miss.

#### **ALL INCLUSIVE**

As is customary, everything during the event is complementary for visitors including admission, car parking, various refreshments throughout the day and a decent lunch. Located at the top of the showground the Catering Pavilion serves lunch each day between 12.30 and 14.30 and is the perfect place for exhibitors and visitors to 'network' over a meal. The catering includes the free-range hog roast, barbecue and a range of vegetarian and vegan alternatives. For those on a tight schedule there is also a fresh sandwich bar.

The Wednesday networking evening event this year takes on an Italian flavour (a ticket is required





to attend) and is also held at the Catering Pavilion and Starshade. Drinks and canapés will be served from 17.30 at the Starshade followed by an Italian dinner menu and bar. It is a time for exhibitors and guests to catch up, discuss the day's events with good music, food and drink.

Hotel rooms within a five mile radius are plentiful, however we would recommend booking as soon as possible to avoid disappointment. A complementary shuttle bus service runs to and from the local hotels before and after the networking event for those staying for the evening. With so much to see and so many people to meet, why not make it a two day visit?

#### **SPONSORSHIP**

In recent years sponsorship has helped the organisers maintain the low cost to exhibit in the face of growing numbers to feed. So far this year they include Liebherr which is providing high quality sustainable show bags, Versalift with the Marketplace coffee cups, while TVH is providing the drinking water. At the entrance IPAF is sponsoring the visitor badges and Point of Rental the lanyards. First time exhibitor Infosystem is sponsoring the lunchtime BBQ while CTE will sponsor the Networking dinner. The forklifts for the free offloading and loading service during build up and tear down will once again be provided by Hi-Tec/Briggs.

# lehandlers... Welcome to ...and e

#### **2023 SPONSORS**

CTE Networking dinner

Hitec/Briggs Forklifts
Infosystem BBQ

IPAF Visitor badgesLiebherr Visitor bagsPoint of Rental Lanyards

TVH Water and outdoor maps
Versalift Marketplace coffee cups

#### **SHOW INFORMATION**

**Venue:** Vertikal Days, East of England Arena and Events Centre, Peterborough, PE2 6XE

#### Show dates and times:

Wednesday 10th May - 10:00 to 17:30 Thursday 11th May - 10:00 to 16:00

#### **Key areas:**

**The Catering Pavilion:** Serves lunch each day between 12.30 and 14.30

**The Marketplace:** The pavilion for indoor exhibitors which also hosts the Marketplace Café, serving coffee, tea and snacks throughout the day.

#### How to register

**Pre-register:** www.vertikaldays.net/visitor and print a visitor badge

At the gate: Join the queue and register upon arrival

Networking evening: Ticket only

Wednesday 10th May 17:30 in the catering Pavilion

A full guide to the show including all the exhibitors will be published in the next issue of Cranes & Access.

#### VERTIKAL DAYS

#### **NEW EXHIBITORS**

Alp Lift

**BBL Batteries** 

The Crosby Group

City Traffic Management

Services

Dinolift

Euro Auctions

Goman Lift

Gouweleeuw

Hoistech

Hydraquip

Infosystem

ITH Bolting Technology UK

Lifting Gear Products

LiuGong Machinery Europe

Nationwide Plant Solutions

Plant Planet

Severn Sky Engineering

Spartan Solutions

STROS

Uplifter

**UpRate Digital** 































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#### MB C 1000/150

Capacity: 1000kg Cage Size: 1400 x 1750mm Lifting Speed: 12/24m./min



#### MB C 2000/150

Capacity: 2000kg Cage Size: 1500 x 3200mm Lifting Speed: 12/24m./min

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# 10,000 Generators For Ukrainian Families





Scan here to visit our JustGiving page

#### Power to Ukraine

Following several successful campaigns the Plant & Hire Aid Alliance has launched its latest appeal, which aims to send 10,000 desperately needed generators to Ukraine.

#### Why are generators needed?

Following repeated attacks on the power grid and other critical infrastructure, President Zelensky said that generators had become "as important as armour in helping Ukraine to survive this winter".

#### Ukraine needs you!

By donating to the Plant & Hire Aid Alliance appeal you or your company can make a real difference, providing life-saving winter heating to a desperate Ukrainian family.

"For just £270, you can send a generator to keep these families warm," said Jeremy Fish, the CEO of Ardent Hire and one of the founders of the Alliance. "We're appealing to colleagues around the world, to join us to help reach this ambitious target of 10,000 generators."

#### Targeted help

The Alliance has created a website where aid workers will register each recipient. This includes details of their family or group, along with a declaration that the generator will only be used for personal and humanitarian purposes.

69 Rotary Clubs across Ukraine will monitor the generators' use, confirming that they have been installed where need is the greatest and are being used as intended. "This not only maximises the impact of the campaign," explains Fish. "It also gives our generous donors the reassurance that their contribution is making a real difference."



#### Make a difference today

100% of your donation will go directly towards generator orders for immediate dispatch. Your donation, however large or small, will genuinely save lives.

Please help the people of Ukraine at this time of need.

Please donate or contact us through:

www.aid-alliance.com



Or visit:

justgiving.com/fundraising/ukraine-gensets

#### **UPDATED MEWP SAFETY GUIDANCE**

A newly updated safety publication now freely available provides guidance on how to reduce the risks of trapping and crushing hazards when using aerial work platforms. Published by the Construction Industry Plant Safety Group (CIPSG), the 22 page publication is entitled 'Good Practice Guidance for Reducing Trapping/Crushing Injuries to People in MEWPs'. The CIPSG group is chaired by the CPA and administered and supported by IPAF.

