April/May 2020 Vol.22 issue 3

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...US investigates crane imports...Tracked Haulotte mast lift...new 5t Jekko spider crane..



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On the cover:

The IPAF Italy Country Council and Training Working Group held a virtual meeting - now a sign of the times - at the end of April to select Paolo Pianigiani and Roberto Geromin as chairmen for the next two years.





Boom lifts





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lower cranes 17

The tower crane market has been one of the more dynamic crane sectors over the past few years as more

markets appear to be shifting towards their adoption. We look at some of the many new products launched in the last 12 months and review an accident in Nova Scotia.

Boom lifts 27

It is 50 years since JLG unveiled the first telescopic boom lift. We look at the history of the self-propelled boom lift since the very first model surfaced in 1956. Over the past year we have seen more innovative new product launches including significant developments at the top end of the market. Here we round up and review some of the latest models.

New standard for AWP controls 35

After years of debate and discussion, the longawaited ISO standard for aerial work platform controls has been published. We look at how it developed and speak with manufacturers and





In the next C&A

The next issue of Cranes & Access scheduled for late June will feature Loader cranes, Slab electric scissor lifts, Heavy lift applications and Telematics developments. 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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💽 Working from home 43

With most countries experiencing lockdown's that have forced companies to suspend normal operations, millions of people are having to adapt to working from home. C&A surveyed European rental companies and asked how they have adapted to the new reality? We also look at some of the technology available and provide a few tips on working from home.

Interview Ken McDougal 47

In March Mark Darwin spoke with Ken McDougal of Skyjack asking him about his return to the company and his plans going forward.



New contributor Eddie Bishop discusses the most traditional of lifting equipment in the

form of the Gin Pole and how it can still be a practical solution to challenging lifting tasks.



Preventing Fraud 53

Emma Miller of UK credit agency Top Service provides some useful tips on preventing fraud as more business goes online.

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Will the world really change?

The Covid-19 epidemic has affected almost every country around the world and despite the current gloom and restrictions it might just usher in some positive changes and perhaps a more caring society.

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comment

On a business level, companies have been forced into a massive working experiment with many going through steep learning curves as they adopt new technology to enable as many staff as possible to efficiently work from home.

On page 43 we reveal the results of a survey in which companies were questioned about working during the pandemic. Perhaps one of the most startling responses was that 80 percent said they will change the way they operate post Covid-19, with many open to new technology and for staff to work remotely.

How companies react in a crisis is always a good indication of their moral compass. There are those that immediately laid off employees and stopped paying suppliers, with some even demanding discounts on materials or services that had been delivered earlier in the year. Some major companies were even begging for handouts within the first week of the crisis having recently made substantial dividend payments.

On the other hand, many quickly set staff up to work from home on full pay or topped up government furlough payments for those that could not. Many have also worked hard to maintain their business and adapt quickly to the new reality including helping the front line medical staff with PPE supplies, while others decided to shut down areas of the business, making little effort to consider others and without considering the impact on their customers, their supply chain or the longer term consequences.

It has been proven many times over that companies that continue to be active and promote themselves during a recession emerge in a far stronger position than those that retreat into a shell until it all to blows over. Obviously, financial stability is key to surviving a crisis but demanding retroactive discounts when you think you can get away with it is a despicable practice and should be outlawed.

Why is it, that at times like these large companies or main contractors feel they have the right to dictate to their smaller sub-contractors and suppliers, sometimes pushing them over the edge ...but it has always been so.

The world after Covid-19 will undoubtedly change, hopefully for the better. Perhaps those changes will include an end to such business practices that should have gone out with the ark, and maybe there will be an end to the private equity practice of loading established companies up with debt, charging high fees and skimming off cash - so that barely a week or two into a crisis they are on the verge of collapse?

Is this the beginning of a brave new world?

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





US to investigate crane imports

Earlier this month the United States Department of Commerce announced that it will initiate a section 232 investigation into mobile crane imports in response to a petition filed by Manitowoc last December.

Manitowoc alleges that increased imports of low priced mobile cranes - particularly from Germany, Austria, and Japan - as well as intellectual property infringement by foreign competition, has harmed the US domestic mobile crane manufacturing industry. At the same time the Department of Homeland Security has identified mobile cranes as a critical industry because of their extensive use in national defence applications and critical infrastructure sectors.

Manitowoc's petition claims that these factors resulted in the closure of one of its two production facilities in the United States eliminating hundreds of skilled manufacturing jobs in Wisconsin. It also cites the US International Trade Commission's Dataweb to note that imports of mobile cranes increased 152 percent between 2014 and 2019, and highlighted the 2015 verdict that Sany misappropriated trade secrets and infringed one of its patents, resulting in a ban on the sale of a Sany crawler crane in the United States.

Manitowoc claims that without import relief the armed forces and their contractors will become largely dependent on foreign producers of mobile cranes.

Secretary of commerce Wilbur Ross said: "We will conduct this review thoroughly and expeditiously. This investigation will help determine whether mobile cranes are being imported in such quantities or under such circumstances as to threaten to impair US national security."

Manitowoc chief executive Barry Pennypacker added: "Manitowoc filed this petition to urge the Department of Commerce to investigate a recent surge of mobile crane imports that threatens domestic manufacturers. These imports jeopardise the domestic industry's ability to supply cranes to the US military and support critical infrastructure, thereby undermining the national security of the United States. We are confident this investigation will demonstrate the urgent need for the president to provide immediate and meaningful relief for Manitowoc. This petition is about protecting our American workforce and preserving our longstanding commitments to the US military."

Manitowoc employs around 1,400 in the United States, mostly at its facility in Shady Grove, Pennsylvania and has been supplying mobile cranes to the US military since 1961. It claims to produce 100 percent of the forces' All Terrain cranes and around two thirds of its Rough Terrain cranes.





All-new Jekko electric SPX650 spider crane

Jekko is to launch an all-new battery powered spider crane - the five tonne SPX650 -later this year. The new model incorporates the latest innovations from the recently launched 3.2 tonne SPX532 and eight tonne SPX1280.

The full specifications have not yet been released, but basic information on the machine indicates that it has a five section telescopic main boom with a four section, 1.2 tonne capacity hydraulic luffing jib for a maximum tip height of 23.5 metres. A new shorter two tonne jib is also available. When not required, the jib can be removed completely or stowed under the main boom with hook block in place allowing it to be deployed without further rigging.

The SPX650 also includes the new variable outrigger set up system with automatic sensing and load chart calculation from the SPX1280. The two stage, swing out outrigger beams can be set with a minimum footprint of 2.9 metres square or a maximum of 4.5 metres square. All crane functions and accessories can be operated from the standard remote controller which incorporates a new intuitive user interface. The hydraulic system offers fully

simultaneous operation of up to four functions. The new crane features a lithium ion battery pack, while a diesel powered unit can be paired with an AC mains powered electric motor available next year,

The launch is scheduled via a live streaming event in July with shipments due to begin later in the year.



Xtreme ads 7.7t/10m C-class

US telehandler company Xtreme Manufacturing has added the new 7.7 tonne/10.3 metre XR1734-C telehandler to its C-class range of telehandlers - the fourth new C-class it has launched this year.

The XR1734-C can take 5.9 tonnes to its maximum lift height and handle 2.9 tonnes at its maximum forward reach of 5.1 metres. Weighing just over 15 tonnes, the new telehandler is powered by a Cummins Tier IV diesel and includes frame levelling of up to 11 degrees.



Tracked Haulotte mast type lift

Haulotte has launched a tracked version of its 12.5ft Star 6 mast type lift. The new battery powered lift offers a working height of 5.8 metres and a maximum platform capacity of 200kg - with a two person rating for indoor and one person rating for outdoor applications.

With significantly lower ground bearing pressures than a wheeled platform of this type, the Star 6C is as suitable for working on sensitive flooring such as marble tiles as it is for soft or rough terrain. Dual



Haulotte's new tracked Star 6 mast type lift

trunnion mounted mid-track jockey wheels assist in keeping the entire length of the track in contact with the ground at all times while helping it smoothly negotiate kerbs and other obstacles. The tracks are driven by two direct drive electric AC motors, offering a gradeability of 25 percent while offering substantially improved battery life. Other features include a 400mm platform extension, AGM maintenance free batteries, fork lift pockets and the company's Activ'Screen display and diagnostics.

Weighing 1,175kg, the Star 6C has an overall width of 760mm, is 1.44 metres long and has a stowed height of 1.72 metres. All components are water proofed and easily accessed for maintenance while the four section telescopic mast uses a multistage hydraulic cylinder, eliminating the need to inspect or maintain chains or cables. Shipments are due to begin in Europe and Asia/Pacific later this year.





indoor applications where low ground bearing pressures are required



Potain adds to MDT range

Potain has added the MDT 569 flat top tower crane to its Topless range. The new crane offers maximum capacities of between 20 and 32 tonnes with a maximum jib length of 80 metres and jib tip capacity of up to 4.2 tonnes. Maximum hoist speed is 195 metres a minute. The crane can be used with the manufacturer's

The new Potain MDT 569 flat top tower crane

new eight metre cross-shaped base, which is said to be easier to assemble compared to previous bases, while its modular design allows for easier erection and more efficient transport.

Potain's Thibaut Le Besnerais said: "We have seen strong demand for larger topless cranes in recent years. The new MDT 569 will help meet our customers' needs for greater capacities, while also preserving the already well known easy transport, fast assembly and performance that our other topless cranes deliver. Our focus is to bring to the market a robust crane in a compact design, offering multiple transportation options without compromising performance. In addition, the MDT 569 can be fully assembled and erected in only two days, with time saving features such as fast jib and counter jib connections and an automatic tensioning and slackening system for the trolley rope."

Shipments of the new crane should begin in late summer.

New 23m from CTE

Italian aerial lift manufacturer CTE has introduced a 23 metre B-Lift 23 HV truck mounted platform. Based on the B-Lift 230 PRO, the new model features a four section telescopic boom with a maximum outreach of 13 metres with the unrestricted platform capacity of 100kg. Maximum capacity is 300kg with an outreach of 9.5 metres.

Mounted on a 3.5 tonne chassis, the 230 PRO includes CTE's S3 Smart Stability System, which automatically adapts the working envelope to match the actual outrigger positions. The outriggers are out and forward beam & jack at the front and fixed inboard levelling/stabilising jacks at the rear.

The company's Connect telematics system is standard and includes diagnostics, machine location and remote setting of work envelope parameters such as a maximum working height or outreach.



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Second Jaso in 'Low Top' range

Spanish tower crane company Jaso has announced the second crane in its new high capacity 'Low Top' range - the 48 tonne J800.48 - which follows the 64 tonne J1400 unveiled last year.

The J800 can take its 48 tonne maximum capacity out to a radius of 23 metres or handle 5.1 tonnes at its 80 metre jib tip. Jaso has dubbed the new models as 'Low Top' cranes, as they are clearly not flat tops, however the tower head is shorter than a typical hammerhead crane, being just 4.7 metres high and protruding just over 2.2 metres above the top chords of the jib. The heavy duty pendants are also short, keeping the overall jib profile similar to that of a flat top, while according to the company improving jib rigidity and weight. The rest of the jib can be built up with a variety of sections as short as 2.5 metres, for a wide range of jib lengths. The counter jib is made up from four modules for a variety of possible configurations with lengths from 18.6 to 28 metres. *See Tower Cranes page 17 for more detail.*

3,000 tonne Liebherr for Russian contractor

Russian contractor Titan-2 has taken delivery of the fourth 3,000 tonne Liebherr LR 13000 crawler crane to be delivered. The crane has 120 metres of main boom and 126 metres of luffing jib giving a maximum system length of 246 metres. The standard superstructure counterweight ranges from 400 to 750 tonnes, while the suspended superlift counterweight system of up to 1,500 tonnes is matched with a 54 metre derrick boom.

The crane will be employed on the construction of a new nuclear power plant in Turkey which is expected to keep it busy for the next 10 years. The handover ceremony was attended by Liebherr's Willo Liebherr, Sophie Albrecht and Christoph Kleiner.





Two more Palfinger TEC cranes

Palfinger has launched two new 40 to 50 tonne/metre loader cranes the PK 45.002 TEC 5 and PK 48.002 TEC 7. They join two 50 to 60 tonne/ metre models launched last month and complete the company's 25 to 60 tonne/metre range.

The 43.7 tonne/metre MK 45.002 TEC 5 has a maximum lifting capacity of 15.6 tonnes. The 22.5 metre seven section boom has a tip height of 25.9 metres with manual insert extended, while maximum radius is 22 metres at which it can handle 1,280kg.

The seven section PJ150 jib option plus manual extension takes the tip height to 35 metres with a capacity of 500kg and offers a maximum radius of up to 31.3 metres at which it can lift 280kg. The jib can also luff to horizontal with the boom at 70 degrees elevation, providing an up and over clearance of 20 metres. When the boom is horizontal it can also luff up to 25 degrees above horizontal. 360 degree continuous slew is standard, with a choice of single or dual slew motors.

The 45.7 tonne/metre PK 48.002 TEC 7 is almost identical structurally, with the same boom and jib configuration but offers a maximum capacity of 16.5 tonnes and a different specification. For example, the PK45 has a standard Scanreco P3 radio remote controller, while the PK48 has a PALcom P7 controller.

Both cranes have an overall folded width of 2.55 metres - taking up to 1.43 metres of longitudinal truck bed space - and weigh 4,300kg. Maximum outrigger spread is 7.8 metres.

The TEC 7 model is equipped with Palfinger's 'Weigh' function allowing the operator to accurately weigh a load directly with the crane while also helping with set-up. The system automatically saves the last 10 weighing operations and can add them up if required, useful when loading a truck.



15m Versalift cutaway van

Versalift has launched a 15.1 metre cutaway van mounted lift - the VDTL-150-F - aimed at inner city street lighting maintenance.

Mounted on a 3.5 tonne cutaway Renault Master van, the new machine features a three section telescopic boom topped by an articulating jib offering 7.7 metres of outreach with a 120kg platform capacity or six metres outreach with the maximum platform capacity of 230kg.



The VDTL-150-F has an overall length of 5.9 metres and a stowed height of 3.3 metres, while the stabiliser footprint falls within the overall width of the wing mirrors. It also offers 350kg of payload in addition to a driver, passenger and a full tank of fuel.





Hinowa TeleCrawler 13

Hinowa is to launch a new 13 metre all-electric telescopic spider lift the TeleCrawler13 or TC13 - the first model in a completely new series. The new platform is powered by Hinowa's proven lithium-ion battery pack and uses a three section boom, topped by an articulated jib with 13 metres working height and 6.4 metres outreach with the 136kg unrestricted platform capacity.

The tracked chassis features direct electric drive with permanent magnet motors to IP67 protection, to cope with wet, muddy and dusty ground conditions. The drive function is said to be four times more

efficient than a traditional hydraulic drive chassis while reducing the volume of hydraulic oil on the machine. The TC13 lift has an overall length with basket removed of just under 3.7 metres, an overall width of 748mm and an overall height of 1.95 metres. The extended outrigger footprint is 2.45 by 2.9 metres - the width of a single parking space. Other features include automatic control of telescopic and elevate functions so that it can lift or lower parallel to the work to a height of nine metres, as well as 'go home'/'go back' functions to stow the machine or return to the last working position with the press of a single button.



A rendering of the new Hinowa TC13 spider lift

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news





200,000th XCMG crane

Chinese crane and aerial lift manufacturer XCMG (Xuzhou Construction Machinery Group) has shipped its 200,000th wheeled mobile crane, an 85 tonne XCT85 four axle truck crane.

Founded in 1943 as the Huaxing Iron Factory, the company produced its first crane - a luffing jib tower crane - in 1957, which also marked its introduction into the construction equipment market. In 1963 it built China's first five tonne truck crane, followed in 1976 by the 16 tonne QY16, which it says was the first fully hydraulic crane in China. In 1995 it unveiled what it claims was the largest All Terrain crane in Asia at the time - the six axle 160 tonne QAY160. The company took 47 years to produce 100,000 mobile cranes, while the second 100,000 has taken just 10 years.

XCMG claims to be the second largest manufacturer of wheeled mobile cranes worldwide, although it provides little to no evidence to support this claim. While the company has had some success in selling its truck cranes in the developing world, most of its sales still come from the local Chinese market where it has sold large numbers of its three axle truck cranes over the past 10 years.

XCMG vice president Sun Jianzhong said: "XCMG holds many firsts. The supply of 200,000 wheeled cranes is the result of our close partnership with suppliers and dealers, with whom we thrive and make progress."



XCMG's first crane.



XCMG's first wheeled crane in 1963 - a 5 tonne truck crane.

Pettibone adds 17m Extendo

US telehandler manufacturer Pettibone has added the 4.5 tonne/17 metre Extendo 1056X telehandler to its X-Series range.

The new North American style telehandler can take two tonnes to its maximum lift height and manage 408kg at its maximum forward reach of 12.2 metres. Weighing 12.5 tonnes, power comes from a Cummins Tier 4 Final diesel or an optional Deutz Tier 4 Final engine.

It has an overall width of 2.6 metres, is seven metres long to the fork frame, offers 460mm of ground clearance and has a turning radius of 4.37 metres. The 1056X joins three other models in the Extendo range including the four tonne/1.35 metre 944X, the 5.4 tonne/14 metre 1246X and the 5.4 tonne/17.8 metre 1258X.



New 13m Platform Basket spider lift

Italian spider lift manufacturer Platform Basket has developed a new 13 metre telescopic spider lift - the 13.80 Pro - which it will add to its product range alongside the current 13.80.

The 13.80 Pro uses the same structure as the 13.80 with a three section telescopic boom and articulated jib, and the same power pack options of petrol/gas, diesel and electric power, however the Pro features a completely new control system and onboard diagnostics. As with the standard model working height is 13.4 metres, maximum outreach 7.8 metres and maximum capacity 200kg. The overall stowed width is 780mm and overall length with basket removed just under 3.7 metres, while the working footprint is 2.8 metres square.

The new 13.80 Pro uses a Scanreco radio remote controller with machine status and diagnostics screen for all functions including driving and outrigger set up. A secure lockable remote controller storage box is built into the machine. A new lower control panel features a clearer, wider display with a comprehensive diagnostics suite and the machine retains the manual chassis mounted hydraulic controls as a backup.

Once the machine is set up and levelled, the remote controller sits in a cradle in the basket and in the case of any battery issues it can be plugged into a spare connector below the cradle to create a tethered controller. The Pro package is only available on a new machine and cannot be retrofitted. Shipments are due to begin in July.



The new Scanreco remote controller in the basket cradle.

Skyjack boom upgrade

Skyjack has launched dual platform capacities and control upgrades to its 40/45ft and 60/66ft telescopic boom lifts with maximum capacities of 454kg and 275kg to 300kg unrestricted.

