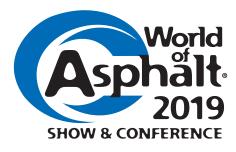


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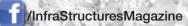
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A Brief Word...

Here we are mid-summer, just when you don't want to be thinking about the world, especially the slow, cold approach of winter. Sadly events, both near and far are not conspiring to let us relax with a cold drink in the sunshine.

The talk of trade wars and tariffs is just getting some traction. Scrap prices are sinking and ore prices are set to follow them. Even Canada's stand-by, OIL is going to take a hit.

According to an as yet unverified story, China is looking at non- U.S. dollar-traded Iranian oil as a replacement supply. This, coupled with the EU's disagreement with the U.S. on Iran and other things, sets a rather dire backdrop to the economic forecast.

Canada being far too entwined with the U.S. economically, particularly since the mid-1970s, means it doesn't look good. Scrap firms are already clearing out stock and in many cases shipping equipment to U.S. facilities.

With May waffling on Brexit and Trudeau failing to commit to CANZUK, Canada is in for a bumpy ride. Fuel prices are unlikely to fall and equipment and parts set to increase. The equipment industry will be one of the first to take it in the neck.

Forewarned is fore armed as the expression goes, and InfraStructures is the go to for what is happening in the industry within Canada and abroad. In our pages will be trends, technologies and ideas to help you prepare for the

Which way to the beach?



On the cover:

HIAB ACQUIRES EFFER FROM CTE GROUP

Hiab, part of Cargotec, has entered into an agreement to acquire the Effer loader cranes business from the CTE Group for an enterprise value of €50 million (\$76.7 million). This acquisition means a significant advancement for Hiab's ambition to be the global leader in cranes and the preferred partner for its customers.

Since 2016, Hiab has fundamentally renewed and expanded its HIAB loader

cranes portfolio to become the most modern in the market - just recently announcing its renewed light range cranes in May 2018. With the acquisition of Effer, Hiab will complement its loader cranes portfolio and expand its range of heavy cranes, in particular in the >100 tm segment, in which Effer is recognized as a global leader. Further Hiab crane brands include LOGLIFT and JONSERED forestry and recycling cranes, as well as Argos loader cranes in

Brazil, following its acquisition in October 2017

Hiab and Effer are both leading and recognized premium brands within their specific crane segments and application areas, endorsed by loyal customers and trusted partners. Effer will continue to operate as part of Hiab under its brand and through its dealer network.

"I am happy to welcome Effer to the Hiab family. This acquisition is a bold step in line with our growth strategy to be the global leader in on-road load handling and in particular in loader cranes, the industry that Hiab founded nearly 75 years ago," stated Roland Sundén, president of Hiab.

"Through its size and global scale, Hiab offers the most optimal opportunities for continued growth for Effer and I am delighted that Effer is becoming part of an organization with an equally proud past, passion for quality and reliability, and drive for innovation," said Lorenzo Cipriani, CEO of Effer.

"With a comprehensive crane portfolio and a strong global sales and service presence in complementary geographies, Hiab and Effer will jointly become a stronger partner for our customers, helping them reach their full potential," concluded Joakim Andersson, senior vice president Cranes, at Hiab.

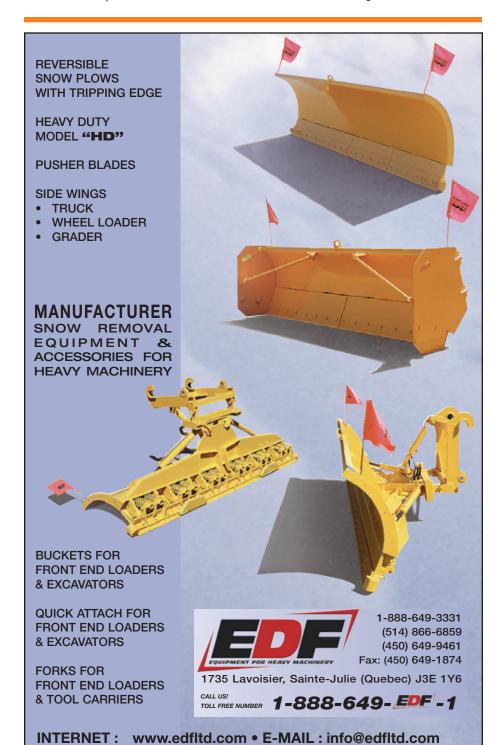
Effer, founded in 1965, has over 50 years' experience in developing and manufacturing knuckle-boom cranes, with its product range encompassing truck cranes with a 3 to 300 tm lifting capacity, special application truck cranes, and marine cranes. Effer S.p.A. is headquartered in Minerbio, Italy and has approximately 400 employees. Distribution is managed through a network of over 100 dealers covering 60 countries globally.