Powered access is widely acknowledged to be one of the safest and most efficient means of enabling temporary working at height. Between 2016 and 2020, incidents entered into the IPAF Reporting Portal from 15 countries identified that 73 people died in entrapment incidents globally. Entrapment injuries in a platform are usually serious and often fatal. The Guidance is aimed at raising awareness of the risk among operators, supervisors and rescuers. It also sets out to inform people about the measures that can be used to reduce the risks and number of entrapment incidents by providing guidance on planning, risk assessment, as well as platform selection, operator training, familiarisation and rescue. Emphasis is placed on the practical measures users can take to avoid entrapment.

The first version of the guidance was published in 2010 and has now undergone significant revision and been restructured with new illustrations to improve readability and understanding of the topic. The content reflects and builds upon findings from the recently published Health & Safety Executive Research Report (HSE RR1180:2022) which examined the effectiveness of secondary guarding when employed in a range of different entrapment scenarios.

Kevin Minton of the CPA who chairs the group said: "The guidance will be a vital reference tool for rental companies, customers, operators and manufacturers. Presented in easily digestible sections, it is aimed at those using and supervising the use of these machines, and those responsible for rescuing trapped people, as well as anyone involved in planning, managing, risk assessing the work, organising training or specifying the equipment. We anticipate it will prove to be a useful training tool as it has been designed for use in briefings or toolbox talks for supervisors and operators."

IPAF's Brian Parker added: "This updated guidance has taken a while to develop, but it was much needed as data gathered via IPAF's Reporting Portal (www.ipafaccidentreporting. org) shows that entrapment is consistently one of the top five causes of serious injuries and deaths when using aerial work platforms. Much work and cross industry consultation has gone into this document to ensure it is thorough, comprehensive, clear and concise. The powered access industry has advanced significantly over the past five to 10 years, with technological improvements driving secondary guarding devices, and machine capabilities and complexities. We are very pleased to see it published for users to read and download completely free of charge."

The Construction Industry Plant Safety Group for MEWPs includes members from the CPA, IPAF, HSE and FASET, as well as owners, manufacturers and major construction companies. It meets regularly to share information on platform safety and has set up working groups to produce guidance and address specific issues.

The publication is available to download freely from www.cpa.uk.net/safety-and-technical-publications/plant-safety-group or www.ipaf.org/resources



### CPA CONFERENCE 2023

This year's CPA Conference will be held on Thursday 9th November with the theme 'Facing the Challenges in the Planthire Sector'. It will be held at the Heart of England Conference and Events Centre in Fillongley near Coventry.

Tickets can be booked online at www.cpa. uk.net/events/cpa-conference-2023 at an early bird booking rate of £60 including VAT or £90 from April. The discount code is TS2023.

Chief executive Kevin Minton said: "We felt that this year's conference should address the core issues that are of importance right now to CPA members and the construction industry, such as rising fuel and energy costs, supply chain shortages and the difficulties of attracting recruits to the industry. We are devising a packed agenda with panel debates and case studies to allow delegates to come away with a deeper understanding as to how they can tackle some of the challenges they face."

The CPA Conference has established itself as an important event for senior figures in the sector, with speakers from organisations such as Costain, the Department for Business, Energy and Industrial Strategy (BEIS), the European Rental Association (CRA), GAP Group, HS2, Highways England, JCB and Sunbelt Rentals. This year's panel debates will be steered by event convenor Merryn Myatt, a former BBC news presenter and journalist.





#### STANDARD FOR LOW-HEIGHT TOWERS

The first draft has been completed of a new European standard for low-height mobile working platforms covering platforms with a maximum height of two metres. The new standard will ensure that minimum safety requirements are in place specifically for products not currently covered by existing standards making it simpler for anyone buying or hiring one to ensure it is safe and reliable.

The standard is being created by a Technical Committee 53 - Working Group 4, within the European Committee for Standardisation (CEN). Membership comprises a team of tower experts convened by PASMA technical director Don Aers. The draft is currently subject to an internal enquiry period, after which revisions may be required. It is not expected to be published until late 2024 at the earliest.



#### **INDUSTRY REPRESENTATION**

PASMA members represent the whole of the tower industry from manufacturers and rental companies to training centres and instructors. They all have one thing in common, a commitment to prioritise safety above all else. Members have the opportunity to help shape the association's projects and direction by joining one of its committees, where they can discuss big tower safety challenges and opportunities.

#### TRAINING COMMITTEE

The Training Committee has input into PASMA's industry leading tower training and leads the way on course development. Steve Booker of Kentec Training is its new chairman, taking over from Gillian Rutter of Skyward Training. He is supported by vice chairman Tony Warren of Sunbelt. The committee's first meeting of 2023 was held in January - the main



topic was planning course development for the year ahead. Four new members were welcomed:

- Debbie Forbes HSS Paul Hennessey Adapt Training Bobby Creed Nationwide Platforms
- · Richard Mands Speedy

#### **TECHNICAL COMMITTEE**

The PASMA Technical Committee is made up of leading tower manufacturers. Charlie Wright of Lakeside Industries is the new chairman taking over from Chris Bowman of Euro Towers. Wright chaired his first meeting in December, when the group



discussed the development of the new European standard for low-height mobile working platforms.

#### **HIRE & ASSEMBLY COMMITTEE**

The Hire & Assembly Committee is a service that provides rental, consultation, specification, design, assembly and dismantling of access towers including complex, bespoke structures. Paul Hackett of Generation is its new chairman, taking over from Pete Harley of STS Access. Hackett chaired his first meeting in January, with a focus on how PASMA TowerSure can benefit the sector.



#### HIRER/DEALER COMMITTEE

PASMA's newest committee was formed last year to shape the direction of the tower rental and sales sector. The first meeting took place in September with Martin Doran of Astley Hire nominated as chairman.