The new models use the '+' suffix to differentiate them, the SJ45T+ outreach with 454kg is 10 metres while outreach with the 300kg unrestricted capacity is 12.1 metres. The SJ66T+ manages the 454kg at 14 metres and offers 17.4 metres outreach with the unrestricted capacity of 272ka.

When the platform reaches the edge of the restricted/high capacity zone with a heavy load, an amber light warns the operator before extension functions lockout. The operator then can only bring the platform back into the restricted zone. When the machine is overloaded in the unrestricted capacity zone, functions are locked out until the excess weight is removed. The emergency lowering system remains active. The SJ40T+ and SJ60T+ will only be available in the Americas, while the 45T+ and 66T+ are global machines. See Boom lifts on page 27.



C<mark>6</mark>a news **New Aichi Euro** boom.

Japanese aerial lift manufacturer Aichi has announced the new 52ft SP14DJ telescopic boom lift - designed for the **European market - which** replaces the SP14CJ.

The SP14DJ features a three section telescopic boom topped by an articulated jib to offer a maximum working height of 15.9 metres, an outreach of 12.6 metres and an unrestricted platform capacity of 270kg. It has an



overall width of 2.3 metres, a transport length of 7.75 metres and can pass under a 2.5 metre overhead obstruction. Weighing 8,450kg and powered by a Stage V Yanmar diesel with particulate filter, the new boom is fully compliant with the latest EN280 standards.

...And a new German distributor

Aichi has also appointed Team Liftservice & Parts (TLP) as its distributor for German speaking countries. It has already delivered its first units to German rental companies Udert Mietgeräte and Meyer Lift and booked an order from Metz Arbeitsbühnen.



More about: fassi.com

Financials round-up

Wacker Neuson saw first quarter revenues decline 5.6 percent to €410.8 million driven by declines in North America and Asia Pacific while sales in Europe improved three percent to €326.4 million. Pre-tax profits dropped 44 percent to €16.7 million.



US-based H&E Equipment Services achieved first quarter revenues of \$285.9 million - down nine percent due to lower new equipment sales. A \$62 million goodwill impairment converted last year's pre-tax profit of \$19.4 million into a loss of \$47.3 million this year.



Kobelco crane owner Kobe Steel has published its full year results for the

year to the end of March. The company no longer breaks out crane sales but said: "Unit sales of crawler cranes decreased year on year as competition from overseas manufacturers intensified mainly in Southeast Asia, despite an increase in Japan backed by steady demand."



Manitowoc saw first quarter sales fall 21 percent to \$329.2 million but its pre-tax loss of \$5.9 million was down from a loss of \$23.4 million last year. The backlog/ order book at the end March was \$520.9 million.



Tadano has published its full year results to the end of March, including eight months contribution from Demag cranes. Total revenues were 21 percent higher at ¥228 billion (\$2.15 billion), while pre-tax profits declined 17 percent to ¥13.5 billion (\$127.3 million) due to TADANO product mix and acquisition costs.

Genie posted total first quarter revenues of \$511.7 million, almost 30 percent down on last year. The lower revenues resulted in an operating loss of \$5.9 million, compared to last year's profit of \$59.5 million. Order intake totalled \$498 million, leaving the order book at \$717 million compared to \$1.1 billion last year.



US-based United Rentals reported a flat first quarter with revenues of \$2.12 billion. Pre-tax profits for the guarter were 2.5 percent higher at \$226 million.



US rental company Herc saw an eight percent decline in revenues to \$436.2 million, although rental revenues were 2.5 percent higher at \$386.5 million thanks to a 2.4 percent increase in rental rates. A pre-tax loss of \$2.6 million compares to a loss of \$9.8 million last year but included a \$6.3 million receivable write off. **Herc**Rentals

JLG's first half revenues to the end of March were 22 percent lower at \$1.41 billion, including aerial lift sales of \$579.7 million and telehandler sales of \$419 million,



28 and 29 percent lower respectfully. Operating profit declined 25 percent lower to \$139.8 million.

Chinese manufacturer Zoomlion reported full year 2019 revenues of RMB43.3 billion (\$6.1 billion) a new record and 151 percent up on the year. The majority - RMB39.74 billion (\$5.6 billion) - was generated in mainland China and up 58 percent on 2018. Export sales slipped one percent to RMB 3.7 billion (\$504 million). Pre-tax profits increased 90 percent to RMB5.04 billion (\$712 million). Crane sales made up roughly half of the total, at RMB 22.15 billion (\$3.1 billion), 77.5 percent higher thanks to strong tower crane sales in the domestic market. The crane business had an operating profit of RMB 726 billion (\$1.02 billion).





Haulotte's first quarter sales fell 19 percent to €132.9 million compared a record quarter last year.



Liebherr has posted another year of record revenues, with 2019 group sales increasing 11.4 percent to €11.75 billion, while pre-tax profits jumped 45.5 percent to €748 million. Total group crane sales - excluding foundation cranes - were just over €4 billion. They were made up as follows:



Revenues at the Ehingen-based mobile crane division increased 13.4 percent to €2.54 billion, with Europe making up 45.5 percent of sales followed by North America at 25.4 percent and Australia/Oceania at 14.6 percent. Demand was high for three to five axle All Terrain cranes while the market for crawler cranes remained difficult despite improvements on last year.

Tower crane revenues were 11.4 percent higher at €636 million, with Europe representing 74.6 percent of sales and Germany remaining the largest single market.

Maritime crane sales improved 24.5 percent to €887 million, 38 percent in Europe followed by the Africa and Middle East at 22 percent and Australia/ Oceania at 13 percent.

First quarter sales at Manitex (including PM, Valla, Oil&Steel, and Badger) were 8.2 percent lower at \$48.73 million although PM sales reached record levels. Last year's pre-tax profit of \$1.5 million was converted to a \$6.64 million loss this year including a \$6.64 million



'goodwill and intangibles' write off. The company is also to sell its Sabre storage tank business.

Manitou's first quarter sales declined 25 percent to €421 million. Order intake however was 11 percent higher at €400 million, taking the order book to €648 million. Material Handling & Access revenues telehandlers and aerial work platforms - declined 29 percent to €283 million.

Palfinger has reported first quarter revenues 10.8 percent lower at €393.2 million. Pre-tax profits plunged 31.9 percent to €26.1 million.



For the full reports on all these stories check out Vertikal.net

ELS push around scissor

Turkish aerial lift manufacturer ELS Lift has added an 8ft push around scissor lift - the EL4.5 Junior- to its low level platform range.

The EL4.5 offers a working height of up to 4.5 metres with a platform capacity of 240kg. Weighing 365kg, it has a stowed height of 1.77 metres and an overall width of 750mm, allowing it to easily pass through single doorways and travel in the smallest of elevators. Features include integrated fork lift pockets, saloon style entry gate and an audible alarm when the platform is descending. The



The new battery

powered

scissor lift

JCPT2223DC

EL4.5 joins the company's 11.5ft EL5.5 Junior push around scissor lift and the EL5.5 Junior SP self-propelled lift.

65ft DC scissor from Dingli

Dingli has introduced a battery powered version of its 65ft heavy duty JCPT2223RTB Rough Terrain scissor lift.

The new model offers a 22 metre working height, 750kg maximum platform capacity, and long single 2.7 metre hydraulic powered roll out deck extension, which takes the extended platform length to 7.3 metres. Weighing 13.4 tonnes, it has an overall width of 2.46 metres, a stowed length of 4.95 metres and a transport height of three metres.

The company says that the JCPT2223DC has the same performance levels as the diesel equivalent, including four wheel drive, four wheel steer and drive at full height. Power however comes from a heavy duty 48v 620Ah full traction battery pack, driving AC direct drive wheel and pump motors.

The combination of big battery pack and efficient drive train is said to provides more than eight hours of continuous operation under typical heavy working conditions.



WHEN NATURE MEETS TECHNOLOGY



STABILIZATION OF THE MAIN STRUCTURE



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News HIGHLIGHTS CLa

Bill Boers

Oana Samoila

lony Hatton

Adrian Winnicki

Jan Piet Valk

Italian rental company **Werent** has taken four **Multitel** truck mounted platforms.

- Mammoet has opened a new location in Kiev, Ukraine.
- AnR Specialists and Lift Assist have purchased 3t Hoeflon C6 spider cranes.
- Germany's **Schmidbauer** has taken a 450t Liebherr LTM 1450-8.1 All Terrain.
- Manitex has appointed Bill Boers as regional business manager articulated cranes.
- **Sinoboom** will open its new European subsidiary in July.
- Magni UK has appointed LC Plant Services to provide product support
- Dinolift has appointed Jøma Lift Teknik as distributor for Denmark.
- Van Thek has taken the first Sennebogen 6100 E crawler crane in the Netherlands.
- Almac has appointed Oana Samoila as export area manager Italy and the UK.
- Norway's Drammen Lift Utleie has taken a new 70m Bronto X70XR truck mounted platform.
- Mammoet North America is to offer non-operated crawler crane rentals.
- UK National Platforms has formed National Telehandlers.
- UK's Roadcraft Crane Hire has celebrated its 100th anniversary.
- Eberhart Capital has acquired Florida's The Equipment Source.
- Link-Belt Cranes has promoted Tony Hatton to warranty administrator.
- Jones Crawler Cranes has taken the UK's first 8.1t Maeda CC1908 crawler crane.
- Germany's Horn Autokrane has taken a 100t Liebherr LTM 1100-5.2 All Terrain.
- Hoist/mastclimber manufacturer Alba has appointed Kanoo Cranes as distributor for the Gulf region.
- The Danish Ministry of Defence has purchased 12 Unic URW-1006+ spider cranes.
- IPAF has published 'Covid-19 Safe Operating Guidance'.
- Anders Andersen Rengøring has taken the first Bronto S35EM in Denmark.
- Hawks Crane Hire has taken the first Spierings SK2400-R tracked tower crane in the UK.
- **Barin** has supplied two AB 23/SL under-bridge platforms to **the Hong Kong** government.
- Willenbacher has taken the first 10 JLG 460SJ HC3 boom lifts in Germany.
- AJI Heavy Equipment Rentals has taken the first Jekko SPX1280 spider crane in the UAE.
- **Bobcat** has appointed **Adrian Winnicki** as district manager for Poland.
- Germany's Könning Krane has taken a 60t Grove GMK3060L All Terrain.
- Manitou has appointed NED in Florida, N. Carolina, S. Carolina and Texas.
- Switzerland's Stirnimann has taken six Potain Hup C 40-30 tracked tower cranes.
- Niftylift has appointed Ideal Crane Rental of Wisconsin as a dealer.
- Germany's BKL Baukran Logistik has ordered a second 450t Liebherr LTM 1450-8.1 All Terrain.
- Boels has appointed Jan Piet Valk as chief financial officer.
- Straightpoint has appointed Thunder Oilfield Services as distributor for Thailand.
- Davis Company has ordered the first Potain Hup M 28-22 tower crane in North America.

The new 5,000 tonne Liebherr HLC 295000 offshore crane collapsed while on test in Rostock, Germany.

Pianiniani

Roberto Geromin

Dale

Blackwell

ason

Bob Mules

Paolo Pianigiani and Roberto Geromin are new chairmen of the IPAF Italian Country Council and Training Working Group.

Caterpillar has

- appointed **Snorkel** as a preferred supplier.
- South Africa's Transnet Port Terminals has taken two Liebherr LHM 600 mobile harbour cranes.
- Dubai based **Johnson Arabia** is adding **Maeda** spider cranes to its fleet.
- Dale Blackwell of the CRA and owner of Abba Dabba Rentals, has died.
- Sweden's Skyab has taken an 86ft Dinolift 280RXT boom lift.
- HKV Schmitz + Partner has taken the first Terex CTT 472-20 tower crane in Germany.
- Advanced Land Management & Tree Removal has taken the largest grapplesaw loader crane in North America.
- Andy Stewart national sales manager of Mantis Cranes UK, has died.
- Ausa has appointed BIA as distributor for Belgium.
 Germany's Hald & Grunewald has added a new depth in Baden Withtenham
- depot in Baden-Württemberg.
 Germany's Wemo-Tec has taken three Genie Xtra Capacity telescopic boom lifts..
- Singapore's **Manta Equipment** has taken two 25t **Potain** MCT 565 M25 cranes.
- Spain's Gruas Garro has taken Jekko 3.6t SPX 536 and 15.5t JF545 spider cranes.
- Oil&Steel has delivered four new platforms to three companies in Germany.
- Sarens Ukraine is adding to its fleet.
- Dica outrigger mats has agreed a partnership with Axion.
- Germany's Rothlehner Liftverleih has taken three Palfinger truck mounted lifts.
- US crane company Hoffman has celebrated its 100th anniversary.
- Sennebogen has appointed Jason Jones as national sales manager the Americas.
- Lipac Liftar has become the first company in Sweden to offer IPAF training.
- Spierings has appointed Kanoo Cranes as distributor in the UAE, Saudi Arabia, Oman and Bahrain.
- Denmark's Lohke has taken 120 Snorkel mast lifts, 10 scissors and four Speed Levels.
- Almac has appointed Bob Mules as appointed provide a provide a
- general manager of Almac Pacific.
 Turkish manufacturer ELS Lift has appointed Koray Erkekli as
- engineering director.
 DP World has ordered eight Liebherr cranes for its terminal in Berbera, Somalia.
- UK's The Platform Hire Centre has taken 22 boom and scissor lifts.
- Instant UpRight has added a new podium to its range.
- Sarilar has taken the first 750t Liebherr LR 1750/2 SX crawler crane in Turkey.
- Huisman has appointed **David Roodenburg** as chief executive.

- US training company **CIS** has appointed **Ray Rice** as business development manager.
- Gerken has taken the first 15 30m Ruthmann TB300 lifts on a 3.5t chassis.
- BKL has taken the first 250t Grove
 GMK5250XL-1 All Terrain in Germany.
- Brad Boehler has joined the board of Custom Equipment/Hy-Brid.

news

Ray Rice

Tim Watson

Thomas Dietvorst

> John Pfeifei

- The Manchester, NH fire department has taken the first Bronto F135RLX in North America.
- **Terex Utilities** has launched its Positive Attachment Lanyard warning device.
- Custom Equipment/Hy-Brid Lifts has appointed CMT Equipment, HK Sales and MLA Construction Sales as sales partners.
- Nordic Crane Oslo has taken the first Kobelco CKE1350G-2 crawler crane with luffing jib in Europe.
- Mammoet Conbit has won an offshore wind technology competition for its concept modular lifting system.
- Ghana Ports/Harbours Authority has taken two 30t Grove RT530E-2 Rough Terrain cranes.
- Crane and access industry veteran and consultant Tim Watson has died.
- Ebbe Christensen of Reachmaster has clarified the split with Falcon.
- LGMG Europe has appointed Van Ginkel Rental and Sales as its Dutch distributor.
- Belgium's Lauwereys has taken three 22m CMC PLA 220 truck mounted lifts.
- Dinolift has appointed Sven Wiese as a regional manager.
- Penta-Ocean Construction has ordered a 1,600t/m Huisman leg encircling crane.
- Italy's Blu Garden has taken a Palazzani TSJ 25 tracked spider lift.
- Falcon Lifts has appointed USM ReRents as exclusive dealer for North America.
- Ireland's O'Carroll has taken a Liebherr MK 140 self-erecting tower crane.
- Italy's Erregi has taken a 220t Tadano ATF 220G-5 All Terrain.
- Filip Deschrijvere, owner of Belgium's Rentalift has died.
- US based BigRentz has received \$15m funding from Itochu, and acquired EMG.
- **Crosby** has appointed **Thomas Dietvorst** as general manager of **Straightpoint**.
- Tadano will merge its European
 Demag and Tadano sales operations.
- Panstwowa Straz Pozarna has ordered 20 Rosenbauer platforms.
- Denmark's Per Aarsleff has taken a 16t Sennebogen 613M mobile crane.
- Broekman Logistics has taken a Gottwald Model 4 mobile harbour crane.
- Dubai's Al Faris has ordered 69 Liebherr cranes.

April/May 2020 cranes & access 15

- Japan's Tokuyama has ordered the country's first hybrid Kalmar straddle carrier.
- Canada's Cropac Equipment has ordered 16 new Terex tower cranes.
- Antonio Agosta of Italian scaffold & ladder manufacturer Svelt has died.
- JLG parent Oshkosh has appointed John Pfeifer as president.



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Cta

tower cranes

Tower crane growth continues

The tower crane market has been one of the more dynamic crane sectors over the past year or two, following a dire period during and after the last recession. A flood of new high rise construction in major cities around the world played a role in the change of course, but the market might also have been helped along by more American contractors using tower cranes on projects where they would have previously used crawler cranes.

This take up has continued in spite of some horrific incidents over the years that caused many US cities to implement new regulations while increasing and tightening inspection levels. The growth has also been helped by an increase in the number of rental companies offering tower cranes alongside mobiles, promoting their benefits while improving availability.

The use of tower cranes in applications where they would not previously have been considered - such as wind turbine installation, not to mention the growth in modular construction - provides encouragement that the growth will continue. It could also be said that using a tower crane is a 'greener' solution, which reduces mobile cranes on the road and traffic in and

out of job sites. Chinese production dominating

In terms of tower crane production China has become far and away the dominant producer, with most western manufacturers owning and operating plants in the country, while domestic manufacturers continue to expand adding capacity and become ever more competitive thanks to heavy investment in automation. This year, China's market leader Zoomlion claimed to be the world's largest tower crane manufacturer, having sold cranes to the value of \$1.43 billion in 2019, mostly to a strong local and regional market. The company also owns German company Wilbert which is recovering from its financial difficulties prior to the acquisition.





Large crane growth and PPVC

Other interesting trends include the introduction of a steady stream of new, increasingly large tower cranes, both fixed and luffing jib models. In the past heavy lift tower cranes were the domain of specialist companies such as Krøll. While this remains true for models over 150 tonnes, the number of manufacturers offering tower cranes with maximum capacities from 60 to 120 tonnes has grown significantly in the past year or two. One factor driving this trend is the growing adoption of **Prefabricated Prefinished Volumetric** Construction (PPVC), which is becoming increasingly popular for both residential and industrial projects. The prefabricated modules are also becoming both larger and heavier. and with the manufacturing of building modules in a factory said to offer 40 percent gains in productivity, this trend looks set to gain momentum, especially as the method is said to result in a higher and more consistent quality product, with less time spent onsite and possibly less working at height.

Hydraulic luffers on the up

The adoption of hydraulic luffing jib tower cranes - once the sole domain of the hydraulic luffer pioneer Jost - is also growing rapidly with every major manufacturer - apart from Liebherr - now offering at least one model. This factor alone will help ensure that the concept becomes increasingly widely accepted, supported by its simplicity and practicality.