The acquisition is subject to regulatory approvals expected to be received in the second half of 2018. Effer's results will be consolidated into Hiab from the closing date.

Source: Cargotec Corporation

HEXAGON STRENGTHENS ITS SAFETY-ENHANCING SOLUTION SUITE WITH THE ACQUISITION OF GUARDVANT

Hexagon AB recently announced the acquisition of Guardvant, a recognized leader in operator safety solutions for the mining industry. Guardvant's flagship solution, OpGuard, is used to detect and respond to



driver fatigue and distraction – the most common underlying cause of accidents.

To further mitigate operator-related accident risks, Guardvant's fatigue monitoring capabilities are complemented by collision avoidance and proximity detection solutions, which provide drivers with 360° situational awareness. The combination of safety-enhancing technologies keeps drivers safe, equipment protected, and productivity rising.

The benefits of Guardvant's safetyenhancing solutions are applicable to any industrial worksite, as well as improving transportation safety in industries such as trucking & hauling and aviation. Its market expansion plans are now supported both by new product additions and the ability to leverage Hexagon's wider market footprint.

"Guardvant's highly dedicated and experienced team is a natural fit for Hexagon. We share the vision that driver-assisted solutions are an integral part of safe, efficient, productive operations - whether in mining, construction, agriculture or any industry facing the inherent challenges and risks of operating fleets," said Ola Rollén, Hexagon's president and CEO. "Our combined expertise will enable us to better meet the increasing demand for 'zero harm' safety goals while providing a natural bridge to fully autonomous systems. This is key as more and more of our customers express interest in moving beyond automation into the world of autonomous technologies - a trend we are uniquely positioned to embrace."

Headquartered in Tucson, Arizona, Guardvant will operate within Hexagon's Mining division. The acquisition will be consolidated as of now and has no significant impact on Hexagon's earnings.

Source: Hexagon AB

KOMATSU PARTNERS WITH PROPELLER TO BRING DRONE ANALYTICS SOLUTIONS TO THE CONSTRUCTION INDUSTRY

With drones becoming an increasingly common worksite tool, Komatsu has identified aerial mapping and analytics as a key component of their Smart Construction initiative – a range of integrated hardware and software products designed to offer

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an end-to-end workflow for each phase of construction.

"A Komatsu Smart Construction jobsite by definition is technology enhanced and production optimized," says Jason Anetsberger, senior product manager at Komatsu America Corp. "Adding Propeller Aero as one of our key partners gives our North American distributors and customers exceptional capabilities to achieve this standard in the aerial mapping space. Propeller combines simple, yet powerful analysis tools with accurate and fast site visualization."

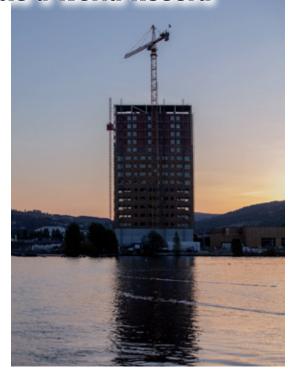
Komatsu spent several years testing various commercial drone mapping and analytics products in North America. In Propeller, Komatsu found an exceptionally robust product, well-suited to meet the needs of modern construction operations. Propeller expertly balances ease-of-use with survey accuracy and reliability.

How to Assemble a World Record

The world's tallest timber building is groundbreaking for more than just its height. When Mjøstårnet was to be built, Moelven employed a completely new and untested assembly technique.

"Outsiders may perhaps think that there is great risk involved in using a new assembly method on such a large and prestigious project. However, following many years of development, we were ready to take a new step," says Rune Abrahamsen, director at Moelven Limtre.