#### EASY ACCESS TO SCAFFOLD TOWER INSTRUCTION MANUALS

PASMA has a digital library of more than 70 scaffold tower instruction manuals and assembly guides from PASMA Manufacturing Members. The library is divided by tower type and manufacturer with instructions for:

- Mobile access towers Linked towers
- · Cantilever towers
- Large deck towers
- Towers with bridgesTowers on stairways
- Low level work platforms

PASMA recommends that anyone assembling a tower or low level platform follows the instruction manual. No manual should mean no tower.

Visit: pasma.co.uk/manuals



### USE OF TOWERS IN EXPLOSIVE ATMOSPHERES

PASMA has issued new guidance clarifying that aluminium mobile towers should not be used in any area where explosive atmospheres exist or may exist. However, GRP - fibre glass - mobile towers may be a suitable alternative while working in such areas.

Explosive atmospheres are defined and regulated by the ATEX Directives throughout Europe, along with DSEAR (Dangerous Substances and Explosive Atmospheres Regulations) in the UK. Similar legislation exists in other regions.

When an impact occurs between an aluminium

tower and rusty (oxidised) iron or steel components or equipment, it can generate sufficient energy to initiate a thermite reaction resulting in sparking which can ignite any flammable gas, vapour or dust that might be present.



#### **QUIZ: HOW MUCH DO YOU KNOW ABOUT TOWERS?**

If you've worked with or around towers, you have probably learned a thing or two about their capabilities and how to use them safely. Put your knowledge to the test by taking PASMA's three part multiple choice quiz, 'How much do you really know about scaffold towers?'. It's just for fun but you'll pick up some tower safety tips along the way. Start off at beginner level and see if you can reach 'Tower Nerd' status.

Take the quiz at: pasma.co.uk/scaffold-towers/test-your-tower-knowledge









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### SHORTLISTS ANNOUNCED FOR

#### **IAPAS 2023**

Shortlists for the International Awards for Powered Access (IAPAs) 2023 have been announced following a meeting of the judges' panel. The winners will be announced during the awards dinner following the association's annual Summit on the 20th April to be held this year at the H4 Hotel, Berlin, Germany.

The 2023 shortlist is as follows:

#### **Access Rental Company of the Year**

Horizon Construction Development, China. Mills, Brazil. Nationwide Platforms, UK. Sunbelt Rentals, LIK

#### **Contribution to Safe Working at Height**

Manitou, France. Nationwide Platforms, UK. Protective Pty, Australia. Sunbelt Rentals, UK.

#### The Sustainability Award

Haulotte, France. Genie, USA. MEC, USA. Palfinger Platforms, Germany.

#### **Digital Development Award**

Alimak, Sweden. Digiquip, Norway. Nationwide Platforms, UK. Serious Labs, Canada.

#### **Equality, Diversity & Inclusion (EDI) Award**

Vicki Allen - International Platforms, UK. Dayim Equipment Rentals, Saudi Arabia. Mills, Brazil.

#### **Innovative Technology Prize**

Mateco Romania - trouble shooting ecosystem. Nationwide Platforms, UK - Harness On, Phase 2. Protective PTY, Australia - Scissor shield.

#### **Product of the Year categories**

#### **Mast-Climbing Work Platforms and Hoists**

Alba-Macrel Group, Spain - PMH passenger & materials hoist. Maber Hoist, Italy - MBC2000 transport platform. Torgar, Spain - PW-18 mast climber. XL Industries, France - XE5 Top-Down Hoist.

#### **Scissor Lifts and Vertical Mast Platforms**

JLG, USA/UK - Power Towers Duo. MEC, USA - MMAE16 vertical mast lift. Skyjack, Canada - E Series vertical mast lift.

#### Self-propelled Booms and Atrium Lifts

Almacrawler, Italy - Jibbi 1890 Primo self-levelling boom lift. Hinowa, Italy - Lightlift 40.18 spider lift. Manitou, France - 160 ATJ+e electric boom lift.

#### Vehicle and Trailer-mounted Platforms

Elliott Equipment Company, USA - E150i truck mount. France Elévateur, France - UPTO 15 van-mounted platform. Ruthmann Germany - Steiger Ampero TBR 260 E truck mount. Palfinger Platforms, Germany - All-terrain Unimog-mounted platform

**IPAF Training Centre of the Year** 



Dayim Equipment Rentals, Saudi Arabia. Mills, Brazil. Nationwide Platforms, UK. Speedy Training, UK.

#### **IPAF Training Instructor of the Year**

Anna Sarah Costa Morais - Mills, Brazil. Gonçalo Pereira - Transgrua, Portugal. Uta Koch - Koch Arbeitsbühnen, Germany.

#### **Lifetime Achievement Award**

To be announced at the ceremony.

Chief executive Peter Douglas said: "For the second year running, we have had a superb set of entries across the various awards categories and looking at the shortlist reveals what stiff competition there has been. Like all those who have already booked their places to join us at what is already a sell-out event, I can't wait to find out who each category winner will be, and I am really looking forward to what promises to be a really special evening. It will be particularly exciting to be hosting both the IPAF Summit & IAPAs in Germany's historic capital, Berlin; I hope we will see you there!"

For more information about the awards and the Summit, along with associated events, visit the www.iapa-summit.info.





#### VERIFY PAL CARDS TO BEAT FRAUDSTERS AND KEEP SITES SAFE

End users are reminded to check the validity of all IPAF PAL Cards, in order to beat fraudsters and help to keep work sites safe.

Director of operations Giles Councell said: "IPAF is aware of increasingly sophisticated techniques deployed by those trying to circumvent the robust measures we have in place to verify the validity of the PAL Card. In order to be reassured that those presenting PAL Cards as certification of successful completion of an IPAF training course are genuine, and that the certification both is valid and in-date, we urge everyone to follow three simple steps."