The past 12 months have seen a large number of new product launches, new developments and interesting applications - here are just a few of them.

Uncomfortable timing for Jaso

Spanish tower crane company Jaso was in the process of finalising the details for the launch of the second crane in its new high capacity range - the 48 tonne J800.48 - when Covid-19 hit Spain hard, upsetting some elements of its launch plans. We can however provide details



tower cranes



of the new crane, the company's second largest tower crane behind the 64 tonne J1400 unveiled last year at Bauma.

The J800 can take its 48 tonne maximum capacity out to a radius of 23 metres or handle up to 5.1 tonnes on its 80 metre jib tip. Jaso refers to the new models as 'Low Top' cranes, as they are clearly not flat tops, however the tower head is a great deal shorter than a typical hammerhead crane, being just 4.7 metres high, and protrudes just over 2.2 metres above the top chords of the jib. The heavy duty pendants are also very short, running from the tower head to an attachment point at the end of the second jib section just under 23 metres from the front of the tower.

The company claims that as such it is dimensionally similar to a true flat top, saying: "When you compare like with like there is actually no difference in the clearance heights of flat tops and our Low-Top, because flat top designs need deeper jibs to compensate for the pendant height in order to maintain the same strength. Maintaining the separate pendants provides improved performance and less deflection thanks to the extremely short but strong pendants."

The rest of the jib can be built up with a variety of jib sections, as short as 2.5 metres, for a wide range of jib lengths. The counter jib is made up of four modular sections and can be configured with lengths of 18.6 to 28 metres. The maximum free standing height with the standard 2.16 x 2.16 metre tower system is 73.6 metres, with the tower built in 5.6 metre sections. The stronger TSP20-5.6 tower can also be used, it has the same cross section but can be built to a free standing height of 101.7 metres for jib lengths up to 23 metres or 90.5 metres with the full 80 metres of jib.

The J800 trolley can be single reeved - for a maximum capacity of 24 tonnes and 4.1 tonnes at 80 metres - or double reeved for the maximum 48 tonnes and 3.3 tonnes at 80 metres. A special single reeved trolley is used for the maximum jib tip capacity of 5.1 tonnes at 80 metres.

A choice of 150hp or 180hp motors offer line speeds up 150 metres a minute, while Lebus grooved hoist drum can store enough cable for 455 metre hook heights with single reeving 277 metres when double reeved.

The Jaso J1400

Launched last year at Bauma, Jaso's largest crane, the J1400 is also a Low Top unit and offers a maximum capacity of 64 tonnes with jib lengths to 80 metres at which the maximum capacity is 10.5 tonnes. The tower head is just 5.57 metres high but stands just three metres proud of the jib's top chords and less than a metre above the substantial counter jib which can be rigged with lengths of between 18 and 29 metres. It also folds for easy transport, allowing the





entire crane to ship in standard 40ft shipping containers.

Singapore based rental company Crane World Asia (CWA), took delivery of the first four units to be shipped, with the first working on construction of a light industrial unit, while the other three are working on a large government housing project lifting 32 tonne PPVC housing modules.

Two big Comansa flat tops

The other Spanish tower crane manufacturer Comansa has also launched high capacity models in the past nine months. The first being the 66 tonne 21LC1400 Flat top crane, which began shipping in September. The crane has an 85 metre jib as standard which can be extended to 90 metres. It is aimed at infrastructure and PPVC projects, but the company says that it has also generated interest from other sectors where heavy loads are common, such as shipyards and mining.

The crane includes a new single compact trolley hook in place of the company's single/double trolley system used on its other models, given that the new crane will mainly work on jobs where almost every lift involves loads close to the crane's maximum capacity. Comansa's new 'Quick Set' overload and lift operation system, which according to the company reduces configuration set up time from three hours to 45 minutes is standard as is the Cube cab.

Comansa's 50 tonne Asian

In December Comansa also launched the 21CM750 flat top tower crane, the largest model to be manufactured at its plant in Hangzhou, China. The new crane is available with maximum capacities of 37.5 and 50 tonnes and while it has CE certification to EN14439, it is largely aimed at the Asian market. Maximum jib length is 80 metres,





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tower cranes







with a jib tip capacity of 7,300kg for the 35 tonner and 6,700kg for the 50 tonne version. The maximum free standing height is 78.8 metres. The new crane shares several jib sections with the wider 2100 series, while the modular design of the jib and counter jib provides up to six different configurations. Features include Comansa's Cube Cab, automatic changing of the double trolley and high speed hoists. The 37.5 tonne model can be converted to handle 50 tonnes by changing the front trolley and hooks.

Tracked Potain self-erector

Swiss sales and rental company Stirnimann has taken delivery of the first six units of Potain's Hup C 40-30 crawler mounted selferecting tower crane. Developed in partnership with Stirnimann, the four tonne Hup C 40-30 is Potain's first crawler mounted self-erecting tower crane and offers a hook height of up to 30 metres, while handling 1,000kg at its 40 metre jib tip. An onboard generator provides power for travel and set up and also enables it to reposition while fully erected.

The crane has an overall transport length of 13.5 metres, a width of 2.55 metres and a stowed height of just over 3.7 metres. It can travel up or down slopes of 30 percent and manage side slopes of up to 12 percent when stowed. Once fully erected the crane can still manage inclines of up to five percent longitudinally and two percent laterally although the travel speed cuts from 25 to 10 metres a minute. Once in position the hydraulic beam & jack outriggers can be set in minutes.

Three new cranes from Terex

Terex Cranes now focuses entirely on tower and Rough Terrain cranes

and introduced a number of new cranes towards the end of last year, including its first hydraulic luffer the CTLH 192-12 - the first of a new generation of self-erecting tower cranes - the CSE 32 - and the CTT 172-8 flat top.

The all new 12 tonne CTLH 192-12 hydraulic luffer has a maximum jib length of 55 metres, with a jib tip capacity of 2.35 tonnes. The crane can be used with any of the manufacturer's HD23, TS23, TS21 or HD20 towers and has an out of service radius of eight metres with a minimum working radius of three metres. Terex says that the jib luffs from horizontal to almost vertical in two minutes. Shipments from the Terex plant in Italy were due to start earlier this year.

The new 4.4 tonne CSE 32 selferecting tower crane can handle 1.05 tonnes at its maximum 32 metre jib tip, with a maximum hook height of 21.5 metres, while the maximum hoist speed is 56 metres a minute. The crane is the first in the first in a new range of self-erectors, shipment are due to begin this summer.

The new eight tonne CTT 172-8 flat top replaces the CTT 162 and features a maximum jib lengths from 25 to 65 metres in five metre increments. The jib tip capacity at 65 metres is 1.71 tonnes. The TPP 'Terex Power Plus' system provides a controlled 10 percent temporary boost to capacity, while other standard features include the 'Easy Setup' function and 'Terex Power Match'. The crane can be used with either of Terex's exiting TS21 and TS16 towers. Shipments began at the start of the year.

Finally the company has also launched its own "easy to install" operator hoist - the T-Lift - an external mounted rack and pinion operator elevator with a 200kg



capacity, maximum lift height of 160 metres and a maximum lift speed of 40 metres a minute.

New Potain MDT

Potain announced its new MDT 569 flat top tower crane in March, with maximum capacities of between 20 and 32 tonnes and a maximum jib length of 80 metres with jib tip capacities of up to 4.2 tonnes. Maximum hoist speed is 195 metres a minute, while the crane incorporates the Manitowoc CCS control system and latest technology. It can be used with the manufacturer's new eight metre cross shaped base, which is said to be easier to assemble than its previous bases, while the crane's modular design allows for more efficient transport and faster, easier erection. Shipments of the new crane were scheduled to begin at the end of the summer.









Mark. Crane Operator

Anne, Grane Rental Company Owner

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TADANO

Richard, Service Technician

tower cranes



First Wolffkran baby luffers delivered

Wolffkran has completed delivery of the first four units of its new eight tonne Wolffkran 133.8B which was unveiled at Bauma last year. The new cranes were sold to the Plant Services division of UK retirement home developer Churchill Retirement Living. The 113.8B is the larger of a two model family - along with the 6.2 tonne 133.6B - the smallest luffing cranes in the Wolffkran range. Maximum jib length is 45 metres with a jib tip capacity of 2.3 tonnes. As with the company's larger 166 B, the new crane can be operated in single or two fall mode, while the modular tower system allows a freestanding height of 95 metres. The HW 845 FU hoist - from the 166B - provides maximum speeds of 158 metres a minute.

Mark Church, manager of Churchill Retirement Living's Plant Services, said: "The smooth erection and commissioning of the crane delivered directly to the job site has proved the quality of the product."

Based in Ringwood, Churchill took delivery of the first Wolff 133.8B last year. The latest three went straight to sites in Burnham, Hythe and Taunton. The purchase is part of the company's plan to convert its entire saddle jib crane fleet to luffing jib models.



Zoomlion's 'Intelligent' tower crane plant - Phase 2

In January Chinese manufacturer Zoomlion broke ground on phase two of its new 950 million Yuan (\$135.9 million) 'Intelligent' tower crane plant in Changde City and announced the new 'Cross Generation' W series of cranes. The new facility will include 16 new production lines, equipped with 150 robots and 10,000 data sensors operated with 'networked, intelligent production management and smart decision making'. The phase two buildings will be dedicated to the company's higher capacity tower cranes alongside its smallest cranes and hoists.

Global market leader?

At the same time the company announced that its tower crane sales had exceeded 10 billion yuan (\$1.43 billion) in 2019, claiming to be the first manufacturer to achieve this level of sales, thus making it the worldwide market leader.

In terms of new products, the company unveiled its new 120 tonne LH3350-120 luffing jib tower crane with a 73 metre internal climbing shaft allowing few climbs for ultra-high buildings and uses a relatively compact 3.25m x 3.25m cross section tower.



Five luffers for Las Vegas landmark

US-based tower crane rental company Morrow has installed five 36 tonne capacity Liebherr 542 HC-L 18/36 luffing jib tower cranes - all erected with hook heights of 210 metres - to handle steelwork, place concrete and install/move formwork on the \$4.5 billion Resorts World, Las Vegas's latest and most expensive landmark venue, located on the former site of the Stardust Resort and Casino. The resort will include a 3,500 room hotel with two towers and 32,500 square metres of meeting and banquet space.

The cranes, which can handle 4,300kg at the maximum radius of 65 metres, were chosen, says







Morrow, for their capacities, fast line speeds and level luffing feature, where the controller automatically adjusts the hoist gear so that the hook and load move horizontally on the single control movement. The client is local contractor W. A. Richardson.

Standing cranes up

The Tower Crane Interest Group of the UK's Construction Plant-Hire

Association - the CPA - issued a safety alert at the end of March regarding tower cranes left on site in an 'Out of Service' condition for extended periods and includes advice and considerations on how tower cranes should be left and managed for long out of service periods, due to long term site closures relating to the Covid-19 pandemic. *See page 59*



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tower cranes

Blowing in the wind

Could an improved understanding of the aerodynamics involving high winds help reduce tower crane failures in hurricane force gales?

When the remnants of Hurricane Dorian passed through Halifax, Nova Scotia last September one of several cranes in the city collapsed onto adjacent buildings causing considerable damage but fortunately no injuries.

When the provincial labour ministry published its report, many hoped it would offer an explanation. However, the report by John Richardson or BMR Engineering was almost totally redacted and a number of lawsuits filed in relation to the mishap have hindered an open discussion of events and causes. To gain some insight, Saul Chernos spoke to a locally based specialist engineer about potential causes and the lessons that might be learnt.

It was late afternoon on September 7th last year when crews battened down the hatches to wait out Hurricane Dorian. With wind gusts reaching 140kph, the hurricane had moved into the tropical storm category yet was soon toppling trees and power lines and causing widespread damage. Despite measures to safeguard the stricken crane, strong winds eventually brought it down onto adjacent buildings. Thankfully, no injuries were reported and so forensics were limited to the crane and structures.

Old tower, new top

It was established that due to a previous failure in the slew ring

area, the top kit of the crane had been replaced a few months prior to the incident. BMR Engineering had designed a transition section allowing the new Potain top to be fitted to the existing tower. There has been no suggestion, at least publicly, that this modification had any bearing on the collapse. Nor is it known what role the hurricane played as the crane and installation were reported to have been designed to withstand winds and gusts stronger than the storm.

A local engineering view

Dr. Fadi Oudah - an assistant professor of civil and resource engineering at Dalhousie University in Halifax - has not been involved in the investigation nor privy to any behind the scenes information or the report's redacted content. However he does see wind related factors as a likely contributing factor.

"It is a difficult question to answer without being involved in the details of the project," he said, "but there are three possible contributing factors."

"First, not properly designing the crane in accordance to the design provisions outlined in the Canadian Standard for Tower Cranes (CSA Z248), particularly the provisions related to crane stability under wind load. The crane seems to have had a large unbraced length (height) which tends to be more flexible under wind load and may cause structural instability and thus collapse under





high winds," he said. "The structural instability may be triggered by what we call 'low-cyclic fatigue' - a small number of load cycles, but with high amplitude."

Second, operation related items such as not letting the crane slew freely prior to and during the Hurricane. And third, the applicable tower crane codes and standards.

"It is possible that CSA Z248 may not properly account for extreme loadings such as Hurricane Dorian," he said. "Hurricanes are associated with both high wind speeds and complex wind dynamics. Wind pressures applied on structures vary as a function of the square of the wind speed with wind pressure increasing by a factor of four as the wind speed doubles. Cranes are designed to withstand high winds as per CSA Z248. The design wind speed is based on established wind records and statistical analysis. It is true that hurricanes come with high wind, but these winds typically fall within the allowable range used in calibrating CSA Z248."

"What really can adversely affect the stability of the tower crane in a hurricane is not the high wind speed, but the complex aerodynamics associated with the high wind speeds. Structural design codes generally assume that winds are applied uniformly on structures, but this is not the case with hurricanes. Hurricane aerodynamics are very complex and can cause collapse of structures that were originally designed to withstand high winds. The collapsed crane was positioned in the corner of two adjacent buildings (in an 'L shape). The wind aerodynamics in such a configuration may have contributed to the collapse of the crane. The aerodynamics near the corner of a building are complex and may not be suitability accounted for in design standards. A thorough dynamic analysis would be needed to confirm this," he said.

The crane's original top had been replaced a few months earlier with a locally designed tapered adaptor to allow the new crane to fit onto the old tower. Could this have been a factor in the collapse?

"It is not clear to me if there was a problem associated with the new top," said Oudah. "This typically should not be a problem if the installation was conducted properly."

Nova Scotia experiences the tail end of many Atlantic hurricanes



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tower cranes

and a lot of very powerful winds, so are there lessons to be learned and what measures should tower crane companies take to avoid such problems?

Planning for high winds

In addition to the points Oudah has already raised, he offers two recommendations to help mitigate crane collapse in future Atlantic hurricanes.

"Limit the unbraced length of the tower," he said. "Some contractors tend to build their tower crane to full height while the construction is still at basement level. This means the crane is unbraced for almost the full height. The higher the unbraced length, the more flexible the crane when subjected to high winds, the higher the lateral drift and the more adverse the effect of low cyclic fatigue. I suggest restraining the allowable crane height as a function of the number of storeys that have already been built. Research should address the maximum allowable unbraced length."

"Secondly, study the aerodynamic behaviour of tower cranes subjected to Atlantic hurricanes. The location



of the crane within the site may influence its ability to withstand hurricane loads. Placing the crane near the corner or 'L' shape configuration may have contributed to the collapse of this crane due to a complex wind profile near the corner. Perhaps future research can tell us where to place the crane within the site to mitigate adverse wind effects."

But are there lessons to be learnt from other recent tower crane failures and is the use of aging tower cranes or components an issue?

"If there is one thing that should be learned from recent collapses is the importance of proper crane inspection," he said. "The word 'aging' in structural engineering typically refers to loss of strength over time. Aging of steel structures such as cranes manifests in increased section loss due to corrosion. Part of the inspection process is to identify possible corrosion spots however, if the crane is properly painted this should not be a major concern." Ultimately, Oudah thinks wind



aerodynamics are likely to have played a role in the mishap. However, even if this is not the case, he considers wind to be an area deserving further investigation by the crane industry and standards bodies. "Current research looks at evaluating the structural performance of cranes in hurricanes," he said. "Although



Perhaps structural related guidelines can be developed to assess and evaluate cranes for hurricane type loads."



The changing face of boom lifts

You might be forgiven for thinking that the selfpropelled boom lift sector is a mature market. It is after all more than 65 years since the first selfpropelled boom appeared and 50 years since JLG launched the first telescopic boom lift. Yet we have seen more changes and innovation over the past five years than in the previous 25! We take a look at 50 years of JLG, the development of the mega boom and the latest new products.

As far as we know, the very first self-propelled boom lift was the Orchard Girette designed and built by Ted Trump in 1956. Trump ran an agricultural repair business in Oliver, British Columbia, Canada and had introduced a towable platform in 1953, the three wheeled Girette. Both units were conceived for apple picking in what is Canada's wine region - yes it does have one.

The Cherry Pickers

In the late 1950s John Baerg - a farmer from Dunuba in California's central valley - developed a more refined 21ft self-propelled boom lift for picking fruit - including cherries - and pruning trees, which he called the Tree Farmer. It was a simple machine with a fixed boom and single person platform, but crucially it could be operated and driven from the basket at height.

In 1961 Carl Ruegg - owner of local manufacturer Selma Trailer - looking for new products to reduce the company's dependence on farm trailers, purchased the designs for the Tree Farmer, shipping the first Selma-built units in 1962. That same year he developed the Tree Master, a more sophisticated version with the same 8.5 metre working height, a larger platform, hydraulic power to the platform and options to appeal to contractors. airlines and other trades. In a bid to shed the agricultural image, Ruegg introduced the Manlift brand



originally as Selma Manlift. Higher machines followed in the form of long twin boom articulated models with platform heights up to 47ft - 16 metres working height.

The move into rental

Ruegg was also instrumental in getting self-propelled lifts into the rental market when he approached Bob Irving who ran a multi store rental company in the Los Angeles area. He sold him two units and rented him two to help ensure a proper market evaluation. The machines took off after Irving gave his salesman, John Parker, the freedom to give resistant end users a free trial period, before committing to renting them. Irving was later involved in the first self-propelled scissor lift when he encouraged Ruegg to convert a Sky Witch push around scissor lift - but that is another story.

As an aside, Bob Irving and John Parker began assembling their own scissor lifts under the Marklift brand, named after Irving's son Mark. The business went on to become market leader, but that is also another story.