Mjøstårnet will be Moelven's 2nd world record in terms of tall timber buildings. In 2014 the apartment building Treet was completed in Bergen. The 14-story structure, with a height



of 51 m, was first assembled at the factory in Moelv before being transported to the building site for final assembly. However, with Mjøstårnet the beams are taken directly to the building site, without any form of trial assembly.

"This is accuracy taken to the extreme. The beams arrive fully processed at the building site, and there they have to fit down to a millimeter. There is no scope for errors in the assembly. The principle is almost like Lego for grown-ups. All of the pieces have specific place and must fit," says Mr. Abrahamsen.

This construction method also ensures that building Mjøstårnet is much faster. When the world's tallest timber building is completed in March 2019, Moelven will have hoisted several hundred glulam beams into place in the structure over the course of 10 months.

"This assembly method is very efficient in terms of time, and will become the new standard for glulam structures like this," adds Rune Abrahamsen.

The actual assembly has taken place using a large crane at the building site. No external scaffolding has been used. When Moelven has hoisted the glulam structure into place, several storys have been hoisted at once.

"We've hoisted 4-5 floors at a time. Then we've complemented them with Trä8 flooring elements. These are really huge structures, and it's an incredible feeling to watch almost 20 m of the building's height being hoisted into place in one go. Both the building and our pride grow in tandem," says Lars Ivar Lindberg head of assembly of Moelven Limtre.

Source: Moelven Limtre

Propeller's processing machinery crunches thousands of drone images in hours, and delivers the results as a cloud-based 3D model right to the user's desktop or tablet. From there, powerful collaboration and analysis tools let users perform height, volume and slope calculations, and measure change over time to confirm that a project is on track.

"Worksites are starting to see the real business value of accurate, up-to-date drone data," says John Frost, vice president of Business Development at Propeller. "We drive that value through workflows that enable everyone to understand who's moved what material, how much, and where. It's all about empowering worksites with the information they need to make data-driven decisions to reduce costs, ensure quality, and use resources efficiently. Now more than ever, stakeholders on site, or in the head office miles away, can stay up-to-date with exactly what's happening on the ground."

More importantly, Propeller's technology platform supports multiple coordinate systems, including local site calibrations. This allows personnel to capture up-to-date survey data expressed in the specific geospatial coordinates they already use on that jobsite. Local grid support is crucial for ensuring drone-captured maps and models "match up" with plans and previous surveys.

Now available through a widespread network of Komatsu distributors across the U.S., Komatsu Equipment Company (KEC), a leading Komatsu distributor headquartered in Salt Lake City, Utah, was among the first to roll out Propeller solutions to Komatsu customers as a result of this partnership. Based on the positive response so far, KEC is confident the construction sector will be quick to adopt this technology.

"Anyone can fly a drone – it's what you do with the data that makes an impression," says Chris Faulhaber, Smart Construction business manager at



Komatsu Equipment Company. "Propeller provides fast, accurate data processing via a web platform that is unparalleled. The platform is easy to use, facilitates healthy collaboration and delivers vital information quickly—so everyone can work together better and faster than anticipated."

Source: Komatsu America Corp.

PETERBILT GRADUATES 50TH FACTORY TRAINED TECHNICIAN CLASS

On August 10, 2018, Peterbilt Motors Company certified the graduation of the Peterbilt Technician Institute's (PTI) 50th graduating class.

Since PTI opened its doors in November 2013 at the Universal Technical Institute campus in Dallas, Texas, more than 500 students have graduated from the program. PTI has placed more than 95% of graduates with a Peterbilt service location or directly with a Peterbilt customer.

"The PTI program continues to be of significant value to the overall Peterbilt dealer network. Our dealers see the benefit in having a consistent training message and bringing in much needed, new talent into the network," said Brian Brooks, Peterbilt Technican Institute director, Peterbilt Motors Company. "Many of our graduates have taken increased responsibilities within their hiring dealer, from lead technician, to service writer, to shop foreman, to training manager."

The PTI graduates boast a 90% retention rate once placed with a customer or service location.

Peterbilt Motors Company, located in Denton, Texas, has a global reputation for superior quality, industry-leading design, innovative engineering and fuel efficient solutions, and is recognized as the "Class" of the industry.