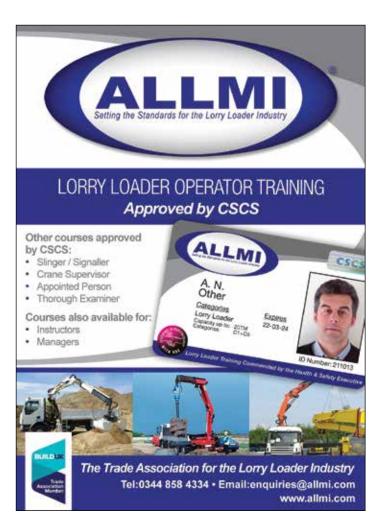
"It is quick and easy to check and IPAF PAL Card by visiting www.ipaf.org/checkpal - ensure that the webpage you click on does not redirect and remains on the www.ipaf.org domain. If the PAL Card is digital and stored in the user's ePAL app, it is quick and easy and simple to check its validity by scanning the QR code generated in the app. If you suspect any attempt to circumvent the robust systems IPAF puts in place to prevent misuse of the PAL Card, please gather any evidence and contact IPAF immediately - via www.ipaf.org or +44 (0)15395 66700 - so our team can investigate and respond."

#### FIRST IPAF RENTAL+ CERTIFICATION IN IRELAND

Blulift has become the first Irish company to be certified and audited to the IPAF Rental + standard, even though it is not yet mandated by the IPAF Irish Council. The certification was presented by Damien O'Connor, IPAF's new representative for Ireland. The move comes a few months after Blulift was acquired by Briggs Equipment Ireland.

Visit www.ipaf.org/rental for more information, to find an IPAF Rental+ certified company or for details of how to become an IPAF Rental+ certified member.









### **ALLMI accredited Lorry Loader Operator Training Providers**

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Wharfedale Road, Euro Way Ind. Est. Bradford. BD4 6SL

**Tel:** 08444 996688 **Neale Martin:** 07836 238281 **Web:** www.atlas-cranes.co.uk

#### Nationwide



### LorryLoader Training Ltd

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Tel: 01270 505 824 Mob: 07970061171
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ALLMI, Unit 7b, Cavalier Court, Bumpers Farm, Chippenham, Wiltshire. SNI4 6LH. tel: 0344 858 4334 email: enquiries@allmi.com web: www.allmi.com

### HSE ISSUES SUPPORTIVE STATEMENT

The UK's Health & Safety Executive (HSE) has issued a supportive statement in relation to ALLMI's work concerning swing-up stabiliser legs.

The statement is as follows:

"HSE encourages and appreciates the collaborative work being done between the industry association (ALLMI) and Tier

One contractors to improve the safety in the use of loader cranes. The HSE welcomes the speed of response by the industry in producing revised safety notices, guidance and training. The HSE urges all owners and users of lorry loaders to give due regard to the information available on the ALLMI website and to ensure their safety in use."

ALLMI chief executive Tom Wakefield said: "We would like to thank the ALLMI members and Tier One contractors involved in the working groups that helped to produce swing-up stabiliser related content, and also those who have communicated and adopted the applicable training and guidance."

Contact ALLMI for any queries regarding swing-up stabilisers.





#### **2023 MILESTONES**

#### SAFE USE OF REMOTE CONTROLS CAMPAIGN -10 YEARS

ALLMI's 2022
market statistics
highlight
the growing
popularity of
remote controls,
which bring many
benefits to lorry
loader operation.
However, it is
important to



remember that potential hazards can be created if they are used incorrectly, an issue that led to ALLMI launching its 'Safe Use of Remote Controls' campaign in 2013.

The freely available guidance includes a webbased video, an information leaflet aimed at operators and their immediate supervisors, and a ready made toolbox talk template.

To access these resources, visit www.allmi.com/safe-use-of-remote-controls or download the ALLMI App from the Apple or Google Play stores.

#### BS 7121-2-4:2013 - 10 YEARS

Publication of the 'Code of practice for the safe use of cranes - Part 2-4: Inspection, maintenance and thorough examination - Loader cranes'. Previously generic to all crane types, BS 7121-2 was split into sub-parts in 2013, providing the lorry loader industry with its own specific standard for inspection, maintenance and thorough examination.

#### **EN 12999 - 20 YEARS**

In 2003, the first version of EN 12999 was published, providing a means of conformity with the Essential Health & Safety Requirements of the Machinery Directive 98/37/EC. This version introduced the requirements for slew restrictions/slew limitation systems and platform protection envelopes for stand-up controls.

Having undergone six revisions or amendments since then, and with a further update currently underway, the standard has been essential in improving loader crane design and safety.

#### **LOLER & PUWER - 25 YEARS**

1998 saw the implementation of the Lifting Operations and Lifting Equipment Regulations (LOLER) and the Provision and Use of Work Equipment Regulations (PUWER). Both had a significant impact on the lorry loader industry, covering requirements for issues such as checking equipment, lift planning and thorough examination.

#### ALLMI OPERATOR TRAINING - 30 YEARS

30 years ago, ALLMI launched its first training course for lorry loader operators. This programme



was the forerunner for the current ALLMI accreditation system, which was established in 2001 and now plays a leading role in supporting the safe operation of lorry loaders.

### MARKET STATISTICS

ALLMI has released its UK loader crane industry sales figures for 2022, which show a three percent growth

compared to 2021 and up six percent on pre-Covid 2019. Demand for remote controls continues to grow, with more than 60 percent of lorry loaders equipped with them - up from 53 percent in 2021. The uptake reaches 100 percent for all loader cranes over 26 tonne/metres.

#### **ELECTION TIME**

ALLMI has concluded its annual election process for the positions of chairman and Operators' Forum chairman.

Alan Johnson of Palfinger UK was elected to continue as chairman of the association whilst Steve Frazer-Brown of David Watson Transport has been reappointed as chairman of the Operators' Forum, ALLMI's fleet owner division.