50 years of telescopics

Telescopic boom lifts did not arrive until 1970 when a company called Condor Industries - established



a year earlier by three ex Grove crane employees, John L. Grove, Paul Shockey and Ben Stevens unveiled the 27ft Condorlift 2732 (10m working height). A 65ft boom followed in 1972, and an 80ft basically a 65ft with outriggers and longer boom - in 1973. That same year the Condor name was dropped in favour of JLG following a legal battle with Calavar over the Condor name but that is also another story. John Grove had refused to use his initials - Landis was his middle name - for the company's products when the business was founded, as







boom lifts

he was still fighting skirmishes with Grove Manufacturing, and feared it might handicap the fledgling business. But in 1973 he gave in and the JLG name was born.

Selma Manlift on the other hand was purchased by Illinois conglomerate Chamberlain in 1973, just as it had shipped its first telescopic model, the 30ft MZ36 (Manlift Zoom 36ft working height) with an 11 metre working height and a list price of \$11,500! In 1979 the company was purchased by Grove as part of the crane company's feud with John Grove and JLG. In 2004 JLG had the last laugh when it acquired the Manlift business, keeping its Toucan mast boom business, but retiring the Manlift boom and scissor lift products.

Cta

With self-propelled boom lift platform heights stuck at 110ft JLG and others focused on eliminating the need for outriggers, with hydraulically extending axles appearing for the first time in the late 70s. The next big change came in the1984 when Genie introduced its first boom, the Z-30/20 articulated boom lift. It was certainly not the first articulated boom, but it was the best and worked and changed the market but that is another story. The next big breakthrough came 1991 when JLG launched the 150ft 150HAX articulated boom lift - a real beast and only moderately successful.

The Manlift

MZ36 in 1973.



Breaking through 150ft

Platform heights then remained unchanged, topped by the aging JLG 150HAX until April 2013 when Genie unveiled its 180ft SX-180 straight telescopic boom lift with two section rotating articulated jib at Bauma that year. The following year JLG launched its 185ft 1850SJ with both machines going on to sell well. In late 2018 China's XCMG nudged the envelope with the launch of the 186ft GTBZ 58S, essentially a copy of the JLG 1850SJ. It has not been a great success - at least internationally - although machines have been delivered to a few companies in China.

The first self-propelled telescopic made its debut as the Condorlift.





AERIAL PLATFORMS

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The Snorkel 2100SJ sets new standards in mega boom design

In terms of larger booms we seemed to have hit the ultimate limits, with most manufacturers stating that while a higher self-propelled machine was perfectly possible, transporting such a machine was impractical, and it would require a working footprint as big as a truck mounted lift. However.....

Snorkel surprises

The 185ft barrier was blown wide open in March with the surprise launch of the 210ft Snorkel 2100SJ. Not only is it the world's largest self-propelled lift with a working height of 66 metres - 7.6 metres more than the 185ft booms with five metres more outreach - but it also incorporates numerous innovations.

The working envelope is not only extensive - thanks to a 9.1 metre telescopic jib with 128 degrees of articulation - but most of it can be reached with the maximum 454kg platform capacity. The machine only switches to the 300kg unrestricted capacity when the jib is telescoped. The chunky looking chassis features similar X-type swing out 'legs' to the other three mega booms, but they operate guite differently. Each wheel can turn up to 90 degrees, thanks to a double jointed steering crank, allowing the legs to be driven, rather than pushed out. This provides a smooth extension, even when the machine is static, without damaging the ground, causing stress on bearings or tyre scrub. With an overall weight of 36 tonnes this is important. The feature also provides a fifth 'Lateral' steering configuration, meaning it can drive sideways - perfect for parallel parking - in addition to the usual front, rear, crab or coordinated.



While the 2100SJ's weight can be a challenge to transport it is much the same as the others, with an overall transport width of 2.49 metres and stowed length of 14.9 metres.



The machine also has a good number of thoughtful features such as a remote lower controller which can function wirelessly or tethered, making loading and unloading both safer and easier. When not in use it clips into a dedicated storage locker. Both upper and lower control panels include a seven inch colour LED screen with multi-lingual user interface, including operator information such as the pre-start procedure in a visual checklist format, service reminders, onboard



The remote lower controller.

Mega boom comparisons						
Snorkel 2100SJ	JLG 1850SJ	Genie SX-180	XCMG GTBZ58S			
66m	58.4m	56.9m	58.6m			
30.5m	25m	25m	25m			
454kg	454kg	340kg	450kg			
300kg	230kg	340kg	230kg			
Tele 9.1m	Tele 4-6.1m	3.05m	Tele 4-6m			
128°	120°	135°	120º			
No	No	Yes - 60°	No			
5.49m	5.04m	4.72m	5.03m			
8.2m*	7.0m*	6.5m*	7.5m*			
2.49m	2.49m	2.49m	2.49m			
36,290kg	27,350kg	24,950kg	27,200kg			
14.9m	14.6m	13m	14.6m			
	Snorkel 2100SJ 66m 30.5m 454kg 300kg Tele 9.1m 128° No 5.49m 8.2m* 2.49m 36,290kg 14.9m	Snorkel 2100SJ JLG 1850SJ 66m 58.4m 30.5m 25m 454kg 454kg 300kg 230kg 700kg 230kg 128° 120° No No 5.49m 5.04m 8.2m* 7.0m* 2.49m 2.49m 36,290kg 27,350kg	Snorkel 2100SJ JLG 1850SJ Genie SX-180 66m 58.4m 56.9m 30.5m 25m 25m 454kg 454kg 340kg 300kg 230kg 340kg 300kg 230kg 340kg 128° 120° 135° No No Yes - 60° 5.49m 5.04m 4.72m 8.2m* 7.0m* 6.5m* 2.49m 2.49m 2.49m 36,290kg 27,350kg 24,950kg 14.9m 14.6m 13m			

*Approximate from drawings



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boom lifts



The fold-away secondary inching controller

diagnostics and troubleshooting. The platform features a secondary set of mini 'inching' controls which fold out from the rear guardrail and includes all functions apart from drive, allowing the operator to make fine adjustments to the platform position while facing the work.

Big articulated booms

As already mentioned, the top end of the articulated boom market remained at 150ft for 29 years, with JLG finally replaced the aging 150HAX in 2016 with the far more practical and attractive 1500AJ, but the same 47 metre working



height. However last October Chinese manufacturer Sinoboom unveiled the 153ft GTZZ46J articulated boom lift. It is similar to the JLG 1500AJP in design concept with a three section telescopic riser/lower boom, three section upper boom and articulating jib.

Although the working height is 48.6 metres, the maximum outreach is claimed as 25.5 metres with the unrestricted capacity of 275kg, while the maximum capacity of 455kg is available to 19.1 metres. Overall weight is 26.3 tonnes. Shipments are planned for later this year, but it is rumoured that two units are already working on a project in China. On the surface the new model adds little in terms of technological breakthroughs, but does offer buyers, particularly in China, with an alternative to the JLG.

No Genie?

Genie has left the 150ft articulated boom market to JLG, and comparing



The 150ft JLG1500AJP



Top end articulated booms						
Make	Sinoboom	JLG	Genie			
Model	GTZZ46J	1500AJP	ZX-135/70			
Working height	48.6m	48.2m	43.15m			
Working outreach	25.5m	23.5m	21.26m			
@ Up & Over height	17.5m est	18.4m	23m			
Platform capacity max	455kg	450kg	272kg			
Capacity unrestricted	275kg	270kg	272kg			
Jib length	2.45m	2.44m	Tele $3.6-6.1m$			
Jib articulation	150°	130°	110°			
Jib rotation	No	125°	No			
Working width	5.0m	5.0m	3.94m			
Working base length	5.5m	5.5m	5.4m			
Transport width	2.5m	2.5m	2.49m			
GVW	26,300kg	26,027kg	21,092			
Transport length	12.3m	12.1m	12.93m			

the specifications with its well proven 135ft ZX-135/70, you can understand why it might not have invested R&D funds in a 150... the outreach on its 135 is already similar while up & over height is better! And for those that need 48 metres working height it has the 150ft SX-150 telescopic which also has over 24 metres of outreach and 340kg platform capacity.

More modest developments and innovations

Most manufacturers have been spending their research & development dollars on more mainstream new boom lifts including some exciting and truly innovative models, while others have focused on simpler more cost effective units. Here are some of the latest new product launches.

Niftylift electric drive

Brand new 'breakthrough' products from Niftvlift are far and few between although when they do arrive they tend to be significant, such as the 86ft HR28 4x4 hybrid in 2012. More recently it has tended to focus on the quiet introduction of some serious and fairly major updates to existing models that most other manufacturers would have launched with much 'razzmatazz'. Most recent among these is a substantial upgrade to its well respected 44ft HR15N and 50ft HR17N narrow aisle zero tailswing electric boom lifts. The new lifts feature direct electric drive, with dual DC electric wheel motors on the rear axle, a new multi-functional CANbus electrical control system and choice of Lithium ion or AGM maintenance-free battery packs. The combination of lithium pack and super-efficient drive train is said to offer a Standard Duty Cycle rating of 70, enough for up to four single shifts, based on typical usage. The technology builds on the direct drive and control system introduced on the 63ft all electric HR21E in 2017.

As to specification, the major features remain unchanged with





direct electric drive and can go four shifts between recharges

both machines sharing the same two section telescopic boom and jib with 150 degrees supported by a dual arm sigma type riser - the riser arms on the HR17 are longer. The specifications are as follows:

Model	HR15N	HR17N
Working height	15.5m	17m
Max outreach	9.7m	9.7m
Up & over height	5.5m	7.0m
Platform capacity	225kg	225kg
Overall width	1.5m	1.5m
Transport length	4.93m	4.93m
GVW	7,250kg	7,780kg

Niftylift features such as the SioPs built-in anti-entrapment system and Tough Cage are standard as is the new Niftylink telematics and diagnostics suite. A diesel power pack is also available to create a hybrid version.



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boom lifts

There is still no news on the company's first telescopic boom, the 65ft HR22S4x4 hybrid, seen as a prototype at a company event in 2017 - could it be close?

Skyjack + models

While Skyjack has not announced any sexy new models - just yet - it has been updating existing products - see interview with president Ken McDougal page 47. New versions of its 40/45 and 60/66ft telescopic boom lifts include a new control system, dual platform capacities and a three person rating. The upgraded models carry the '+' suffix. The SJ40T+ and SJ60T+ will only be sold in the Americas, while the 45T+ and 66T+ will be available globally. On the SJ45T+ the 454kg maximum platform capacity is available with up to around 10 metres outreach, while maximum outreach is 12.1 metres with 300kg unrestricted capacity. The SJ66T+ has an outreach of around 14 metres with 454kg capacity, while maximum outreach is 17.4 metres with 272kg. When the platform approaches the edge of the high capacity zone, an amber light warns the operator. If he continues the telescope and boom down functions will stop, obliging him to retract or elevate the boom back into the safe zone. The same warning and lockout occurs when the machine is overloaded in the unrestricted capacity zone, with functions locked until the weight is removed. The emergency lowering system remains active in both cases. The improved control system integrates with Skyjack's Elevate telematics programme, while the usual Skyjack features are all included.

Haulotte's all American boom

In February Haulotte unveiled the all-new 46ft



HT16 RTJ Pro telescopic boom lift with dual platform capacity, four wheel steer and drive and its latest technology. The new model was designed and will be built at Haulotte's North American facility in Ohio, where it is marketed as the HT46 RTJ Pro.

The new lift has a two section boom topped by a 1.8 metre jib with 133 degrees of articulation -68 degrees above and 65 degrees below horizontal - with a working height of 16.1 metres, and an outreach of up to 13 metres with the 250kg unrestricted platform capacity. Maximum capacity is 350kg, available up to 11.6 metres outreach. Power comes from a small Stage V Kubota, with Haulotte's Stop Emission system that cuts the engine when idling and no particulate filter. Overall width is 2.29 metres and overall height 2.27 metres or just over three metres when the platform is tucked under for the reduced transport length of 6.68 metres. Overall weight is 7,930kg.

Standard features include oscillating axle, 360 degree continuous slew, Haulotte's Activ' Shield bar, Activ' Lighting System, Activ' Screen on-board diagnostics, a limited slip differential with operator controlled lock, a Universal telematic plug, solid Rough Terrain tyres and rotating beacon.

Genie's new 'J' series

Genie has introduced two models in a new 'J' series of telescopic boom lifts, the 60ft S-60 J and 80ft S-80 J. They are lighter in weight, simpler in design and easier to transport and will run alongside the company's exiting heavy duty S-65XC, S-80 XC and S-85 XC models.

The S-80 J has a three section boom, 1.8 metre jib and 26 metre working height, with up to 16.8

metres of outreach and an

Oscillating axle and solid RT tyres are standard on the Haulotte



unrestricted platform capacity of 300kg. It weighs just 10.4 tonnes, including four wheel drive and oscillating axles, thanks to its low weight it is also the first 80ft boom available with Genie's four track TraX crawler option.

The S-60 J has a simple two section boom and 1.8 metre articulated jib, offering a working height of 20.5 metres, 12.3 metres of outreach and an unrestricted platform capacity of 300kg. Total transport weight is just 7,550kg - drastically lower than the 11,400kg of the S-65XC. The superstructure also has an additional off-centre transport lock location in order to allow two booms tow take up less space on a trailer.

Power for both models comes from a Kubota Tier 4F/Stage V diesel, driving all four wheels with Genie's active oscillating axles. The Genie Lift Guard Contact Alarm and Connect telematics system are standard with a digital LCD screen at the ground controls providing real time data and troubleshooting. The new models are fully compatible with the Genie Tech Pro Link



handheld diagnostics tool and meet global standards, allowing a single model to easily adapted for sale in North America, Europe or Australia.

JLG Self Levelling

In March JLG unveiled the final fruits of its five year 'journey' to build a dynamic self-levelling boom lift in the form of the 67ft 670SJ Self Levelling. The programme began back in 2015, with a scale model of the idea appearing at Bauma 2016. A 46ft concept machine was displayed at Conexpo the following year and three years later the pre-production version appears to have passed its initial testing, with production likely by the end of the year.

The boom's wheels are mounted on four vertically 'floating' arms or legs, each controlled by a long stroke hydraulic cylinder with three levelling modes - semi-automatic: with boom retracted and horizontal it travels like a regular boom with an oscillating axle. When it stops on uneven or sloping ground, the tilt sensor records the out of level

The 46ft Haulotte HT16RTJ Pro

capacity Skyjack SJ66T+

The dual

The S-80 J is available as a TraX crawler format.



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boom lifts



condition, limits boom elevation to a few degrees above horizontal, in the same way as a regular boom complying with the new ANSI standard. However on the 670SJ Self Levelling, when the elevate function stops the machine automatically levels itself, on inclines of up to 10 degrees. Once the chassis is level the boom can be elevated to full height. It is then in dynamic auto-levelling mode allowing the operator to drive the machine at full height with the chassis constantly adjusting to the changing ground conditions and maintaining a level platform. Finally when it comes to transport, once the machine is loaded on a trailer the operator can activate Transport mode which lowers the chassis until its base plate is just over 12mm above the trailer deck, providing a lower load height and centre of gravity.

The 670SJ Self Levelling has four wheel drive and the same three section boom and jib as the regular JLG 660SJ, with a little more working height at 22.5 metres, maximum outreach is 17.4 metres with 250kg, while maximum platform capacity is 340kg.

Triple capacity JLG HC3

As with other manufacturers JLG has responded to the new ANSI standard requirement for overload control with dual - or in its case triple - platform capacity versions of its boom lifts in the form of the 40ft



400S HC3, 46ft 460SJ HC3, 60ft 600S HC3 and 66ft 660SJ HC3. All four models have an unrestricted platform capacity of 300kg, a maximum platform capacity of 454kg and a third work envelope with 340kg. The new models will run alongside the existing models.

Sinoboom

In addition to its new 153ft boom, Sinoboom is finalising CE approvals on the more modest 52ft battery powered GTZZ16EJ. The new boom has dual sigma type risers, two section telescopic boom and jib with 142 degrees of articulation for a 17.7 metre working height, with 9.3 metres outreach at an up and over height of 7.8 metres. Overall width is 1.9 metres, with close to zero tailswing. It should be available later this summer, possibly at the opening of the new Sinoboom Europe facility in July.

All electric Dingli RT booms

In March China's leading manufacturer Dingli announced plans for a full range of lithium ion battery powered Rough Terrain boom lifts. First out is the articulated 86ft EAB28ERT with a working height of 28.1 metres, and 19.1 metres of outreach at an up and over height of just over nine metres. Maximum platform capacity is 454kg with an unrestricted capacity of 230kg. Performance is said to be the same as the 86ft diesel model with which it shares the vast majority of its componentry, including four wheel drive/steer and telehandler drive line with differential locking. Power however comes from an 80 Volt/520Ah lithium battery pack feeding a large AC electric motor. The machine is equipped with two charging modes, a 1.5 hour quick charge system and a six hour slow charge programme. The company claims that the fully charged battery pack will last three to four typical eight hour shifts





before needing to be recharged. Dingli is including a five year full replacement warranty on battery pack, triggered if performance declines below 70 percent of rated capacity during that time.

The new model is the first of a seven model electric boom lift line which will also include the 73ft EAB24ERT articulated boom,



and four telescopics - the 92ft ETBJ30ERT, 86ft ETB28ERT, 80ft ETBJ26ERT and 73ft ETB24ERT.

A smaller telescopic

California-based MEC has launched the all-new 34ft 34-J telescopic boom lift, a more compact full performance Rough Terrain straight telescopic with four wheel drive, oscillating axle, that is more manoeuvrable, lighter in weight, and easier to transport than the typical 40 or 46ft boom lifts.

The 34-J has a two section boom and jib with 135 degrees of articulation to provide a working height of 12.2 metres, an outreach of eight metres and an unrestricted platform capacity of 227kg. It includes a full size - 1.83 metre wide by one metre deep - platform with three entrance gates and three fully proportional joystick controllers. The new machine has been developed in cooperation with United Rentals, which says that 40/46ft telescopics are all too often only used for work at heights of six to 10 metres. While there are plenty of articulated booms at this height - such as the Genie Z-34/20IC, Nifty HR12-4x4 and narrow electric booms, telescopics below 40ft simply do not exist.