Peterbilt provides a comprehensive array of aftermarket support programs through its 350-plus North American dealer locations that complement its full lineup of on-highway, vocational and medium duty products, including alternative fuel vehicles. Peterbilt offers industry-leading service and support, including SmartLINQ connected truck technologies, expedited Rapid Check diagnostic services, the Red Oval certified used truck program, automated parts inventory replenishment and 24/7 complimentary Customer Assistance.

Source: Peterbilt Motor Company

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ACROW BRIDGE SUPPLIES STRUCTURE IN PORT BRUCE, ONTARIO

Acrow Bridge supplied a modular structure for use during the reconstruction of the Port Bruce Bridge, Ontario. The bridge will restore safe passage of traffic after the collapse of the existing bridge in February during heavy rains and flooding throughout Southwestern Ontario.

The bridge is the only direct route over Catfish Creek, which divides the north and south sides of the small town on the shores of Lake Erie. In addition to impacting local businesses and residents, the collapse and resulting 5 km detour has led to increased response times for emergency vehicles and inconvenienced visitors to the area, which is a popular destination for anglers during the May to early October fishing season.

The Acrow bridge was purchased by Elgin County, which anticipates reusing it for future projects. The single-lane span is 54.8 m long and 5.5 m wide with an epoxy

aggregate anti-skid coated steel deck and a CL-625 ONT Truck load rating per Canadian Highway Bridge Design Code. Construction on the temporary bridge began July 3 and was completed on August 15. It opened to traffic on August 20, 2018, and is expected to be in place for 2 years.

Spriet Associates Ltd. of London, Ontario is the design engineer for the project and the contractor is Maclean Taylor Construction Ltd. of St. Marys, Ontario.

Source: Acrow Bridge



ASV Adds Saskatchewan Dealer to Network

ASV Holdings Inc., a manufacturer of all-purpose and all-season compact track loaders and skid steers, has added GlenMor Equipment to its dealer network.

The Prince Albert, Saskatchewan-based dealer will offer all ASV Posi-Track® compact track loaders, featuring best-in-class



This includes the new RT-40, an industry-leading small-frame compact track loaders, the VT-70, ASV's first mid-frame vertical lift model, and the RT-120 Forestry, the industry's most powerful compact track loaders. The company will also carry ASV's full line of skid steer loaders.

"GlenMor Equipment is a pillar in the Prince Albert community," said Jim Haroldson, ASV district sales manager. "The company has a reputation for excellent customer service, as well as experience with ASV equipment, which can be depended upon during the frigid Saskatchewan winters."

GlenMor Equipment offers new and used equipment sales and rental equipment, specializing in products and accessories for acreage maintenance, construction, farm and recreation.

"We've been proud supporters of our region's construction and agriculture industries for more than 35 years," said Bryce Floer, GlenMor Equipment owner. "We serve our customers by offering high-quality, dependable equipment like the ASV line of products, which we know always perform well in challenging conditions."

GlenMor has a full service department that provides maintenance, repairs and parts.

Source: ASV Holdings Inc.

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Quartier Bleu, a trendy residential and shopping district is currently under construction until the end of 2018 on the Blauwe (Blue) boulevard in the marina of Hasselt. Eight WOLFF cranes in the house colors of the contractor STRABAG Belgium NV ensure that building materials get moved from A to B on this construction site in the capital of the Belgian province Limburg. Fast installations and precisely coordinated tower heights provide for a smooth construction progress despite confined space conditions.

All the WOLFF 6015, 6023 and 6031 tower cranes are flat top models from the WOLFF clear series.

"We chose these cranes because they have fewer components and are quicker to assemble than other crane types," explains Dave De Keyser, managing director of STRABAG BMTI BVBA, the service company of STRABAG Belgium NV. In addition, the maximum load capacities of the cranes from 8.5 to 12 t optimally meet the requirements on the construction site, such as the handling of reinforcing steel mesh and concrete skips.

With tower heights from 46.1 to 73.5 m and jib lengths between 50 and 60 m, the WOLFF cranes slew effortlessly below each other and do not get in each other's way

when lifting formwork elements and precast concrete components.