Alan Johnson said: "It is an honour to continue serving in the chairman's role, working with the ALLMI board and wider membership to raise standards in the industry. Last year was another successful one for ALLMI on numerous fronts and we look forward to bringing further positive change during 2023 and beyond."

Steve Frazer-Brown added: "I am privileged to be reappointed as Forum chairman, continuing to represent fleet owners on the ALLMI board, as well as working with the Forum Executive Committee to ensure that safety remains at the forefront of operators' minds and attitudes."

For a list of all ALLMI board and Operators' Forum Executive Committee members, go to www.allmi.com/allmiboard www.allmi.com/operators-forum-exec-committee







For details of ALLMI standards, guidance documents and training, visit: www.allmi.com

### IN THE NEXT ISSUE OF

Place your products in front of 28,000 crane, telehandler and aerial lift buyers & users reading the April/May issue Place your products in front of Cranes & Access...



#### THIS ISSUE WILL INCLUDE FEATURES ON:

#### **VAN AND SMALL TRUCK MOUNTED PLATFORMS**

As vehicle supply and long component lead times begin to ease, we look at how manufacturers in the sector are faring and adapting. We also report on key developments and product launches across the van and truck mounted platform spectrum.





#### **CRAWLER CRANES AND HEAVY LIFTING**

We take a look at some of the latest developments in the crawler crane market along with new product launches, the move toward electric power, supplier updates and interesting heavy lift applications.

#### **OFFICIAL VERTIKAL DAYS 2023 SHOW GUIDE**

Our comprehensive show guide to Vertikal Days 2023 will be the centre point pull-out in this issue. Returning for a third time to the East of England Arena, Peterborough on 10th and 11th May, every exhibitor will be included along with details of products and services on display in this 54 page guide. We have a number of new exhibitors making their debut as well as some returning after gap



of a few years. There will be plenty of new products and innovations coming to the show along with wide range of services including used equipment and electronics, software, battery and replacement parts suppliers.

**EXHIBITION ROUND-UP** The APEX access show moves back to Maastricht on June 6-8 - we'll take a look at what visitors can expect. The IRE show and European Rental Association's annual convention will run alongside.

CONEXPO 2023 REVIEW Conexpo returns as normal having been the last exhibition before the pandemic hit in 2020, Held in Las Vegas as usual Conexpo is North America's biggest equipment exhibition so there there will be plenty to see and learn. We'll bring you a review of the cranes, powered access and telehandler sectors.



Send any information, news, photographs or ideas on these subjects to editor@vertikal.net

Every issue of C&A is also packed with our regular columns and news plus reader's letters, books, models, training, along with the latest news from CPA, ALLMI, IPAF and PASMA.

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#### ONLINE FAMILIARISATION **AND SAFETY VIDEOS**

Multitel Pagliero has published 35 video tutorials on the correct use of its truck mounted platforms - 34 on individual models plus on general one on safety regulations.

The tutorials - available in Italian, English, French or German can be accessed via a QR code on each model. The tutorials include the correct and safe use of the particular machine, followed by stabiliser set up and stowage, the power takeoff, cab functions along with ground and platform controls. In total, each tutorial lasts between six to eight minutes and is supplemented by icons and notes for more complete and



detailed information. A separate safety video covers inspection of the work area, the relevant PPE required, the importance of reading and understanding the manual and correct stabiliser/outrigger set up. The company is now working on video tutorials for its spider lift models.





#### **USING A TELEHANDLER AS** PLATFORM COSTS £123K

When a member of the public spotted two men working from the bucket of a telehandler on a building site in Littleborough, Manchester, UK, they took photographs and sent them to the Health & Safety Executive.

Inspectors visited the site and issued the contractor Hoyle Developments with a Prohibition Notice for inadequate scaffolding and other issues. Inspectors had visited the site four times in the previous three years finding numerous issues, including unsuitable controls for work at height and had issued multiple Prohibition Notices and Improvement Notices. But last month the Rochdale based company was fined £120,000 plus £3,165.15 in costs.



Not a cheap alternative

Spotted in the English Midlands, two men working on a conservatory roof for which access is always a challenge. They have used horizontal ladder staging - without guardrails - supported on one side by a ladder fitted with a single ladder jack and on the other - the apex of the conservatory roof - with a substantial cantilever on the other side. The risks are

clear.



### **ELECTROCUTION EXPLAINS WHAT HAPPENS**

Australian farm worker Bradley Richardson is one of the few people to have survived what is a normally a fatal high voltage electric shock. He is now helping train others to avoid his harrowing experience.

In 2018 Richardson was lubricating a scissor lift on a farm near Clare, South Australia, he raised the scissor's platform in order to reach the lubrication points and cycle the lubricant through the pivot pins, but had not noticed, or had overlooked, the high voltage power line overhead until contact was made with it, causing 19,000 volts to run to earth through him. The shock repeated three times over the next few seconds before he was able to break away - or the power supply cut out.

He was rushed to hospital and spent the next seven days in a coma. He lost both legs, suffered organ damage and has undergone more than 20 operations since then. He now uses a wheelchair and prosthetic legs and has experienced a long and painful recovery. After going through a period of deep depression he has started working with Worksafe SA with a campaign to help prevent others from making similar errors.

Speaking of his experience he says: "It blew both my feet totally apart, burnt most of my body - 35 percent of my body had to be skin grafted. It's the most insane heat you'll ever feel. It's horrible. You could smell the hair and the flesh burning off me."

"It doesn't matter how long you've been doing your job. Pay attention every single time. Don't be complacent. Understand that it will hurt. A lot of things in this industry will kill us. We've learned to live with that but we need to live with it, not die from it."

"I didn't want to start doing this until I was ready to and while I was going through such hardcore depression over it. I still have my down days, but now I have more good ones than bad."