Make MEC Snorkel Genie Nifty Genie Model HR12 4x4 34-J Z-34/22ic A38E Z-33/18 Work height 12.2m 12.2m 12.54m 13.5m 12m 6.78m Outreach 8m 6.1m 6.1m 6.1m Capacity 227kg 200kg 227kg 215kg 200kg 0/A width 2.33m 1.85m 1.6m 1.5m 1.5m Platform size 1.1x0.65M 1.42x0.76m 1.11 x0.69m 1.17x 0.76m 1.83x1.0m GVW 3,630kg 3,470kg 4,929kg 3,880kg 3,665kg Yes Yes Yes 4x4 No No Oscillating axle Yes No No No No Jib No Yes No Yes No

The 52ft Sinoboom GTZZ16EJ will be available soon The triple capacity JLG 660SJ HC3

34 cranes & access April/May 2020

Moving in the same direction

Last month the International Organisation for Standardisation (ISO) published a new standard for the design of aerial work platform controls - ISO 21455:2020 Mobile Elevating Work Platforms -Operator's Controls. C&A chatted with Chris Wraith of Access Safety Management (ASM) who has been involved with the issues and events leading up to the new standard for more than 15 years while working with Nationwide Platforms, IPAF, and - more recently through ASM - Australia's EWPA. We also spoke with manufacturers and rental companies to gauge reactions to its introduction and the effect it will have on platform controls going forward.

Are diverse controls a problem?

"To a regular operator who has their own machine or always hires the same make or model of platform then it is not an issue," says Wraith. "However, to someone who uses multiple platforms from different manufacturers or for the occasional user hiring a platform, it could range from being an annoyance right through to life threatening."

Since its introduction more than 60 years ago, the powered access industry has grown consistently to the point where there are more than 1.5 million platforms available for rent with hundreds, if not thousands, of different models in use every day worldwide. Most manufacturers have designed controls in isolation, based on risk assessment and their views of what is intuitive, safe and user friendly. But with many different layouts in circulation, it is easy to see how an operator might become



confused when switching between different platforms. The fact that most platforms are rented means an operator can receive a completely different platform every time they rent one, even if they always use the same type of lift.

In the majority of incidents, where an operator unintentionally moves the controller in the wrong direction, or selects the wrong function, it comes to nothing more than going up for an instant, rather than down, left instead of right or forward rather than back etc... but there have

<image>

•

standardised controls

been cases which have resulted in significant damage to platforms, the work area, or more critically serious injury and fatalities.

When did standardisation become an issue?

The subject was first raised at an IPAF manufacturer's meeting in the 1990s, but apart from a general agreement that controls should be laid out in a logical and intuitive manner it came to nothing. Trying to quantify logical and intuitive was never considered, in the fear that a standard would inevitably be 'over prescriptive' and stifle innovation and development.

This began to change after a major contractor and the UK's Health & Safety Executive (HSE) began following up on a series of fatal entrapment/crushing incidents in the early 2000s.

"In 2005 the HSE advised manufacturers of the possible need to address controls against sustained involuntary operation. Then in response to a number of entrapment incidents between 2003 and 2009, the HSE commissioned the Health & Safety Laboratory (HSL) to undertake a three phase research programme gathering and analysing data on all worldwide entrapment incidents, analysing control designs to verify they met current standards and finally. interviewing the industry to identify hazard and risk perceptions," says Wraith.

Four years later the HSE published its RR961 and RR960 research reports. Designed to 'identify possible human factors behind entrapment and sustained involuntary operation incidents', results revealed that in 21 percent of the 47 entrapment incidents analysed, operators had chosen the incorrect control, while in 60 percent of cases it was attributed as a possible factor in the incident.

As well as offering a range of possible causes of entrapment incidents, from poor ground conditions to operator training



The number of different lifts in use is enormous.



standardised controls



and experience - the report stated that the "standardisation of control designs would reduce the occurrence of skill based errors which occur when an operator changes from one platform to another".

Intervening years

In the four years it took the HSE to compile its report, the issue of entrapment became a hot topic with several major UK contractors - which was slightly unexpected given the relatively few incidents - however manufacturers were obliged to take the issue more seriously. The general consensus among manufacturers was that control layout played a relatively minor role in such incidents and that improved awareness to the risk, correct planning and improved operator training and familiarisation would be a far better solution. In the UK this led to the Strategic Forum for Construction Plant Safety's 'Best Practice Guidance for MEWPs in 2010.

During 2011/12 while awaiting the research reports, and perhaps prompted by initial findings and further entrapment incidents, the HSE approached individual manufacturers to try to understand the standards and criteria they considered when designing controls.

"Concerns were raised during a meeting of the IPAF Manufacturer Technical Committee regarding the HSE design access request to individual manufacturers," says Wraith. " members told the HSE they were willing to co-operate in a positive manner but only as a collective body."

Given the global implications of the work being carried out and with many major manufacturers based in North America, IPAF reached out to the Association of Equipment Manufacturers' (AEM) to form a joint working group, which became the MEWP Industry Manufacturer Group (MMIG). In 2013 the industry group began a positive co-operation with the HSE and the HSL to identify human factors and ergonomic considerations for control design.

"Once the data was collated, documents were exchanged and an in depth consultation followed," says Wraith. "The result of this frank, open and positive co-operation was that the HSE acknowledged that 1) manufacturer's design standards did consider ergonomic and human factors and 2) manufacturers were exceeding the requirements of current design standards."



The discussion then turned to how best to document the work. "All agreed the most effective way to influence control design was through a new ISO standard. Developing guidance or a white paper would have been quicker but not as effective. On top of which, creating an ISO standard would also reduce any barriers to adoption by individual countries."

So in June 2016, the first meeting of ISO TC214 WG1 took place in Seattle to start work on the ISO 21455 standard which was introduced last month.

What is in the new standard?

"Currently the major manufacturers do have some standardisation of layout – drive controls for booms are generally on the right and lift/lower controls are on the left," comments Wraith. "The new standard starts to recognise and formalise that fact, it also adds spacing and size requirements and directions of movement. So it is far better than the void we had previously as it provides an international benchmark for manufacturers to consider when designing controls."

The standard builds on existing work done carried out by manufacturers to provide the performance requirements, position, location and markings of all finger, thumb, hand, and foot controls used by an operator.

The areas that have been defined include:

- Maximum/minimum forces of controllers
- Maximum/minimum sizing of controllers
- Location and distances of controls
- Movement, operation, and orientation of controllers
- Layout and grouping of controls Markings of controls








RIGHT-SIZED OPTIONS FOR EVERY JOBSITE







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standardised controls

For the most part, guidance on the positioning, layout, grouping and markings has been based on current practice and standards as well as user comfort and usability. Most if not all modern control boxes are likely to comply already, with a few requiring minor adjustments to do so. Other areas of the standard, such as direction of travel and boom movements, might be a little more challenging.

"For some, little change will be required while others may require significant redesign of the control panel layout and orientation. One of the burning questions throughout the drafting stages concerned the movement and orientation of the lift and drive controls," says Wraith.

The new requirement ensures the movement of the controller - both for travel and boom/platform movements - corresponds to the general direction of the response. Put plainly, up goes up and down goes down. It sounds like an obvious decision but given that most controls are mounted on a horizontal plane where 'up or down' is actually 'forward or backward' it is actually anything but simple - something that was confirmed during the research undertaken by IPAF and EWPA on behalf of the standards drafting committee, which asked operators of varying experience to instinctively choose which way operated up and which was down using a dummy controller set at various angles.

In order to help operators visualise and orientate which way up and down is, work platform controls will now need to be mounted at an angle to the work platform floor when in the neutral position. In this position, up and down should always be relative to the angle of the platform floor and instinctive to anyone looking at it.

Broader requirements have also been introduced to ensure controls are laid out in a similar fashion just as a car's clutch, brake and accelerator are always in the same position. Also that all 'up, forward, clockwise, to the right and pressing down' movements result in either turning equipment on or causing the selected function speed to increase, while all 'down, backwards, anticlockwise, to the Left, or releasing' movements turn a





function off or decrease the speed. Likewise, when using stacked/ banked lever operated controls up should always be slew/rotate right while down should be left.

Additional changes which are likely to affect some manufacturers is the need for a separate enable function to protect against inadvertent activation, it will require





the controller to be in the neutral position before it can be activated and only to remain activated while operating the function, with a reset required after no more than 10 seconds of inactivity.

"Some manufacturers have voiced concerns over the challenges they face to comply with the movement of the controls, but I believe the



greatest challenge to conforming will come from manufacturers of multi sectional booms and 'complex' jib designs as well as ones that fold under, "says Wraith.

The standard means that control panels will need to be tilted to a particular angle, enable switches added and where necessary the direction of movement in relation to the controls changed.

How important is its introduction?

This is simply an international standard, not legislation, however given how well it has been received by the manufacturers and rental companies we spoke to, it is likely to be adopted rapidly, particularly on new models. Although in the short term it may of course add to the confusion.

"While it will not happen overnight I believe most manufacturers will conform over time. It could be 10 years post adoption before we really start to see the benefits of control standardisation," says Wraith.



"However, it was agreed that it was wrong to sit back and do nothing. Perhaps customer demand will drive the speed manufacturers adopt the standard? Manufacturers may also want to minimise any exposure to legal action following an incident where their control design differs from the new standard."

The point is any change - however small - that has the potential to prevent an incident or to save a life should be encouraged and welcomed. And although the effects will not be immediate, over time operators should be able to move between machines of a similar type and be instinctively familiar with the controls. Training and familiarisation will of course also be simplified.

Wraith adds one more point: "The HSE lead in the early days was Joy Jones and towards the second half of the project, Ray Cooke these two individuals should receive a great amount of credit for the time and effort they dedicated to this matter with a willingness to co-operate with the industry to further improve the safe use of powered access."

So what next?

"I would like to see improvement in telematics and common accessibility to analysis of control/function movement. Such data would be invaluable when investigating accidents as it would confirm which control was moved in which direction and in what sequence. Currently we only have the operator's word - if they are alive! The standardisation of placement and functionality of ground control emergency lowering function will hopefully be considered in the next revision of ISO 21455."

Timeline of Events

- Early 2000s UK's HSE voices concerns over control design following entrapment fatalities.
- 2005 Following another fatal entrapment incident, the HSE advises manufacturers of the need to safeguard controls against sustained involuntary operation.
- 2005 HSE begins working with the joint CPA-IPAF Powered Access Interest Group on controls and sustained involuntary operation.
- 2009 HSE commissions research programme on entrapment incidents.
- 2011/2012 HSE approaches individual manufacturers for access to their control designs, before IPAF's MTC agrees to represent them as a collective body. AEM and IPAF form a joint group - the MMIG - to address the issue with the HSE.
- 2013 HSE publishes its RR 961 and RR 960 research reports
- 2013-2016 The MIMG and HSE start work on identifying human factors and ergonomic standards for control design.
- 2016 The first meeting of ISO TC214 WG1 starts work on the ISO 21455 standard.
- 2020 ISO 21455:2020 Mobile Elevating Work Platforms Operator's Controls is published





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Manufacturer and rental company comments



"Although the standard was written to provide to promote consistency in both control operation and operator interaction with the controls, there is still opportunity for innovation to improve that functionality. The most noticeable change for an operator will be the mounting angle of the controls to help distinguish the directionality of lifting and driving operations. Our controls are currently mounted at an angle to make this distinction, but the new standard specifies a higher angle is used."

lan McGregor, director of product safety Skyjack

"Despite some truck mounted manufacturers being present on the ISO group, the development of this standard is led by the self-propelled manufacturers. The current version does not perfect fit the requirements and needs of the truck mounted market. We must also consider th next revision of the EN 280, which will, we think introduce new principles resulting in

Roberto Marangoni, international sales director Multitel Pagliero

"Changes to ease the learning curve of platform operation and to make achieving the goal of safe and productive operation easier are a good thing. Most platforms already have similar types of functions, the standard has done a good job in standardising the similarities, while allowing flexibility for each manufacturer to differentiate themselves in the details. It is not overly constraining and should be an overall positive change for the industry. Most of Genie's controls already comply with the standard, in intent, if not in full technical detail, but this could be achieved with 'tweaks' rather than redesigns."

Zach Gilmor, product manager Genie

"The standard brings together the latest guidance and best practice on platform ergonomics and presents the key requirements in one place for manufacturers and designers to use. Although we have always met or exceeded existing standards, this one will fill the gaps in relation to ergonomic and human factor requirements and is a positive step in reducing the issue of diverse control layouts. The majority of Niftylift machines will already comply with ISO 21455, however older models, such as full flow hydraulic designs, will be updated as part of continuous improvement programmes to introduce any new principles from the standard."

Steve Redding, development director Niftylift



"When I was the president of IPAF in 2004-2006 we proposed work on the standardisation of controls – so we are really pleased to see the standard is now published. The main objective was to increase safety for users, but it has required many meetings between the HSE, IPAF's Technical Committee and manufacturers, to investigate the similarities and differences between control panels from various manufacturers. Today the question is: will all manufacturers conform to the new ISO or not?"

Pierre Saubot, president of Haulotte



"At Snorkel, we believe that controls that are intuitive are the most easily understandable for an operator. From an ergonomic perspective, standard positions of controls are good guidelines to ensure the majority of operators can see and use the controls without undue stress. Most manufacturers have already ended up with these philosophies based on common sense and experience. While there are certainly some benefits of a standard like this, it must not be so strict that it limits future innovation and improvement."

Jeffrey Eckhardt, chief engineer Snorkel

"We first called for standardisation of controls over 10 years ago when our incident analysis began to show there was a potential risk of trained operators making a mistake when moving from one make of machine to another. It may sound simple to solve but determining the best way for any particular control to function is anything but simple and has involved wide ranging engagement to ensure the best solution possible. I have been impressed in the way the manufacturers have worked together to determine a common standard. It will be incumbent on hire companies and equipment owners to ask the question though as part of the tender process."

> Mark Keily, HSE director Loxam Powered Access Division



"The current lack of standardisation across platform controls is a significant issue, especially for the operation of scissor lifts. The lack of consistency around which direction to operate the controller for lift/lower operation across various models available for rent must increase the risk of accidents. Ensuring the effective familiarisation to every operator, for every hire, is a real challenge. Often the operator is not on site when the equipment is delivered and when they are, they frequently refuse to accept a familiarisation, insisting they have used the equipment previously and as the hire company we have no way of confirming this. Standardised control systems should reduce the risk in these instances.

Ben Hurst, chief executive Horizon Platforms

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The Great Social Experiment

With the outbreak of Covid-19 completely disrupting how businesses operate, we have all been thrown into a massive remote working experiment. C&A takes a look at how companies in this sector are adapting to the 'Lockdown' together with the information and technology available and useful tips on successfully managing working from home.

Covid-19 Pulse Survey

Earlier this month we conducted an online survey of rental companies which yielded a few unexpected results.

The following questions were posed to a wide variety of rental companies, mostly in Europe and including the UK. The results are the simple averages of the responses.

What is the current status of your staff?



Perhaps unsurprisingly, the average percentage of furloughed staff throughout Europe was high at 56 percent. In some cases as high as 90 percent, with companies either running a virtual business or completely shutting down for a period. Many larger rental companies such as Nationwide Platforms and Kiloutou closed locations, focusing instead on serving essential projects and contracts from a few key locations.

Among the respondents the percentage of the workforce still working as normal, including office, workshops and mobile (delivery drivers and mechanics), averaged 30 percent, not surprising given the nature of the business.

Remarkably, only 14 percent of employees have been working actively from home, possibly due to that fact that few companies are set up to enable this to work for more than a few staff. The fact that so many are furloughed is also a factor. There have also been cases of furloughed staff being asked to work from home but not in our industry of course! In most countries this is illegal, however training is allowed while furloughed and with so many courses now online this might be the time to improve staff skill sets?

What has happened to utilisation?



Even with high levels of staff furloughed or working from home it seems that most rental companies have managed to maintain utilisation rates at between 30 and 60 percent, although a lot depends on their location and the customer base. It is also encouraging that companies have reported gradually improving utilisation rates as restrictions are eased and normality begins to creep back.

How prepared was your business to work remotely?



Even before the outbreak of Covid-19 rental companies have been moving towards putting more if their services and customer interactions online. Perhaps this explains how many companies were able to quickly adapt to their office staff working from home. Reliable broadband speeds have been an issue, along with the ability to remotely access company systems and rerouting phone systems.

What is the risk of you going out of business?



Overall respondents were confident of their resilience - even if the pandemic drags on for an extended period - with 45 percent confident that there is no risk of them going out of business, while a further 40 percent can continue operating for 12 months or more. On the flip side, a quarter of respondents will struggle to survive more than six months if things do not improve, and a small number look set to fail. Much will depend on the policies adopted by finance companies and government support programmes which range from grants to loans and tax holidays.

Will you change the way your business operates Post Covid-19?



Many companies said they will implement further safety procedures when business returns to normal, but it might also relate to companies becoming more open to new technology and more flexible for staff to work from home.

Working from home

While 'working at home' is relatively common for field sales staff, it will come as a shock or challenge for those whose job is usually office based such as those working in accounts, marketing, HR or even internal sales such as hire desk clerks, dispatchers and service co-ordinators. There is plenty of



working from home



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advice available on this subject but here are a few tips:

Find a suitable workspace



Try have a designated space to work from. Ideally turn a spare room into an office but if space

is limited, find a desk or table that can be dedicated to work. Avoid the temptation to sit on the bed or sofa with the laptop at all costs.

Get dressed for the day



It sounds obvious, but it is all too easy to roll out of bed and straight into work. If you do not get ready

for the day, your day never really starts - you are just at home and doing some work.

Make a schedule



Schedule the day ahead to give it structure. It helps to keep set work hours - but that need not be

'9 to 5' - and take regular breaks throughout the day.

Reduce distractions



Under usual circumstances working from home allows you to escape workplace

distractions. But with the whole household at home with you, avoiding distractions will be a challenge. So do yourself a favour and avoid adding TV or social media to the list.

Determine the end of your



workday A common

challenge is knowing when to shut off from

work and prevent it impacting your personal life. You need to have clear separation between when you are at work and when you are not.

Healthy living



Snacking can be a challenge - having healthy snacks on hand helps. Stop for scheduled meals as if at

work and leave the house for a little exercise and fresh air each day.

Online sharing - DropBox

- Pro: Can be used to store, access and share all types of files anywhere around the world
- Con: Reliant if stable broadband speeds, strict storage caps

Cost: Free up to 2GB of space - Paid plans available

Video conferencing - Zoom

- Pro: An online platform for video and audio conferencing for up to 1,000 participants
- Con: Poor broadband speeds severely impact its use and effectiveness
- Cost: Free sessions up to 40 minutes Paid plans available

Staying connected - Slack

- Pro: A group messaging or team collaboration app that simplifies communications
- Con: Individual chat functionality can
 - become a distraction among workers
- Cost: Free up to 10,000 chat archive Paid plans available

Project management - Trello

- Pro: A visual project management tool for both individuals and teams that clearly displays tasks in a to-do list format.
- Con: Limited integrations with other project management software and calendars

Cost: Free - Paid plans available

Microsoft packages - Teams/To-Do/Skype

- Pro: Microsoft Teams combines video conferencing software with its other team collaboration tools such as Skype and To Do
- Con: Can be an expensive option if you do not have Microsoft
- Cost: Free with existing Microsoft packages Paid plans available

Time Management - Toggl

- Pro: A time management tool to help individuals better track their time and provide insights on how long is spent on tasks.
- Con: Manually activated means that there is scope for incorrect readings

Cost: Free - Paid plans available

Upskilling

during downtime

are unable to work for their

company they can undertake

training relating to their work.

and with an increasing number

online courses and seminars it

employee skills.

of training providers now offering

is a great opportunity to upgrade

offers is for staff and companies

One major opportunity that the crisis

to become more familiar with the software they use. Most companies or staff only exploit a small part of Even though furloughed employees what their systems can provide and there is never any time to learn when work is busy. That has all changed now - the benefits once

business returns to normal could be transformational. Rental software companies such as

Point of Rental, inspHire and MCS are all providing customers with online seminars and training and

Phone systems - Cisco

Pro: Allows for phones to be rerouted using the internet and can allow for one number to ring multiple devices.

working from home

Con: Requires a VoIP- enable equipment or software

Cost: Wide ranging but can be expensive to set up

Just for fun - Kahoot!