The assembly of the top-slewing cranes had to be minutely planned

and offered quite a spectacular sight: 2 mobile cranes with load capacities of 250 and 400 t and a working radius of 35

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to 40 m gradually let the 8 cranes grow to

to limited space on the construction site, the mobile cranes managed the assembly from the road. As a result, traffic was temporarily blocked, which

required a special permit from the city administration.

their final heights within 3 months. Due



of WOLFFKRAN Belgium BVBA.

For economic reasons, the cranes were

"Since all of the cranes are freestanding, they were anchored in massive concrete foundations. We therefore turned to the 2-part WOLFF foundation anchor. The spigots for the crane connection can be unscrewed and reused, with only the less expensive anchors remaining in the foundation. We also used a larger tower section of 2.30 x 2.30 m for the WOLFF 6023.8 clear with a tower height of 73.5 ms," says Frédéric Van Hoorebeke, managing director set up in the middle of the construction site, which allowed for the use of cranes with shorter working radii and lower lifting capacities than would have been required if they were placed on the edge of the site. For the dismantling, the mobile cranes will again be set up at the edge of the construc-

STRABAG Belgium NV chose to use WOLFF cranes on this project following the successful cooperation in the construction of the Books residential and commercial complex in Hasselt and the Thor technology park in Watterschei.

"We were also convinced by the comprehensive WOLFFKRAN service from a single source," explained Mr. De Keyser.

In line with its expansion plans for its own crane fleet, 4 of the cranes used in the Quartier Bleu have already been transferred to the ownership of STRABAG. The other 4 cranes will be sold after completion of the 18-month operation at the port of Hasselt.

Source: WOLFFKRAN International AG



First Class Attachments Introduces the TSS 100 Sidewalk Spreader from RMEC

The TSS 100 is designed by RMEC Inc. to enhance safety, improve performance and streamline maintenance, all of which helps users control costs and reduces down time. These sidewalk spreaders have low overall weight and large-diameter wheels and tires that reduce damage and wear on pathways and roads while providing excellent ground clearance.

Maintenance is simplified, with 2 easy-to-reach ports that deliver grease to all pivots and bushings without needing to reach into awkward locations. Additionally, spreader wear parts are readily reached from one side of the trailer, speeding replacement and reducing the risk of injury from climbing under or inside the equipment. A removable bulkhead allows convenient access to the hopper for maintenance.

The electrical system is designed to be user-friendly, with a single junction box located near the front of the hopper, making plug changes to different machines quicker and easier. The TSS 100 is equipped with closed-circuit surge brakes which operate without an electrical connection to the towing vehicle.

RMEC introduced the TSS 100 in 2018 in response to a gap in the range of equipment available for municipal-level sidewalk maintenance. Previously the company had built a reputation for heavy-duty excavator accessories, including buckets, thumbs, couplers, rakes rippers and hammer attachments. The TSS 100 is built to the same standards of toughness as the excavator tools.

First Class Attachments Inc. (FCA) is proud to welcome RMEC to its family of municipal and institutional maintenance attachments. With its experience in industrial design, RMEC brings a strong focus on



quality and design features that have a positive impact on tool life and attachment performance.

FCA is an independent distributor of attachments and always on the lookout for innovative and high-quality machines to add to the portfolio. With FCA, users will find it easier to locate and acquire all the attachments needed for almost any job.

Source: First Class Attachments Inc.







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Is Technology the Answer to Preventable Deaths and Injuries in the Workplace?

Exposure to electricity is a major cause of death among construction workers in Canada. On average, 143 construction workers are killed each year and thousands are severely injured due to electrocutions.

Power lines and overhead cables are commonplace on construction sites and those working nearby are particularly at risk - even more so when vehicles are involved.

In 1999, a construction worker in Saskatchewan was fatally injured when the crane he was working on backed into a power line. The driver had failed to lower the boom the worker was standing on far enough and consequently the worker was hit by 14,400 V of electricity. He suffered 3rd and 4th degree burns to more than 60% of his body, including his face, and had to have his right arm and left leg amputated.

In Canada, human error is the cause of over 80% of deaths caused by electrocution and for the operators of construction vehicles, not seeing overhead cables poses a serious risk - even power cables carrying as little as 750 V can kill. Yet this can be entirely prevented with the use of appropriate vehicle safety technology.