#### GOING UP IN THE WORLD

A history of Simon Engineering, the development of the powered access industry and a lifetime as an engineer, by Denis Ashworth

Ashworth was a keen engineer and from an early age found himself in at the very start of the modern powered access industry.

His book is an unusual combination of autobiography and history of Simon Engineering Dudley, a pioneer of the powered access industry and at one time, the world's largest manufacturer of aerial lifts.

The coffee table sized book, is highly readable and includes around 150 photographs and drawings from the very beginning of the industry. It is a 'must read' for anyone who is interested in powered access, the hydraulic equipment industry or in comparing modern day engineering challenges with those of an entirely different era.

The book is available direct from the publishers at £19.50, plus £4.50 postage and packing.

- Continental Europe €23 plus €6.50 postage & packing
- · Rest of world \$31 plus \$10 shipping

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#### **DON'T LOOK DOWN!**

Paul Adorian has been involved in the crane and access rental industries for more than 55 years, starting out in 1967 as a salesman for Eddison Plant Hire, which become the first company to add truck mounted lifts to its rental fleet. In the following decade, he founded EPL and was one of the very first to import scissor and boom lifts into Europe. He went on to set up IPAF - the International Powered Access Federation - serving as its first employee and managing director - a role he held for until retiring in 2003. The book is a highly detailed personal history of his life in the crane and aerial lift industries and a 'must read' for anyone interested in aerial work platforms.

"A beautifully produced hardback book and a fascinating and thoroughly enjoyable read." Cranes & Access magazine

"This book is a real eye opener and will appeal to those who have been involved in the business for some time, while being a useful and interesting tome for those who are new to the business. I highly recommend it." Leigh Sparrow - Vertikal

#### **HOW TO ORDER**

The book can be ordered direct from the author at **pauladorian@outlook.com** or if you prefer - Tel: **+44 (0) 1539 562699**. Or through the Vertikal Press on **booksales@vertikal.net** 

Price: £18 - including packaging

Postage/import costs

UK: £3:50 • Europe = £9 • USA = £19 • Asia = £15



DON'T LOOK











### MAMMOET DEMAG CC 2800

The CC 2800 is a 600 tonne class crawler crane with a long history under the Demag, Terex and Tadano brands. This limited-edition version of the model is in the colours of Mammoet and is made by IMC Models in 1:50

The presentation of the model is excellent. It comes with a high-quality book celebrating the real crane and there are photos showing it in many interesting company liveries. The 52 page build manual for the model is also very comprehensive and tools are supplied to assemble and operate it. A Mammoet Collector Card is included which has a unique serial number within the run of 1,000 models.

The track frames are very detailed with tiny decals to add realism. It also has both top and bottom rollers and the tracks can be detached from the carbody for display as transport loads. Metal outriggers can be fitted to the crawler track frames for use in raising a long boom and jib over the side

The operator's cab is well detailed and can be rotated from the transport position and tilted to a good angle. As with the rest of the model, the

superstructure has high quality paintwork and graphics. The winch drums are operated by a key through discrete holes in the superstructure side panels, and they have a positive brake action. Two hook blocks are included and they are very good metal parts.

The boom and jib sections are high quality metal lattice structures with very nice mesh walkways and the ends of lattice sections are painted black to replicate the Mammoet livery. The boom and jib head sections have anti two-block chains and weights, and the luffing jib nose has dolly wheels for use during erection.

The Superlift ballast tray has a hydraulic stinger cylinder to vary the ballast radius, which can be locked by a grub screw. The pendant length at the ballast tray is also adjustable.

A major feature of the model is its versatility. Numerous configurations are possible and the parts included facilitate this. Overall, this is a first class model of the CC 2800 crawler crane. It sets a very high standard for a diecast model of this type and can be ordered for €849 from the Mammoet Store.

#### **CRANES ETC MODEL RATING**

Packaging (max 10)	10
Detail (max 30)	29
Footures (may 20)	10
Features (max 20)	19
Quality (max 25)	23
Price (max 15)	13
Overall (max 100)	94%
· ·	

To see the full review, including a full unpacking and set up video, visit **www.cranesetc.co.uk** 

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### READERS LETTERS

#### Dear Mark and Leigh

I was very interested to read your article in the letters section of Cranes & Access concerning identification of 'old cranes'. I would think a regular feature along those lines would be very popular.

It occurred to me that you might be interested to have - as a gift - my library of old specs mainly from 1960s/70s and also still older cranes from Coles in particular.

I used to deal in used machines and, of course, they were invaluable to me in the days when I was a real person (now 83). My remaining dealer friends wouldn't want them because they represent machines in which they no longer deal. At the same time I don't want to just throw them away.

Let me know if you have any interest and I'll get them boxed up and include a selection of old photos which should present a challenge in identification.

**Best Regards** 

**Dave Carncross** 

#### THE IAPA 2023 SHORTLIST

IPAF has published the nominations shortlist if you prefer - for the IAPA awards 2023 which will be announced and presented at the dinner following the IPAF Summit, to be held in Berlin, Germany on April 20th. The nominations are:

#### **Access Rental Company of the Year**

Horizon Construction Development, China. Mills, Brazil. Nationwide Platforms, UK. Sunbelt Rentals, UK

#### **Contribution to Safe Working at Height**

Manitou, France. Nationwide Platforms, UK. Protective Pty, Australia. Sunbelt Rentals, UK

#### The Sustainability Award

Haulotte, France. Genie, USA. MEC, USA. Palfinger Platforms, Germany

#### **Digital Development Award**

Alimak, Sweden. Digiquip, Norway. Nationwide Platforms, UK. Serious Labs, Canada

#### Equality, Diversity & Inclusion (EDI) Award

Vicki Allen, International Platforms, UK. Dayim Equipment Rentals, Saudi Arabia. Mills, Brazil

#### **Innovative Technology Prize**

Mateco Romania - trouble shooting ecosystem. Nationwide Platforms, UK - Harness On, Phase 2. Protective PTY, Australia - Scissor shield

#### **Mast-Climbing Work Platforms and Hoists**

Alba-Macrel Group, Spain - PMH passenger & materials hoist. Maber Hoist, Italy - MBC2000 transport platform. Torgar, Spain - PW-18 mastclimber. XL Industries, France - XE5 Top-Down Hoist

#### **Scissor Lifts and Vertical Mast Platforms**

JLG, USA/UK - Power Towers Duo. MEC, USA - MMAE16 vertical mast lift. Skyjack, Canada - E Series vertical mast lift.