- Pro: A light-hearted game-based learning platform to create, share and play trivia quizzes. Perhaps one to boost team morale.
- Con: Limited use in a business capacity
- Cost: Free for small numbers Paid plans available



helping them create more efficient processes to ensure they are fully utilising features available before returning to work.

MCS managing director Guy van der Knaap, said: "As well as online seminars and general additional training, it has also become apparent that many of our customers are taking on new roles and need extra support to step into their colleagues shoes to cover absences."

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Meet the president

Skyjack appointed Ken McDougall as president last September. With more than six months under his belt he spoke with Mark Darwin at Conexpo in mid March.

The news that McDougall was to be re-appointed as Skyjack president was totally unexpected and sudden. Much had changed since he left the company at the end of 2009, when he was seconded overnight to head up Linamar's Mexican powertrain operations.

Skyjack appointed Steve

Shaughnessy in his place, having just quit as managing director of Loxam UK. Within 15 months Shaughnessy was replaced by Linamar's Ken Meyers who was in the role for less than six months. He was replaced by Brad Boehler - whom McDougall had promoted to head of engineering during his time as president - who provided the much needed stability to the role.... that is until the surprise McDougall announcement. Under Boehler the company had grown beyond all recognition becoming the leading scissor lift manufacturer, establishing itself in the global boom lift market and gaining a good foothold in the North American telehandler market.

McDougall first joined Skyjack from Linamar in 2008 taking over from Lloyd Spalding following his delayed retirement. "During the



Skyjack is gaining a good foothold in the North American telehandler market.



early part of the 2008 recession, activity in the access market was very slow and I spent the latter part of 2008 and 2009 exploring new markets to sell equipment," says McDougall. "Because it was slow I asked Linamar if I could 'pitch in' on the automotive side. I did not think it would come to anything but the operations in Mexico that I was familiar with were starting to struggle as the automotive market picked up. I was asked to help and spent 18 months running four manufacturing plants there, and then slowly took over all the automotive plants in Canada, the USA and Mexico - 28 in all - but I always said that if the opportunity ever presented itself I would love to go back to Skyjack."

"When the opportunity arose, I think it was a good time for Brad as well. I respect and like Brad, I promoted him to be in charge of engineering and joked with him that someday I wanted my job back. At the moment we have some internal challenges caused by continued growth and expansion of our product portfolio - not just sales but also the manufacturing operations. We have already produced a few units at one of the Linamar plants in Hungary including the articulated SJ46 and SJ51 booms and this will be expanded to include the SJ63 AJ."

"Why Hungary? The founder of Linamar was originally from Hungary and the group has five factories there making industrial equipment.



Skyjack equipment will continue to be manufactured in Canada but obviously the CE models built in Hungary help minimise freight charges and get the 'in market' benefits of production. Another opportunity that is high up on my list - even with the current Coronavirus setback - is doing more in China. We are still working on things we did earlier this year before the current problems. Linamar has five automotive factories in China. for which I did the first business licences in 2003/4 in my role in business development. We are not producing any aerial platforms in China, but my aim is to have production facilities in all three global regions. In China we would want control over production so whether that is a green field operation building our own factory, an acquisition or a partnership of some kind, all are in play." "Although we have no production in

Skyjack SJ3219

China when the Coronavirus hit, we do source some components from there. Fortunately all of our suppliers continued to work normally, and we did have more inventory and parts than I would have liked but maybe that was a saving grace. We always try to have safety stock on hand to cope with walk-in orders. We get phone calls such as 'I need 15, SJIII4740s next week' - if you have them you can sell them. I don't want to have 200 in stock, but we watch market demand and try and adjust."

ANSI battles

In December Skyjack shut down production for three weeks to convert most of its lines for the new ANSI standard machines. It also took an extended Christmas shut down, again knowing that demand drops early in the year.

"The new standard provided us with an opportunity to add more technical advancements into the machine in addition to load sensing and more that were already on CE machines anyway," says





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8T28RT(28m)

BT30RT(30m)

With dedicated axles, the failure rate is lower.

Telescopic Boom Lifts

BT24RT(24m) BT25RT(26m)
Articulating Boom Lifts

BA24RT(24m) BA28RT(28m)





McDougall. "The push back from

those opposing the new standards

and is more related to the manuals

of the new standard was delayed

again in December, Genie, JLG and

others signed a petition demanding

its publication. I was also asked

would not sign it - they have their

machines that comply and not to

get involved in a fight.'

own concerns - my job is to supply

More technology/

new machines?

"In recent years as a company

we have taken a very cautious

approach. The last time I was at

Conexpo - about 15 years ago -

JLG had brought out the ES series

maintained a slow approach to the

may have been too conservative but

are now moving forward at a rapid

We are currently developing a new

incorporate new technology which

scissor line bringing us more in line

with our competitors. Right now we

are tweaking the product line and

looking at greater working heights

but are aware of the limited market

size for very large booms or scissors

and the cost to develop such

vertical mast machine which will

we can then incorporate into our

pace to advance our machines.

new technology. In hindsight we

which wasn't completely proven

and had some issues, so we

but my two largest customers

had nothing to do with the machines

of responsibilities. When publication



Elevate Live features

machines."

"Instead we are looking to go down in size to micro scissors, an area that we are not in at the moment but which is becoming much more popular. The 11 to 13ft models seem to be the area which leads into vertical masts and then 19ft scissors. Our 15ft scissor does not sell well in North America but the Koreans love it. We are also working on hybrid machines."

Future changes?

"I am probably a little bit more system driven in terms of the product developments which I think take too long. We aim for an 18 month development cycle but we do overrun. But look at how quickly the Chinese manufacturers produce new models. We laughed at them 15 years ago, but now they produce some particularly good machines. I would like to see our development time reduced to a year or less. We have a very robust system in place so tweaking that would probably be sufficient to reduce development time. The first new machine cycle since I re-joined is the new vertical mast which will have taken about 13 months to develop. We are looking at a 20ft unit and will incorporate some distinct technology. The machine should be launched at the ARA next year."

Big scissors?

Skyjack has launched its largest scissor to date the 63ft SJ9263 RT with a working height of 21 metres. Having looked at the changes mandated by both the ANSI standards and Stage V emissions in Europe it decided to go for a new class of machine that goes higher, and yet is more cost effective than the specialist heavy duty models. "We are now on the upper edge of the normal big scissor, a good niche

Skyjack has launched its largest scissor to date - the 63ft SJ9263 RT - with a working height of 21 metres.



between our 50ft scissor and having to go to a specialist machine to get to more than 90ft," says McDougall. "Larger scissors are big ticket items and it is a matter of how many rental companies can buy it and what is the return?"

Product roundup

"Since rolling out Elevate Live at the ARA we have a lot of interest in the product at the working level because it gives the operator more data which will hopefully help rental companies with better battery management and other exciting opportunities. We are also adding extra capacity to the booms which has generated a lot of interest - and a backlog of orders."

"Everyone needs to be looking at alternative power sources and one of the good things of being related to an automotive company is that it is very advanced in power R&D, with Linamar companies already making hydrogen tanks for the automotive market. Whether

hydrogen will be used in aerial work platforms in the future, we will see? Batteries have their limits and if the world thinks it is going electric then it will be pretty dark in the future as the battery solution creates other problems."

Future aims?

"I don't have designs on becoming the biggest platform company, my goal is to stay in the top two or three in any market we operate. I would like at least 30 percent market share which I think is reasonable. We don't do a lot in China - a market we have shied away from - however the rental market is maturing and while I think there are financing concerns, now is a good time to push a bit more. We have just come through a 10 year cycle of growth in North America and I think there may be couple of flat years ahead."

"Returning to Skyjack is what I expected - and its good to be back."



KEEP SAFE ON SITE WITH GGR GROUP







As construction sites across the UK begin to re-open, GGR Group is putting out a call to contractors and site workers to assist with ensuring that social distancing is maintained on site.

The two metre guidelines for social distancing has meant that there is increased demand for equipment that can support safe working during these unprecedented times. GGR have been assisting sites that have remained open or are due to open in the coming weeks, to provide equipment to maintain social distancing and ensure safe methods of work.

We want to make it clear that our development team are on hand to come up with solutions and safe ways of working to support your lifting requirements on site.

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Gin Poles the origination of the

Eddie Bishop has been building traditional timber buildings in the UK for more than 30 years and while he uses cranes and a wide variety of modern access equipment he regularly resorts to more traditional lifting equipment. The following is his take on a form of lifting equipment that is rarely seen these days -Gin Poles.

As the crane and lifting industry constantly develops with more efficient and bespoke designs of equipment to serve our ever increasing requirement for lifting solutions, it is easy to forget that its origins lie in what was once a ubiquitous and simple design that is rarely used these days but which still has its place in the world of lifting. The Gin Pole is essentially a single pole which is tethered by two or more guy lines to produce a simple, triangulated lifting arrangement when used in conjunction with a pulley system, chain hoist or winch. In its simplest configuration the Gin Pole allows for a vertical lift with an additional boom up/boom down facility provided by altering the length of the guy lines and



The Gin Pole is rarely used these days but still has its place.

gin poles



corresponding pole angle. Correctly rigged these adjustments may be undertaken while under load by the simple use of pulleys or hitches in the guy line system.

In the traditional timber framing industry, for instance, heavy timbers or assembled timber frames may be required to be lifted into position in locations which may not have ready access for cranes or where the cost of crane hire is potentially prohibitive. Often the ability to lift on-site may be required over a period of several days, albeit only occasionally. This is where the Gin Pole really comes into its own.

"I have undertaken many jobs using a Gin Pole with great effect to lift frames safely and easily into their required locations in settings where a crane would not be practical due to restricted access or cost," said Bishop. "Typically when raising gable end frames onto buildings, the Gin Pole allows the finished, fully assembled frame to be lifted into location and secured with ease as opposed to assembling the frame stage by stage at height with the inevitable safety risks of working at height."

Frames weighing from a few hundred kilos up to a tonne can be lifted easily using a pulley system or chain hoist attached to the Gin Pole. The capacity is obviously dictated by the strength of the pole and lifting gear - lifting heavier loads simply requires a stronger system.

Ready in minutes

The Gin Pole is usually rigged in just a few minutes, requiring no more than a measurement to establish the base position of the pole and the insertion of suitable ground anchors for the guy lines. The Pole is raised by hand as tension is maintained on the guy lines until the lifting point is above the desired location the

gin poles

guy lines are then locked off before lifting commences. Adjustments of the final position can be made by shortening or lengthening the guy lines to raise or lower the pole effecting a boom in or out function.

"Depending on the application, the pole may have between two and four guy lines and at its most basic a pair of guy lines running back from the pole and away from the load," he said. "The pole will typically be of round or square section timber with a braced footplate to spread the load at its base and attachment points for the guy lines and the hoist mechanism. On typically soft ground, long pins will be pushed through the base plate to prevent slip and screw-in ground anchors used to attach the guy lines. Pulleys may be used at the ground anchor attachment points to facilitate easier adjustment of the guy lines if required."

Cost effective

"The cost of a suitable pole and all the associated rigging of guy lines, anchors and pulley system or chain hoist for say a 500kg load to be raised by five metres



is typically in the region of £200 to £300 - considerably less than a single days' crane hire, and can of course be used whenever needed. The potential of damage to grassed areas is minimised in comparison to a crane and access is nearly always guaranteed."

"The downside is that slewing the load is not as straightforward as it would be when using a crane," he said. "It is still possible by using a modified design that utilises a second pole with the lifting pole attached forming a derrick, although in most applications where the lifting point is defined by the final position of the assembly this is unnecessary."

Much heavier loads of several tonnes can be lifted with a Gin Pole. They were once used extensively on larger construction projects such as cathedrals, with higher lifts being completed by using two or more Gin poles employed in stages. While the Gin pole still has its uses and is certainly worth consideration, modern Health & Safety considerations inevitably need to be factored into such operations, but these do not normally present any



Frames weighing up to one tonne can be lifted.



particular problems.

In summary the Gin Pole is a safe lifting method that can be easily deployed in many scenarios and requires relatively little expertise, whilst providing a cost effective and ecologically sound solution. It is certainly worthy of consideration.

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Helping prevent fraud

The number of rental companies and contractors reporting cases of fraud leading to non-payment or the loss of equipment is on the increase and likely to get worse as the industry moves to more online transactions and less face to face contact. UK-based credit agency Top Service provides some interesting perspectives and sound advice

The equipment rental and construction industry's exposure to fraud is changing and businesses operating in the sector need to put in place robust processes to help mitigate their risk to fraud both on and offline. With the rental and construction industries contributing around nine percent of Europe's total economic output, it is not surprising that the sector is a valuable target to fraudsters. This is further exacerbated by the view that the industry still operates largely offline with traditional processes and all too often hands over high value equipment with the minimal of checks.

The reality is that the continuing drive towards online transactions, Building Information Modelling (BIM), automation and cloud-based management systems, exposes a sinister collaboration between cybercriminal and fraudster. The risk of delays due to fraud and cyber-attacks can not only damage profitability, but also reputation and for an industry which relies heavily on strong customer relations the risk to reputation could easily outweigh the financial loss.

Fraud includes a wide range of crimes such as forgery, credit scams and insider threats involving deception in order to commit theft. The risk to businesses is not just the immediate financial loss but in some cases companies could receive third party litigation if a data breach is deemed the result of inadequate safeguarding of information.

Industry associations and credit reference agencies are seeing more and more potential fraud being reported, ranging from bone fide company details being used without a company's knowledge, to fake companies being set up in an effort to obtain goods fraudulently. The equipment rental and

construction sector is also





becoming increasingly frustrated with how fraud is dealt with - or not! Top Service is the leading credit reference agency for construction related industries in the UK and plays a much greater role in supporting the industry than is usual for a credit agency. Managing director Emma Miller offers the following advice:

"Trust your gut feeling"

"Businesses can minimise their exposure to fraud but even with every possible check, search and question being asked and done they should never ignore that 'gut feeling' that 'something just isn't right' because when something doesn't feel right it usually isn't! There are formal checks to carry out before providing goods on credit, most importantly, don't just ask and record the details - make sure you check them."

"Using a credit application form is the easiest way to ensure relevant and appropriate details of the potential customer are being taken. It does not have to be long winded or lengthy, simply take the basic details you need to open a credit account such as company name and registration number, the entity of business if not Limited, names of key people in the business, contact numbers and email addresses."





preventing fraud

"Using a credit application form is one thing but the key to protecting a business is in the detail including checking the form and information provided for any anomalies, this is where companies will be able to protect themselves the most. Also:

- Check the directors of the Limited company and see if they have a lot of other active directorships, resignations, or insolvent companies.
- Use a credit reference agency to look at the trading history of the business - have other suppliers experienced non-payment or made enquiries about potential fraud.

Some fraudsters will establish a good line of credit with suppliers, placing small, regular orders to give the appearance of being a good customer. Once an order pattern starts to change, ask questions to establish the reason for the change.

The internet opens up a lot of avenues to carrying out non-intrusive checks. Look at the addresses given, are they active trading addresses - as opposed to a mailbox? Is it a residential address when you would expect it to be a business address or



vice versa? There could, of course, be perfectly legitimate reasons for having numerous trading and/or delivery addresses but take the time to check."

"Check phone numbers, dial them or use the internet to search for any reports of misuse. Once a fraudster takes delivery of goods or money is transferred it is likely this will be the last contact with them. Is the telephone number ringing and is it a normal tone? If it goes to the answerphone, is the mailbox full? This is a sign that messages are not being returned. Why would an active business not return and delete messages?"

"Send a confirmation email - we hear of so many people whose initial suspicions to fraud are raised when they email the invoice and the email bounces back. Check it first - a confirmation email thanking the customer for their application or order can help to pre-warn you of any problems."

In short

- Confirm the details on credit applications are true using credit information, the internet or ID checks.
- Check the condition of the business applying for goods on credit.
- Is the order consistent with past transactions or as expected?
- Do not share third party customer data.
- Satisfy that 'gut feeling', assess the risk and if needs be decline any credit application.

What if you are a victim of fraud?

Report it - In the UK call 101 to report it to Action Fraud

Share it - Sharing your experiences is the quickest way to stop fraudsters in their tracks. Talk to your trade association or industry specific credit information agency who will be able to make others in your industry aware.

Top Service is based in the UK and in addition to publishing Companies House information, adds the previous experiences of its members which can give a clear

- Testing is also important. It will help to ensure new processes and current processes are providing the protection you need. Internally, submitting a fictitious order or application will help you to track if you are getting the desired outcome.
- Educate staff on how to identify phishing emails and encourage them to report anything suspicious.
- Reinforce the importance of setting good passwords and back up data regularly.

picture of immediate cash/payment issues that have yet to show up on in published accounts. It also includes information on non-limited companies and directors. Special rates are available to IPAF and CPA members. The company can be contracted at www.top-service.co.uk

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To the Brave

On behalf of Cranes & Access and the Vertikal team, we would like to join others in paying tribute to those people around the world that have continued to work in critical and essential jobs, often at serious risk to themselves, in order that the rest of us could avoid or limit the risk of contracting the Covid-19 virus. They are truly the brave ones.

They include but are by no means limited to:

- Health & care workers
- Emergency services
- Supermarket/food shop and pharmacy employees & suppliers
- Transport drivers especially bus drivers

- Postal workers
- Delivery drivers of critical equipment as well as food & essentials
- Utility workers
- Construction staff/operators working on essential facilities
- Service engineers working on critical equipment

Hopefully more of us will appreciate the work you do throughout the year and not just in a crisis. We are certain that all of our readers will join us in saying a very big

Thank You!