Coming into contact with an electrical cable in a vehicle is a very scary prospect. While large rubber tires might help to insulate the vehicle and keep the driver safe from danger, the extreme heat from high voltage can cause tires to explode. The driver and other workers nearby are therefore all at severe risk of death or injury.

Vehicle blind spots are a major factor in the cause of such accidents. The complex shape and size of many commercial vehicles and machines greatly limits the driver's visibility, making

accidents much more likely.

In recent years, reversing and warning alarms along with back up cameras and radar have



helped to combat many of the issues involved in using vehicles and specialist equipment on construction sites, particularly in the case of blind spot collisions. However, although these devices are highly effective for detecting objects, such as the structures that keep high voltage cables in place, they cannot detect the cables

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1999 VOHL DV-4000, JD 275 hp engine, telescopic chute, ice screw, good condition.....**\$67,500**

themselves. This requires the additional assistance of a high voltage overhead cable detector or "wire-watcher".

Alongside all round vehicle visibility and radar obstacle detection, which has been proven to reduce collisions in the industry and improve safety considerably, wire-watchers will warn drivers via a roof-mounted aerial of the proximity of overhead cables and alert the driver by flashing a warning light and sounding an alarm whenever a cable is detected. Since the introduction of wire-watchers, it is estimated they have saved thousands of lives and prevented numerous injuries.

As well as robust health and safety policies and procedures, safety technology can save a great deal of time and expense, but most importantly it will save lives.

Depending on the circumstances, the fines for companies that are involved in workplace deaths and injuries vary from tens of thousands to millions of dollars. However, the human cost and lifelong suffering of the victim's family and friends is absolutely immeasurable. It is this that truly puts tragic, yet preventable, workplace accidents into perspective. Investing in vehicle safety technology is a small price to pay for the wellbeing of Canada's workforce.

Source: Brigade Electronics

348 Series 2 Link-Belt Cranes introduces the all-new 348 Series 2 lattice crawler crane. Over the years, Link-Belt's 348 class of lattice crawler has been job proven on

projects all over North America. Crane owners and operators will have a lot to like about the new 348 Series 2 273 t lattice crawler crane. First shipments of the new 348 Series 2 will begin shortly



following final testing in Lexington, Kentucky.

Source: Link-Belt Cranes





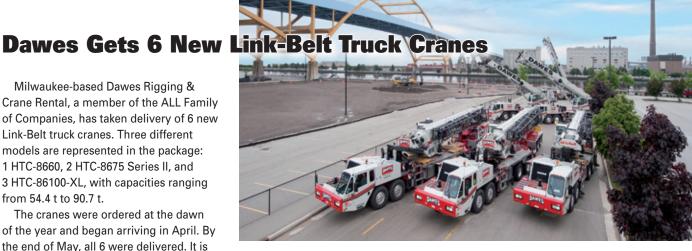
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Milwaukee-based Dawes Rigging & Crane Rental, a member of the ALL Family of Companies, has taken delivery of 6 new Link-Belt truck cranes. Three different models are represented in the package: 1 HTC-8660, 2 HTC-8675 Series II, and 3 HTC-86100-XL, with capacities ranging from 54.4 t to 90.7 t.

The cranes were ordered at the dawn of the year and began arriving in April. By the end of May, all 6 were delivered. It is a rarity that a half-dozen pieces of brand new stock from the same manufacturer are delivered so close together, so Dawes took advantage of the opportunity by taking a family photo of the newly acquired cranes on the banks of Lake Michigan.

"These are all versatile machines," said Stew LaPointe, Dawes rental coordinator. "As a full-service dealer of the Link-Belt brand, there's no better way to showcase their power and flexibility than by making them available for rental across the deep reservoir of construction and contracting



professionals throughout Wisconsin. This equipment can be used for everything from residential carpentry to all types of construction - setting structural iron, precast concrete, HVAC work. They will be highly in-demand by our customers."

As with every ALL Crane branch, Dawes cultivates a reputation for maintaining a crane fleet consisting of the latest model years. This acquisition helps to offset the recent sale of some older equipment.