#### **Self-propelled Booms and Atrium Lifts**

Almacrawler, Italy - Jibbi 1890 Primo self-levelling boom lift. Hinowa, Italy - Llightlift 40.18 spider lift. Manitou, France - 160 ATJ+e electric boom lift

#### **Vehicle and Trailer-mounted Platforms**

Elliott Equipment Company, USA - E150i truck mount. France Elévateur, France - UPTO 15 vanmounted platform. Ruthmann Germany - Steiger Ampero TBR 260 E truck mount. Palfinger Platforms, Germany - All-terrain Unimog-mounted platform

#### **IPAF Training Centre of the Year**

Dayim Equipment Rentals, Saudi Arabia. Mills, Brazil. Nationwide Platforms, UK. Speedy Training, UK

#### **IPAF Training Instructor of the Year**

Anna Sarah Costa Morais - Mills, Brazil. Gonçalo Pereira - Transgrua, Portugal. Uta Koch - Koch Arbeitsbühnen, Germany

#### **Lifetime Achievement Award**

To be announced at the ceremony.

#### WHAT WORK ARE THEY DOING?

One of our Vertikal.net readers asked a question that hopefully one of our Cranes & Access readers can answer. It regards the use of a platform in an aviation related application (see photograph) of a Manitou 360 degree telehandler with a platform and material handling davit installed. It is working on a Quantas Airbus A380 where two inspection panels have been opened so one assumes that they are carrying out a series of inspections, checks and routine maintenance.

The following two responses show the sort of feedback seen so far:

"It is a standard basket that Manitou produces that are allowed to both carry people and lift materials. It's a great tool for the people who know how to use it."

"This MRT is fitted with a platform and a winch. It was designed to remove the overwind slides on the A380"

If anyone can enlighten us further - perhaps those actually carrying out the work? - then we would love to hear from you editor@vertikal.net.



#### **ARUP SAHA DEURI 1960 - 2023**

Dr. Arup Saha
Deuri, head of
R&D materials
and a renowned
Indian rubber
and compound
technologist at
Indian off road
tyre specialist
Balkrishna
Industries (BKT),



has died. He passed away on February 17 at the age of 62, due to liver related issues.

A company statement said: "BKT mourns the loss of a dear colleague and remembers the profound impact Dr. Deuri had on the team and the company. He was a highly regarded scientific leader who made countless contributions to BKT during his more than a decade long association with the company."

"His innovative and strategic approach to R&D significantly contributed to the success of BKT, his absence will be deeply felt and his contributions to the company will be remembered with gratitude and appreciation. The company will continue to honour his memory by upholding his legacy of excellence in all areas of operation."

#### LETTERS & OBITUARIES





The crane earlier this year - photographs taken at the TFL depot in Acton last month

#### **SAVING THE CRANE**

It looks as though an aging Rapier mobile crane with cantilever boom has been saved from the scrap yard crushers. The crane - which we believe is a Rapier 8 Standard Mobile Crane built by Ransomes & Rapier - was owned by Transport For London and was sitting in the Acton depot under the management of the TFL museum staff. However, it did not have the space or resources and had to be cleared or scrapped.

The museum curator made indirect contact with the following letter: "Hi there,

I know this might sound like a strange request, but I wondered how you dispose of old cranes and heavy plant? We have within our collection an old crane that is now cleared for disposal. However, we have failed to find anyone willing to take it off our hands so I thought I'd ask companies like yourselves who you deal with and if you have any suggestions that might be able to help us out.

Thanks for taking the time to read this, I look forward to any suggestions you might be able to make.

Kind Regards

Elisabeth

We contacted Peter Issitt of Crowland Cranes, who has restored several historic cranes over the past few years, and also posted the story on Vertikal. net. Issitt came through and agreed to collect the old crane and will hopefully restore it to its former glory.

The crane is based on a design concept that dates back to around 1923 and, apart from the cab, it remained largely unchanged over the years, at least in terms of the overall concept.

This type of crane was used widely in the UK rail industry working in station and goods yards. The Rapier

was also the crane on which 'Kevin the mobile crane' in the children's books





A drawing from an advert which featured this type of crane and its application dating from 1939 promoting the befits of using containers

Thomas the Tank Engine was based.

As to the exact model, we are not sure. We found a few Rapier spec sheets and brochures and think it looks closest to the 8 Standard, but there must be someone out there who knows for sure, and once Crowland cranes gets working on it I am sure we will know for certain.





We think this model dates from the 1960s and that it is a Standard 8. But we would like to hear from those who might know for certain.

#### **RONNIE JONES 1959-2023**

Ronnie 'Rocket' Jones a tower crane operator who had been working at the Hinkley Point construction site in the UK, passed away suddenly and unexpectedly on Friday January 27th he was 63.



Jones came from Sunderland but was employed by Bylor, the Laing O'Rourke/Bouygues joint venture, to operate one of the cranes on the Hinkley Point C nuclear power station construction site in Bridgewater.

On the following Monday his fellow crane operators all staged a special tribute to him by lowering the jibs of their cranes and slewing them towards his vacant crane, while sounding their horns and sirens.