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Reports of Thorough Examination expiries

ALLMI has been consulting the HSE regarding the thorough examination of lifting equipment during the Coronavirus outbreak. A statement from the HSE on this subject can be viewed at www.allmi.com/ hse-statement. Whilst ALLMI would encourage everyone to read the document in full, the key points include:



- Inspection bodies may prioritise businesses essential to the national infrastructure or to protect vulnerable groups in society.
- All reasonable effort should be made by duty holders to arrange thorough examinations within the statutory time limits.
- Provided the equipment is to be used to supply or support an essential service, if no engineer can be sourced and if no other system of work can be used, then it is acceptable for the equipment to be operated, subject to a robust risk assessment determining it is safe to do so. The HSE statement provides guidance on the risk assessment content.
- Detailed records must be kept in relation to the efforts made to source a thorough examination, and the risk assessment undertaken.
- Provided the above conditions are met, the HSE's standard enforcement response will be to take no action if the only failing is that the Report of Thorough Examination has expired.

ALLMI technical manager, Keith Silvester said: "We recognise that many ALLMI manufacturer/service company members are offering cover for thorough examinations of this nature (i.e. for equipment involved in critical/ essential work) and that fleet owners are unlikely to require a risk assessed approach. However, should the need arise, we are happy to assist with any practical interpretation of the HSE's statement."

Membership subs rebate

ALLMI is to discount membership subscription fees for the 2020/21 financial year by 25 percent.

ALLMI chairman, Alan Johnson said: "We have had continual dialogue with members throughout the Coronavirus outbreak and have made it clear that we want to support them to every extent possible. We recognise and appreciate the financial challenges being experienced across our industry and so reducing fees for the year is a measure we are pleased to take. This has received the unanimous backing of the ALLMI board, as it provides a practical and direct form of assistance, as well as further demonstrating our total commitment to helping the membership during this difficult period."





Online courses now available

In the interests of maintaining its range of industry services as much as possible during this period of social/physical distancing, ALLMI has made



its Appointed Person (AP) and Manager courses (Appointed Person and Thorough Examiner versions only) available online.

Chief executive Tom Wakefield said: "We look forward to continuing the delivery of these popular training courses, using a combination of live video conferencing and pre-recorded tutorials. We are aware that many companies are still looking to equip and qualify their workforce at this time and moving these courses online allows us to meet this need."

It is worth noting the following rules regarding the Government's Job Retention Scheme: 'Furloughed employees can engage in training, as long as in undertaking the training the employee does not provide services to, or generate revenue for, or on behalf of their organisation. Furloughed employees should be encouraged to undertake training.' Please check any issues relating to training for furloughed employees with your Human Resources advisor.

For information on Appointed Person training, visit: **www.allmi.com**/ **aptraining** or **www.allmi.com/courses-for-managers** for Manager course information.

Membership satisfaction survey

ALLMI has collated the results of its 2020 Membership satisfaction survey. Marketing officer Fiona Parnell said: "We are very grateful to the large number of members that participated and delighted with the results which



show an extremely high level of member satisfaction, while providing valuable feedback on how we can further develop services and products for the good of the industry."

The results covered a broad range of areas, but highlights include 95 percent of respondents stating they are very likely to recommend ALLMI membership, 100 percent confirming that ALLMI's products and services are of a 'high' or 'very high' quality, 92 percent scoring ALLMI as either 'very' or 'extremely' responsive to industry issues and 96 percent saying that communication on industry issues/association activities is either 'excellent' or 'above average'.

"We see this as a valuable process and intend to carry it out annually," adds Parnell. "The survey data provides a helpful benchmark against which to measure our progress, allowing us to ensure we are meeting members' needs and that our activities are in line with the wants of the industry." For information on joining the association contact ALLMI.



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



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New Tower crane Safety Alert

Given the unprecedented situation with the coronavirus outbreak, the CPA Tower Crane Interest Group has issued advice relating to how tower cranes should be left out of service for lengthy periods of time. The new safety alert states that failure to take the crane out of service in line with manufacturer's instructions and failure to periodically inspect it whilst out of service could result in the crane being subject to very high wind loadings and consequential collapse of the jib or whole crane.



The safety alert sets out advice for leaving tower cranes out of service for long periods of time, namely:

 Ensure that the most up to date information for taking the crane out of service is obtained from the manufacturer or supplier for the specific make, model and configuration of crane. This should be checked against the information recorded in the project lift plan.

- From the information provided verify that the crane has been left in the correct out of service condition.
- With luffing cranes, it is strongly advised that the jib is parked at the maximum out of service radius possible - allowing for surrounding obstacles - rather than at the minimum out of service radius specified by the manufacturer.
- With saddle jib cranes, park the trolley at the manufacturers recommended position along the jib.
- Check the function of the free slew mechanism and report any fault to the owner or suppliers immediately. Leave the crane in free slew.
- Make note of the direction of the tower crane jib in relation to the wind direction. When the jib is in free slew it should follow any change in wind direction. If it remains in the same position when the wind direction changes, contact the crane



supplier immediately.

- Check the integrity of fixings of any wind sail or advertising boards.
- Secure any intruder prevention barriers.
- Hand all keys to a designated project management representative and inform the crane owner of the key holder's contact details.
- Put in place procedures to ensure that the crane base is kept free from surface water that may accumulate.
- Put in place arrangements for the crane to be periodically inspected by a competent person. If the crane operator is not available, arrangements should be made with the crane supplier to undertake the inspections.

It is recommended that a thorough

examination regime for the crane is maintained whilst it remains out of service and it should be inspected by the supplier before re-entering service.

The HSE is aware of concerns relating to the statutory inspection time limits and has issued a statement on what should be taken into account where inspection difficulties occur due to the Pandemic.

The new tower crane safety alert can be downloaded from:

www.cpa.uk.net/news-events/ tower-crane-safety-alertcoronavirus and the HSE statement at www.cpa.uk.net/news-events/ hseguidancelolercoronavirus practice for safe use of construction hoists. The revised guidance can be downloaded from

www.cpa.uk.net/constructionhoist-interest-group/

CPA Stars of the Future update

The CPA Stars of the Future 2020 awards programme will still go ahead however the awards ceremony scheduled for 10th June will no longer take place. The association is considering viable alternatives to announce the winners later this year.

The nomination deadline has also been extended to 31st May, with nominations welcomed from crane/equipment hire companies, manufacturers, contractors and others operating in the sector. Nomination forms are available at www.cpa.uk.net/starsdownloads

CPA chief executive Kevin Minton said: "We appreciate that it is crucial to maintain the recognition of outstanding apprentices in these challenging times, but are regrettably unable to hold the awards ceremony and are working on a suitable alternative."

To qualify for a CPA Stars of the Future award applicants need to be:

- Employed and working on one of the listed occupations at the appropriate level.
- On a recognised apprenticeship or a formal training programme of at least 12 months duration for the occupation.
- Working towards or hold a relevant NVQ, SVQ or other form of formal occupational competence-based qualification.
- On a formal training programme with an appropriate length of off the job training.

For specific occupations nominees need to be:

Plant Mechanic Level 2

• On a recognised apprenticeship or formal training programme of at least 24 months.

Lifting Technician

- On a recognised apprenticeship or formal training programme for the occupation of at least 18 months.
- Operating either a tower, crawler or mobile crane which forms a major element of the apprenticeship or training programme, supplemented by slin

programme, supplemented by slinging and signalling activities.

Plant Operative

• Operating at least two types of ride on construction equipment which forms a major element of the apprenticeship or training programme.

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PASMA courses online

PASMA has launched an Online Training Portal as a direct response to the coronavirus pandemic. Most PASMA training courses involve both a theory and practical



session which in normal times is all done at a training centre. With the new portal, the theory session can be done online instead.

When delegates book a spot on a training course, they will get immediate access to the theory session to complete at home comprising a series of videos and knowledge checks that they can work through at their own pace. When they attend the training centre, they can jump straight to the written assessment and then work through the practical session, where they will get hands-on time with scaffold towers under the watchful eye of a qualified instructor. In this way, face to face contact is minimised.

Training courses with an online section include Towers for Users, Low Level Access and Work at Height Novice, with more to follow. The online courses are proving particularly popular with people who have been placed on furlough by their employer. UK government advice confirms that furloughed employees should be encouraged to do online training.



Safety Practitioner Zone

Helping workers stay safe on scaffold towers will be easier than ever with PASMA's new Safety Practitioner Zone. This new resource library helps safety professionals update their tower knowledge and share good practice. It includes toolbox talks, tower reference guides, bitesize safety videos and details of upcoming changes to EN 1004, the design standard for mobile access towers.

The PASMA Safety Practitioner Zone is reserved for members of leading safety associations, who are helping PASMA get these resources into the hands of people who will make best use of them. First off the mark is IIRSM, whose members already have access.

Jason Carlton, head of strategic engagement at PASMA, said: "With their leading role in promoting height safety to industry and our shared motivation to keep scaffold tower users safe, safety professionals are key allies. They already ensure anyone working with towers is PASMA trained, and now, with the launch of our Safety Practitioner Zone, they have the tools to continually reinforce the key messages and



remind workers to keep up the good habits from their course. We are delighted to have partnered with leading safety associations on this because we know their members are dedicated to promoting good practice and preventing falls from height."





New Toolbox Talks to download

Tower users and managers can benefit from bitesize safety messages, thanks to a new series of short videos released by PASMA on social media. The videos feature Chris Smith, head of audit services and professional standards at PASMA, and Jim Duffy, PASMA instructor at Training Plus. The topics they cover are:

To celebrate the launch of the Safety Practitioner Zone, PASMA has released a series of one page Toolbox Talks which contain the content needed to deliver a safety briefing on five tower related topics, reinforcing key messages that are taught on PASMA training courses:

- · Never stand on an unprotected platform
- Using scaffold towers in windy conditions
- · How to safely move a mobile access tower
- No instruction manual means no scaffold tower
- Inspecting scaffold towers

The documents were available on social media for 24 hours each during April, before being moved to the Safety Practitioner Zone. However, Cranes & Access readers can download them until the end of June using this link: www.pasma.co.uk/cranes-and-access

Advice for those whose PASMA cards are due to expire

During the coronavirus outbreak, PASMA can extend your card for up to 90 days. To qualify, book a place on a future PASMA training course and complete the online theory section in advance. When you finish the theory section, PASMA will extend your card until the date you plan to finish the course. At the time of writing, you are allowed up to 90 days for this to happen.

The rest of the course takes place at a training centre and consists of a written assessment and a practical session with towers, on completion print out/or download the proof of training to your phone. You will now have a head start, show the proof of training when you arrive for the second part of the training and you will only need half a day at the centre. If you pass the whole course, at that point your card will be extended by the usual five years.

To secure your 90 day extension, speak to or make a booking at your nearest PASMA training centre. When you have done so, you'll get an email from PASMA with a link to take the theory section online.

Covid-19 updates

For the latest news, service updates and FAQs from PASMA relating to Covid-19, visit **www.pasma.co.uk/covid-19**.



For more information about the Access Industry Forum (AIF) and the No Falls Foundation charity for working at height, please visit www.accessindustryforum.org.uk and www.nofallsfoundation.org

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\$415,000 for fatal fall

US storage tank contractor Skinner Tank has been fined \$415,204 after its employee, Tony Wilson, 56, fell 15 metres to his death at a Soybean processing facility in St Joseph, Missouri last October.

OSHA cited Skinner Tank with failing to provide sufficient fall protection as well as failing to train employees on fall protection hazards and safety precautions. The company is also being charged with multiple violations of safe crane operation, including failing to train operators and signallers,

having a competent person inspect crane operations and equipment, and allowing those on site to work under crane loads.

OSHA's principal deputy assistant secretary, Loren Sweatt, said: "Falls are consistently one of our most cited hazards and they can be prevented by complying with training requirements and using appropriate fall protection."



Live safety training available online

The British Safety Council has developed a series of live online courses to help remote workers continue their health, safety and environmental training during the coronavirus pandemic.

A range of IOSH, NEBOSH and other health and safety courses can now be delivered online by the association's instructors, with students able to access the courses remotely using a PC, laptop or tablet. They will also be able to download the course content in advance of a session as well as interact with the instructor and other students throughout the course.

Chief executive, Mike Robinson, said: "Live Online is a radical new way for people that want structured support from a tutor without having to be in a classroom. Our tutors are on hand throughout the course to help and advice."

Lack of fall protection costs more than £80,000

UK company Speed Drop Logistics has been fined £80,000 plus £1,600 in costs, after failing to provide fall protection for employees working on the roof of its premises in Blackburn, Lancashire.

HSE inspectors visited the premises in May last year and saw two men working on removing roof panels without protection or equipment to prevent or minimise the distance of a fall. They also found that the roof was fragile and liable to give way if walked on and concluded that the removal of roof panels should have been carried out from underneath the roof using a scissor or boom lift or a scaffold.

HSE inspector Stuart Hadfield said: "Falls from height remain one of the most common causes of work related deaths, the HSE will not hesitate to take enforcement action against those that fall below the required standard."





Liebherr training in Saudi

Liebherr has trained 50 delegates from 20 crane companies at its premises in Dammam, Saudi Arabia.

The training covered the VarioBase outrigger set-up system, the ECOmode function and new TraXon gearbox. Delegates were also shown how to plan lifts using the Liccon job planner and given practical exercises on a range of All Terrain, Rough Terrain and telescopic crawler cranes.

Ainscough operator apprenticeships

UK-based Ainscough Crane Hire has launched a three year crane operator apprenticeship programme. Open to 20 applicants, apprentices will obtain their slinger/signaller qualification in the first year before moving on to an HGV Class 2 licence and mobile crane operator qualification in year two and three.

Darren Thompson of Ainscough said: "This new apprenticeship programme is a first for us and represents an investment in the future. This is a really exciting time to begin working in our industry, with many large-scale construction and infrastructure projects on the horizon."

The programme is available at 11 locations in Scotland and Northern England with further locations to be added later.



Who trained them then?

Spotted in Seville, Spain, two men attempting to remove a banner at a height of around five metres using a ladder being held in place on the back of an elevated flatbed recoverv truck. Due to the position of the loading dock, the man on the ladder has to stretch across the building with the aid of the banner's frame.



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IPAF president and board members confirmed

Norty Turner of United Rentals was confirmed as president during the federation's 2020 virtual AGM on the 23rd April. He succeeded Brad Boehler in October, who had stepped down after leaving his role with Skyjack. Karin Nars of Dinolift was confirmed as deputy president and JLG's Karel Huijser as vice president.

On the board Nick Selley of AFI-Uplift continues in an 'ex officio' role, while the three members seconded last year - Pedro Torres of Riwal, Julie Houston Smyth of Lolex and Ben Hirst of Horizon Platforms - were also confirmed.

In his inaugural address, Norty Turner said: "It is traditional for an incoming IPAF president to set out some key objectives for their term in office. My first priority will be to work with the IPAF board, Council and senior management, to support our team and members worldwide through this global public health crisis and assist our industry's recovery from this challenging situation."

"Beyond that I am looking forward to supporting Peter and the team in increasing sustainability in our industry, embracing and integrating new technology into everything we do including innovations such as an app for operators and managers and paperless IPAF courses, while adapting more of IPAF's training programme for eLearning and virtual reality applications."

New chairmen for IPAF in Italy

Paolo Pianigiani of Imer has been appointed chairman of the IPAF Italian Country Council and Roberto Geromin of Gianfranco Savani chairman of the Italian Training Working Group.

The Country Council includes representatives from manufacturers, distribution and service companies while the Training group is made up of instructors or representatives from IPAF training centres. It addresses training related issues including legislation and regulations, while participating in events or seminars and updating courses. Paolo Pianigiani and





Roberto Geromin

Exclusive credit control benefit for members

IPAF members in the UK can benefit from preferential access rates to the debt recovery and credit referencing services of Top Service, which also offers specialist assistance in dealing with late payments and disputes.

For details of this and other IPAF membership benefits see www.ipaf.org/benefits



IPAF assists members through pandemic



IPAF has enacted a robust business continuity plan to protect its teams around the world, allowing key functions of the organisation to continue in order to maintain support for members and the wider industry.

Events have been postponed, international travel has all but ceased, and wherever possible, IPAF team members are working remotely. IPAF is used to conducting meetings via video conference however the Council meeting and AGM were held virtually - using Microsoft Teams - for the first time ever, while the federation's annual report has been published online and is available to download at **www.ipaf.org.** Printed copies will be produced at the first opportunity.

The federation has continued to work with national governments, health & safety bodies and international standards organisations to ensure safety and best practice continue to be maintained and shared. In the UK it has worked with Build UK and the Hire Association Europe to challenge the UK HSE on what to do if machines on site need a LOLER thorough inspection renewal during the Lockdown. It has signalled that it is committed to work with IPAF to ensure machines can continue to work, perhaps alongside an enhanced daily pre-use inspection.

In April the ISO 21455:2020 standard for uniform platform controls, was published, the culmination of a decade of work from IPAF and its members. IPAF has also worked hard to promote those parts of its training programme available in eLearning, including operator theory modules as part of a PAL Card renewal, while PAL Cards due to expire have been extended by 90 days, to allow their continued use if restrictions prevent attendance at an IPAF training centre.

Updated eLearning versions of the 'MEWPs for Managers' course in English and German and a special ANSI A92 compliant 'MEWP Supervisor' in the US have also been released.

Chief executive Peter Douglas said: "The challenges presented by this unprecedented public health crisis will probably mean we have to do things a bit differently in the future. As lockdowns are lifted we have issued guidance to training centres allowing them to provide the instruction and practical assessments required to obtain or renew a PAL Card while maintaining social distancing measures. We will continue with our projects to assist members meet training demand worldwide, as well as improving accident reporting, issuing new safety and technical guidance including Andy Access posters and Toolbox Talks, while helping members boost productivity and sustainability."

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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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Jaso J560 tower crane

The Jaso J560 is a flat top tower crane with a maximum capacity of 24 tonnes and a jib length of up to 85 metres. This model - in 1/87 scale and made by Ros of Italy - comes in a very long box with the model substantially assembled.

At the bottom the freestanding cruciform base is a detailed casting which can be screwed to a plastic stand plate. Four solid ballast blocks assist the stability of the model. The tower sections are modelled in the correct length and are screwed together. The lattice work is good although the end connections are a little bulbous. The ladders and rest platforms inside the tower sections are plastic and are a bit thick for the scale.

The entire upper structure/top kit is one piece out of the box, although it is made up of screwed together parts. The cab has thin wipers and window seals and inside there is a seat and controls. The handrails are metal, but overly thick.

The jib is excellent with a very straight profile, and only the down stand connections between jib sections impact on the realism. It is made up of full lattice work on all sides and includes a modelled trolley motor and some tiny brass sheaves are used to guide ropes. The support ties are metal.

The counter jib has large Jaso sign boards and the hoist winch and cabinets are modelled. Solid ballast blocks sit at the back.