"We like to have the latest equipment in the rental fleet. Having 6 cranes come within a month and a half is something you don't often see, but it demonstrates our commitment to staying current," said Mr. LaPointe. "Our hope is that customers know they're dealing with a company that's dedicated to not only updating our fleet, but also employing the safest crane technology on the market today."

The cranes will be dispersed among Dawes' locations in Milwaukee, Madison, and Kaukauna, Wisconsin.

Source: The ALL Family of Companies

N&A James Puts Terex® AC 40/2L All Terrain Crane to Work

Crane rental and heavy haulage specialists N&A James Ltd. recently took delivery of a new Terex® AC 40/2L all terrain crane. The company is growing steadily, and this new versatile 2-axle crane will help the team meet the needs of their customers.

"We were pleasantly surprised with how fast Terex Cranes was able to help us identify the right model and deliver a new unit to our yard," said Kevin Green, manager for N&A James. "Our Terex Cranes



salesperson, Tim Leech, got us what we needed fast, and we appreciated that."

The Terex AC 40/2L crane is the most compact unit in the 40 t capacity class



and is well-suited for operations in constrained spaces. It has a main boom length of 37.4 m and overall system length of 45.4 m, and with a total length of just 10.8 m and travel speed of 80 km/h, the Terex AC 40/2L crane can travel on public roads with ease.

Committed to maintaining the industry highest standards, N&A James puts a lot of research into the equipment they purchase. The Terex AC 40/2L all terrain crane's

impressive load charts, maneuverability and durable construction is a perfect fit for this industry leader.

N&A James is a family-owned company established in 1954 in Carmarthen, UK. The company specializes in heavy, and crane hire with cranes ranging in size from 18 t to 130 t and vehicles capable of hauling up to 150 t.

Source: Terex Corporation

Combilift, the material handling solu-

tions provider, has launched the Combi-OP, the first purpose-built order picker on the worldwide market for long products.

Previously customers have had to modify traditional order pickers to cope with the specific demands of long loads. The Combi-OP now guarantees much more efficient and non-compromised operation for easy picking of long profiles in, for example, steel service centers.

This man-up truck features a long platform to enable the operator to access long products stored at height. It is fitted with guide rollers to enable it to operate in existing guided narrow aisles of just 1.4 m - the same width as those needed for Combilift's GT truck. It enables operators to easily and safely hand pick orders for customers from the roomy elevated platform and it has a capacity of 450 kg. Its overhead guard, light anti-slip floor, self-closing platform gate and guard rails guarantee utmost safety, as does the travel speed and



steering angle which automatically adjusts according to lift heights.

The Combi-OP was launched during the official opening of the new Combilift Global Headquarters. Built at a cost of €50 million (\$75 million), the new 46,500 m² global headquarters and new manufacturing facility will allow Combilift to double production.

Established by Martin McVicar, managing director and Robert Moffett, technical

director, in 1998, Combilift is a privately held and fully capitalised company. It developed the world's first multidirectional all-wheel drive IC engine powered forklift in 1998. In its first year of operation, Combilift produced 18 units, 17 of which were exported. The company has more than doubled in the last 5 years and now has 40,000 units in operation in over 85 countries.

Source: Combilift

Manitou Expands Industrial Forklift Range for North America

Manitou introduces an expanded offering of industrial forklifts for the North American market. Diesel machines make their debut with 8 internal combustion diesel models joining the Manitou MI Industrial Forklift Range. An additional 4 new electric models are also now available, expanding the Manitou ME Industrial Forklift Range. With the addition of these new machines, Manitou's industrial forklift line for North America now includes 12 models in the MI Industrial Forklift Range and 14 models in the ME Industrial Forklift Range.

"Expanding our offering of industrial forklift models in North America allows us to provide handling solutions for even more unique industries and applications," said Chris Mathijs, director of sales for Manitou products, Manitou Group. "We are especially excited to offer a diesel option for those customers that require an efficient and ergonomically-designed forklift suitable for many different lifting applications from lumber to concrete to tiles and bags and other outdoor uses. Our new forklift ranges are environmentallyfriendly with optimal safety features and easy maintenance."

The new diesel-powered industrial forklift models, with lift capacities ranging from 3,629 to 9,990 kg, offer new medium and high capacity options in range. These machines are designed for heavy-duty applications indoors or out. The tires, engine power and robust components sustain intense use in storage, production and distribution industries. All new diesel models have a maximum lift height up to 6 m.