Nigel Cann, delivery director at the site said: "This touching tribute by our crane operators demonstrates the affection and high esteem in which Ronnie was held by us all. His sudden passing has been a real shock and we will miss the contribution Ronnie made, not just





Hinkley point tribute

to the project itself, but to the spirit of teamwork and community that exists across the site. Our thoughts are with Ronnie's family, friends and colleagues at this sad time."

Darren Loveridge, Bylor's lifting operations manager, added: "Ronnie was a much loved member of the team. His crazy antics and cheeky, bright smile will be greatly missed."

Colleague Steve Pace, also from Sunderland, added: "Every day he made everybody laugh. He was bonkers, but completely sound."

He is survived by his brother Alan. His funeral was held on February 21st.





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#### Conexpo-Con/Agg 2023

March 14-18, 2023 The leading US construction show Las Vegas, Nevada, USA Tel: +1 414-298-4133 www.conexpoconagg.com



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**SC&RA Annual Conference** April 17-21, 2023 Annual Conference of the US cranes and heavy transport association including the Jobs of the Year awards Carlsbad, California, USA Tel: +1(703) 698-0291 www.api.vertikal.net/en/admin#!/ default/5/vertikaladmin/event/index/106



Hanover Messe April 17-21, 2023 World's largest industrial exhibition Hanover, Germany Tel: +49 511 89-1 www.hannovermesse.de



The IPAF Summit and awards

April 20, 2023 Annual Summit and IAPAs awards ceremony of the International Powered Access Federation Berlin Tel: +44(0)15395 66700 www.ipaf.org



#### Samoter

May, 3-7, 2023 International earthmoving and building equipment show Verona, Italy Tel: +39 045 8298111 www.samoter.it/it



#### Vertikal Days 2023

www.vertikaldays.net

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Vancouver, Canada

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Crane Rental Association of Canada Annual Conference

The annual Canadian crane conference

#### Innovationstage der Höhenzugangstechnik

www.hire21.com.au

May, 2023 Aerial lift Innovation Days, an informal event for access equipment, cranes Hohenroda, Hessen Hotel Park, Germany

www.borntolift.de/innovationstag/



SYDNEY

**Apex 2023** June 06-08, 2023 International powered access trade show Maastricht, The Netherlands Tel: +31 (0)547 271 566 www.apexshow.com



French cranes and access exhibition/

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Platformers' Days 2023 September 8-9 German access and lifting show Karlsruhe, Germany Tel: +49 721 3720 5096 www.platformers-days.de



### HCEA International Convention and Old Equipment Exposition September 22-24, 2023

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Tel: +61 03 8320 0411 www.conference.cica.com.au/

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#### The ARA Show 2024

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#### Bauma Conexpo India

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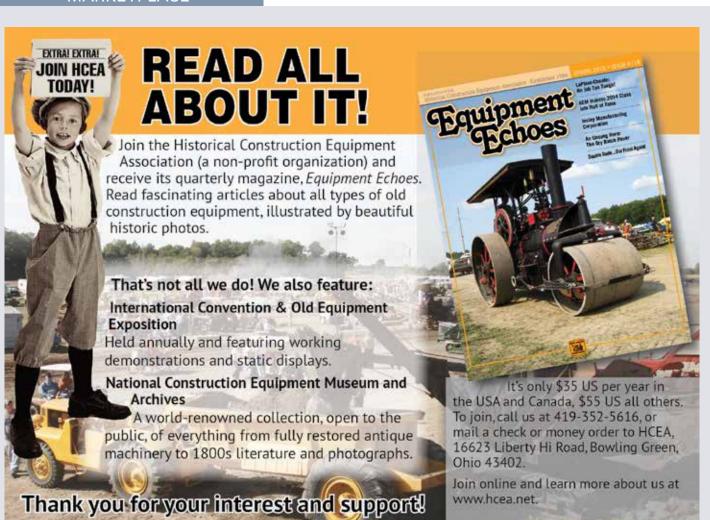
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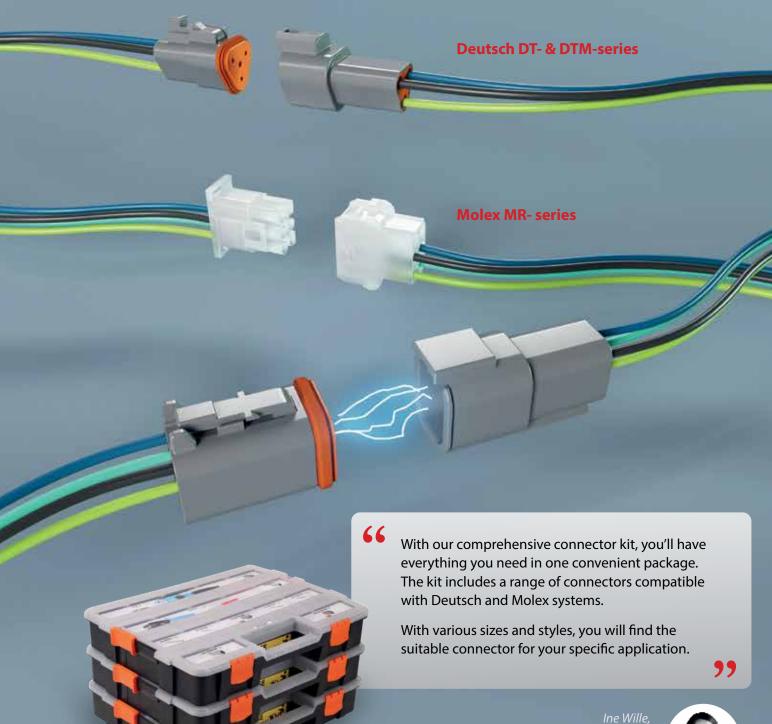






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