The metal trolley can be moved by turning a knob although the

mechanism is very stiff. The hook block is metal with brass sheaves and the hoist winch works well by turning a knob. A plastic concrete skip is provided for use as a load and it provides some helpful weight when using the hoist winch.

The model has been made up of realistic sections which are screwed together, so different configurations are possible, or realistic transport loads could be formed. However, the tie supports are riveted which is a pity. To change, the jib length would require significant work to adjust the trolley rope system.

It is good to see Jaso introduce its first tower crane scale model and the potential configurability is a plus point. It is a nice quality, robust model, with a high metal content. It costs €250 direct from Jaso.

To read the full review of this model visit **www.cranesetc.co.uk**

Cranes Etc Model Rating				
Packaging (max 10)	7			
Detail (max 30)	23			
Features (max 20)	16			
Quality (max 25)	21			
Price (max 15)	8			
Overall (max 100)	75%			





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Readers Letters

Mark,

I moved from cranes to earthmoving 33 years ago, but still get Cranes & Access. Thanks for allowing that, it is a great read.

Brother Richard's piece in your latest editorial was particularly poignant and indeed unexpected in a construction related publication. But it says so much about the new world that Covid 19 has imposed on us.

Let's hope the construction industry can survive this event and perhaps enter post-Corvid making good use of the new personal and communication skills that have been imposed on us.

I hope everyone stays safe and best wishes to Leigh, we shared an office in the long distant past.

Peter Cooper

Dear Sir,

Following your editorial it struck me of Charles Darwin's "On the origin of species" that "It is not the strongest of the species that survives nor the most intelligent, but the one more responsive to change".

Anon

Dear Leigh,

Having read the Mast Claiming article in the latest Cranes & Access I wanted to pass on my congratulations for the Toronto and other accidents report on page 23. It was highly refreshing to read how those interviewed - in particular James Gordon - were so candid, open and frank about what happened and how he had learnt from the mistakes that were made and changes made. This type of reporting provides a real service to the industry. The same can be said about the letter you published from Cathal McNally on page 72. I live in hope that other companies might be inspired by their lead and follow suit. We would have far fewer accidents, injuries and fatalities if they would. We might also then be able to attract more young people to join our ranks?

Let's see more of this type of reporting.

Geoff Singleton

It is unusual that companies or their managers are prepared to speak out so openly. All too often legal claims drag on for years preventing those involved from speaking out. In our report of a tower crane incident on page 24 reporter Saul Chernos struggled to find those who were prepared to speak out due to a number of legal cases still outstanding. We will strive to do more, but as this shows it is not easy.

Nicholas Davin remembered

The news on Vertikal.Net and in the last issue of the untimely passing of access industry veteran and past IPAF president Nicholas Davin generated many comments - here are just a few:

"When I worked at JLG in the late 80's, early 90's, I used to jump on the Stranraer to Larne ferry on the Monday and meet up with Nicholas. After our 'Ulster fry' we would go touring around visiting customers, enjoying a few drinks, some good steak and a good laugh. Truly one of the highlights of my early days in the access industry. Nicholas was a pleasure to be around. News travels slow sometimes, I'm in South Florida now and the sad news only just got to me. Nicholas was just a great, great man to be around. Very sad news.

Kevin OShea

Very sad to hear the news that another of the good guys has passed away Fond memories of a true gent. We shared the craic throughout the years. Usually we ended up saying that the rental rate for booms should be £10 a foot as of course was back in the day !! RIP Nicholas and god bless you

Mike Evans

RIP Nicholas, always a highly respected competitor and adversary, the access industry has lost a remarkable character. Julie Houston Smvth

The industry has lost a great access man - Nicholas was very much at the forefront of both developing the IPAF concept internationally, and as a perceptive and pro-active member of the JLG European distributor network during the 1990's and onwards - for which we other regional distributors at that time owe a debt of gratitude. It was always a pleasure to be in Nicholas' company and he will be greatly missed by all.

Paul Richards

RIP Mr Davin, a great inspiration. Somebody who always spoke his mind and was truly charming and hospitable with it. Thank-you. **Tim Whiteman.**

RIP Nicholas.

A truly great character with a great wit and turn of phrase which I and his many friends in Ireland and overseas will miss. He contributed an enormous amount to the wellbeing and safety of the Access Industry through his involvement with IPAF as a former President and board member and also by being the first to introduce the concept of a country council to IPAF's then MD Paul Adorian and went on to chair IPAFs first country council in Ireland. This concept has been successfully replicated around the world by IPAF and was undoubtedly instrumental in changing IPAF from a UK based organisation to an international one. As well as being a worthy and respected competitor during my time in the rental business in Ireland I enjoyed many good nights with him when we shared time on the board of IPAF and at the many other overseas industry events. I am sure someone in JLG would know this, but he must be the longest serving continuous JLG dealer on the planet. Particularly fond memory of pasta night with Nicholas and Liza in Bologna many years ago. My heartfelt condolences to Liza, his children, brothers Andrew and David and the wider Davin family. Ar dheis de go raibh a anam

John Ball

Thank you for this lovely article and the kind words from friends in the industry, it means a lot to our family and Dad would have been pleased as punch to read them. Elizabeth Davin



The following letter/obituary was received from ex IPAF managing director Paul Adorian regarding the sad passing of crane and access industry veteran and consultant Tim Watson in early April.

Tim Watson, 13 May 1950 - 3 April 2020

My first meeting with Tim Watson goes back to 1975 when he was employed by John Laing Construction Plant and Transport Services at Borehamwood as Senior Electrical Supervisor.

I was managing director of Laing subsidiary Elstree Plant Ltd (later EPL,) also based at Borehamwood, at a time when the company was steadily disposing of its fleet of heavy earthmoving equipment and reinvesting substantial sums into various types of powered access equipment, a field we had moved into in 1970. We relied heavily on our parent company's substantial workshop facilities for undertaking work relating to maintenance, modification and repair of a wide range of plant, and it was during this time that Tim and I had ever more frequent meetings and in those early days I was struck by his obvious understanding of the many mechanical problems we threw at him, relating in particular to our rapidly expanding aerial platform fleet.

Aerial platforms were developing in all shapes and sizes and we were importing a variety of machines from the USA and European based manufacturers. Electro-hydraulic control systems were in their infancy and there being no common international Standard for the design and construction of such machines at that time, we were continuously having to resolve technical issues which invariably needed an instant response when machines were broken down on site. I very soon realised that if Tim was given a problem to solve, one could rely totally not only on his ability to resolve the problem, but one knew it would happen with a high degree of immediacy.

Needless to say, a very close relationship built up and as our aerial lift fleet was expanding rapidly, as the idea of platform rental was being accepted by more and more industries all over the country, our depot network was also expanding, which resulted in the need for in-house management of the day to day maintenance of an evergrowing fleet and the problems encountered as we commenced manufacturing our own platforms. In 1977, Tim was promoted to manager of operations planning and Central Services for John Laing and later that year, I invited him to become the works manager for EPL International, where continued growth and demands from our newly introduced manufacturing division necessitated such an appointment. Tim performed this task very successfully and his enthusiasm and competence made a great impression on all who worked with him.

In 1979, he became technical services manager of EPL with responsibility for providing all technical advisory services. As the company grew and took on more and more responsibilities for new depots and its manufacture and sales activities, Tim became chief engineer. In 1984 he took on responsibility as chief engineer of the EPL for John Laing Construction's Central Plant Engineering Services. In 1988 he was appointed director of EPL engineering, EPL Plant and Access Hire, responsible for Central Plant Engineering Services, Quality Services, Safety Services, Fabrication Services and an electrical contracting business.

In 1995 he became engineering and services director



- Laing Plant and EPL Access. Laing Plant was the equipment organisation of Laing Construction that traded as EPL on the external market. His responsibilities included:

- Applications Engineering Department for all lifting equipment used in the Laing Group
- Inspection and Testing Department a UKAS accredited in-Service Inspection Body
- Safety Department providing a safety service to Laing Plant and EPL Access
- Training Department providing CITB CTA operator and safety training both internally and to the external market.
- Quality Department Implementation and maintenance of quality system registered with BSI to ISO 9001.
- Servicing the effective maintenance of the EPL Access fleet through a network of depots.
- Central Repair facility at St Neots incorporating mechanical and electrical maintenance, fabrication and painting facilities.
- Representing the Laing group on industry bodies such as the CPA, IPAF and the British Standards Institution.

Looking at Tim's career between 1975 and 2001, it is fair to say that he enjoyed a meteoric rise within one of the UK's largest civil engineering contractors and few people that I have come across could have met the huge technical demands placed upon him. He was dealing with such a varied range of equipment, where problems large and small either in the workshop or in the field had to be solved, always as a matter of urgency. He had a remarkable ability to remain calm and polite in the face of adversity and was always able to not only to get on with people, but to remain polite with those who were not always prepared to be polite to him, a trait which stood him in good stead throughout his working life.

2001 saw the financial collapse of the John Laing Construction as a result of a number of major contracts taken on at tender prices which turned out to be far too low. Sadly, the company was sold to one of John Laing's subcontractors, O'Rourke, for a reputed £1, fortunately, that did not include EPL International, which was saved from possible disaster by a management buyout. Tim, with hindsight one can say, wisely decided not to participate in the buyout and very quickly found employment as engineering manager at Hewden Tower Cranes, with responsibility for providing applications and design



engineering services along with quality and safety liaison.

I remember telephoning him when I heard of the Laing collapse, suggesting that he came and joined the notified body Powered Access Certification (PAC) which at that time was a subsidiary of IPAF. Tim had already become one of the leading technical experts on the use of tower cranes as John Laing Construction had operated its own fleet for many years, and he was responsible for their maintenance and safety. He indicated that he felt that the challenge within his new job would satisfy his enquiring mind. My parting words were, "if it does not work out, give me a call." About a year later I was overjoyed to receive that call which led to him joining PAC in September 2002 as a technical officer working with our technical director, the late John Hocking.

When I retired from IPAF in December 2003, I succeeded in buying PAC from the federation. Sadly, we lost John Hocking during the intervening period, but Tim's experience of the aerial platform industry had prepared him well for taking over as technical officer of a Notified Body, undertaking CE certification for aerial work platforms.

His previous involvement with platforms at EPL and his very considerable knowledge of tower cranes and mobile cranes equipped him perfectly for dealing with design approval on a huge variety of platforms. It required huge reserves of tact and diplomacy when dealing with engineers from the other side of the world who have never understood the workings of the European Commission. They often found it difficult to accept the rejection of some of their designs where they failed to meet some of the more stringent requirements. A great percentage of PAC's CE certification work has always been with North American based companies where until recently there has not been a fully worked out US Standard and where it could be said that the absence of such a Standard resulted in unnecessary accidents. Tim was a master at dealing with such situations as not only was he a very good listener, he also had the unusual ability to listen to people with whom he had to disagree on a particular technical point and then by skilful argument persuade the client to meet the requirements of a Standard and leave them thinking it was their own idea to meet with that particular requirement. This ability to convince an experienced engineer that he was wrong without actually having to state the position too bluntly was one of Tim's greatest





assets. One cannot afford to make mistakes with CE certification. The great skill was not in finding the errors but getting it right without offending the client.

Quite apart from his involvement with aerial work platforms, Tim Watson Consulting had equally demanding roles both in the world of cranes, providing a technical service to the CPA. His long experience and involvement with cranes, ranging from tower cranes, lattice and telescopic mobile and crawler cranes is almost certainly unparalleled, which is probably the reason why the Health & Safety Executive used to call upon his expertise following serious crane accidents or other technical problems where his knowledge and experience invariably guaranteed an appropriate response. One could say, without fear of contradiction, that in the fields of aerial platforms and cranes, Tim was the most highly qualified and experienced engineer in Europe and was regularly sought to give evidence as an expert witness in these two fields where prosecutions or legal disputes followed serious accidents.

The loss of Tim will leave a deep hole in two progressive industries, but it has also brought great sadness to his many colleagues and friends worldwide. Tim led a very full and organised life, befriended by almost all who met him, either socially or through business, and to the end he was one of those rare individuals whom you recognised within the first few minutes of meeting him, exuded charm, competence and courtesy. You knew instinctively that if he took on a commitment he would deliver in full and on time.

Having known Tim as a friend and colleague and worked with him for over 45 years, I know that he did manage to have a private life, living with Judy in the lovely Lincolnshire Wolds, where his pet chickens took his mind off his work. I feel that we have all lost someone who will be very difficult to replace in our thoughts and our lives.

My thoughts now go out to his wife, Judy and all the family.

Filip Deschrijvere 1971 - 2020

Filip Deschrijvere, managing director and owner of Belgian aerial lift sales and rental company Rentalift, died suddenly from heart failure on Monday, March 30th. He was only 48. Q.

Deschrijvere and his wife Marleen De Leersnyder founded Rentalift in 2000 in the town of Izegem, due north of Kortrijk, close to Roeslare. The company is the Belgian dealer for Multitel truck mounted and spider lifts, as well as Jekko mini and spider cranes and Almac tracked booms and scissor lifts.

The company also runs a rental fleet of aerial work platforms, including booms, scissor lifts, truck mounts and telehandlers and is still managed by the couple with eight employees.

Dale Blackwell 1954 - 2020

Dale Blackwell, executive director of the California Rental Association and owner of Sacramento based Abba Dabba Rentals, passed away on April 17th, following complications from a severe traumatic brain injury, he was 65.



Abba Dabba Rents was established by Blackwell's father in

1957 and offers a wide range of equipment, including boom and scissor lifts and telehandlers from two locations. He was also president of the California Rental Association from 2003 to 2005 and an executive director for almost 15 years. He was also a strong supporter of the American Rental Association having sat on its Dues and its Political Action committees. He won the Region Nine Person of the Year award in 2002.

He is survived by his wife Victoria and five children, Kerri Costarella, Scott, Jeffrey, Randall and Jena, as well as his parents, Gene and Betty, siblings Bob, Dianne and Christine, and four grandchildren.

A celebration of life service will be held when possible at a future date.

Andrew Stewart R.I.P

Andy Stewart, national sales manager of Mantis Cranes UK passed away in mid April, having been suddenly taken ill in late January. In spite of the best efforts of his medical team he passed away 12 weeks later with his family at his bedside.

Stewart joined Mantis in 2013 as a regional sales executive becoming national sales manager in 2016. Having started out in retail in 1981 as a trainee with shoe company Oliver, he moved up through the ranks before joining electrical retailer Comet. Then in 1995 he switched to the material handling industry, becoming a sales manager with Forkway, moving on to Swire Material Handling a couple of years later, and then in 1998 Dawson Rentals where he remained for the next 14 years renting and leasing Toyota and Doosan fork trucks along with a range of aerial work platforms. After trying his hand with smoke alarms he joined Mantis and the tower crane industry and never looked back.

A statement from his colleagues said: "For those who knew Andy, you will remember his laughter, generosity and of course his passion for talking, not to mention Cranes. Andy had a great desire for life and breathed positivity in everything he did. Along with being a Family Man, Andy was described as a genuine people's person, he always appeared happiest when dealing with clients, staff or interacting with anyone who crossed his path. He was a devoted supporter of Tottenham Hotspur which evoked great rivalry with work pals."

"Having worked at Mantis for the last seven years, he was and will always be embedded into the Mantis family. He will be greatly missed as an employee, colleague and a true genuine friend. We would like to express our deepest sympathy and condolences to Andy's wife Janette, their children and extended family at this extremely difficult time."

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This may appear challenging when the natural instinct is to 'hunker down' cut everything back and just get through the crisis, often sacrificing long built up reputations. But there are alternatives.

By working together in a constructive manner and understanding each other's concerns and challenges, companies and the industry as a whole can stay strong and in a far better position to bounce back when all this has passed, as it most certainly will.

The Vertikal Press will be here all through the crisis, continually reporting on the industry we love and breathe, continuing to publish the magazines and providing a daily news service via the Vertikal.net web portal. We are also open to all manner of ideas and ways in which we can help support you - our readers and customers.

In times of crisis, creativity, openness and maintaining your presence in the market wins the day. This is when a company's true colours, depth and quality shine through - and the weak are exposed. So, keep in touch. Keep sending your news and continue to work closely with suppliers and partners as well as your customers - they are all important.

We will work with you to make sure you can maintain your profile. If you need help in any area - from finding ways to continue your advertising programmes, to assistance with editorial/news items - we are here to help.

The Vertikal Team, Leigh, Nicole, Keng, Pam, Clare, Mark, Rüdiger, Lee, Alex, Ed, Poppy and our fantastic contractors - Brett, Roland, Anja, Rob and Saul.





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and Old Equipment Exposition August 28-30, 2020

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Concordia, Kansas, USA Tel: +1 785 243 0083 www.hcea.net

Bauma CTT 2020

September 08-11, 2020 Russian construction equipment exhibition Moscow, Russia Tel: +4989 94922-339 www.bauma-ctt.ru

JDL Expo

September 09-11, 2020 French cranes and access exhibition/event Beaune, France Tel: +33 (0)1 45 63 68 22 www.jdlexpo.com



18 to 19. September German access and lifting show Karlsruhe, Germany Tel: +49 721 3720 5096 www.platformers-days.de



September 2020 - Exact dates to be confirmed Hire Association Europe annual awards dinner London, UK Tel: +44 (0) 121 380 4605 www.awards.hae.org.uk

IPAF Summit and

awards dinner

October 08, 2020 Annual Summit and IAPAs awards dinner of the International Powered Access Federation London, UK Tel: +44 (0)15395 66700 www.ipaf.org

Liftex/LEEA conference

October 13-14, 2020 Annual conference of LEEA Lifting Equipment Engineers Association Liverpool, UK Tel: +44 (0) 203 488 2865 LiftEx 2020 www.liftex.org

CICA Conference 2020

October 15-17, 2020 The annual conference of the Australian crane association Perth, Australia



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The ARA Show 2021

February 21-24 2021 ARA convention and rental show New Orleans, Louisiana, USA Tel: +1 800 334 2177 www.arashow.org

SC&RA Annual Conference

April 12-16, 2021 Annual Conference of the US crane and heavy transport association including the Jobs of the Year awards La Cantera Resort, San Antonio, Texas, USA Tel: +1(703) 698-0291 www.scranet.org

Vertikal Days 2021

13-14 May UK/Ireland crane, access and telehandler event. Tel: +44 (0) 8448 155900 www.vertikaldays.net



AR/

Smopyc 2021

SMOPYC

May 26-29, 2021 Spanish construction equipment exhibition Zaragoza, Spain Tel: +34 976 764 700 www.feriazaragoza.es/ smopyc-2020

Interschutz 2021

14 -19 June 2021 International fire and rescue show Hannover, Germany Tel: +49 511 89-0 www.interschutz.de

Apex 2021 June 15-17, 2021 International powered access trade show Maastricht, The Netherlands Tel: +31 (0)547 271 566 www.apexshow.com



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