The ME 440, ME 445 and ME 450 add greater lift capacities to the line, providing options that can handle 3,650 to 4,989 kg. They feature 4 wheels, an 80 V battery, 34 hp lifting motor, and a maximum lift height of 6 m. The ME 315C provides a smaller 3-wheeled option. This compact machine can easily maneuver through isles as narrow as 312 cm. It is powered with a 24 V battery and 11.5 hp lifting motor.

Manitou industrial forklifts are focused on user expectations for simplicity, comfort, reliability and efficiency, while



keeping the lowest possible operating cost. They are equipped with high-performance engines, a monobloc chassis and multiple mast options. The simplicity in design provides easy access to components, thus lowering maintenance costs. Manitou strategically routes the hose on the forklift mast and provides a honeycomb roof to ensure maximum visibility and safety. Operators will also appreciate a lower and wider anti-slip step on each side of the forklift to ease access.

Source: Manitou Group

Straightpoint Relaunches Clamp-On Line Tensionmeter

Tower erection, maintenance, and service professionals have welcomed the release of an updated version of Straightpoint's Clamp-On Line Tensionmeter (or COLT). Updates to the accompanying Bluetooth load-monitoring app are among a host of new features.

The COLT measures tension on wire rope up to 5,000 kgf (11,000 lbf) and up to 25 mm diameter. It clamps onto pretensioned wire ropes, eliminating the need for additional sheaves or tooling, as is the case with alternative solutions. An integral Bluetooth module, meanwhile, transmits tension data wirelessly to any smart device running the Android or iOS app that also contains an infinite wire rope library. Tension in wire ropes can be measured and logged within a few seconds.

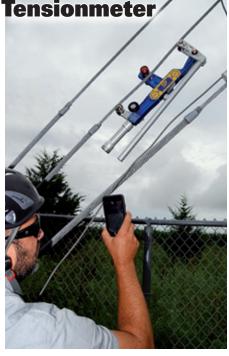
Given the nature of work in this sector, where wind and other elements are of critical concern, a notable feature of the updated COLT is its ability to automatically fetch local weather conditions (tempera-

ture, wind speed, and wind direction), which is added to the data in the logging report. This is in addition to the app already grabbing GPS coordinates. In fact, said David Ayling, director at SP, this is the new version's standout enhancement.

"Professionals in this challenging market need to be acutely aware of all hazards that might impact their work; it is a very dynamic environment," he explained. "Foundations, corrosion, structural overloading, climb path obstructions, weather conditions, and much more must be monitored, logged, and accounted for. The technologically advanced COLT helps in some of these important areas and adds traceability, which is tantamount to safety."

Enhancements to the sheave offer users even greater performance, repeatability, and accuracy.

The COLT has already excelled in the field including applications involving tower and stack guy wires; pretensioned cable barriers; zip lines, bridges; elevators; winch



rope; overhead electric transit wires; fall arrest systems; aircraft cables; and utilities projects.

Source: Straightpoint



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LUBE-A-BOOM® Insulator Answers Utility Market's Need for a Safe, Non-Conductive Equipment Lubricant

Safety is the primary concern for users of all lifting and access equipment. This is especially so when they are working in the vicinity of electrical utilities and other charged properties. It is a message LUBE-A-BOOM® heard loud and clear at last October's International Construction & Utility Equipment Exposition (ICUEE).

"So many private contractors and public agencies in the utility sector sought us out at the Louisville show," says Jo Roberts, Product Development Lead with LUBE-A-BOOM®, of Indianapolis, Indiana. "They already knew LUBE-A-BOOM®, and liked and appreciated our lubricant product line. But they wanted to know if we could provide them with a specific non-conductive lubricant for safe use where and when there is electrical and power exposure."

Ms. Roberts and her product development and research team immediately went to work. They spent a good part of the next year sourcing, testing, tweaking and, upon extensive field testing, now releasing the newest member of the LUBE-A-BOOM® product family.

LUBE-A-BOOM® INSULATOR is available immediately in 425 g spray cans from authorized LUBE-A-BOOM® dealers located throughout the U.S., Canada and markets around the world. A low VOC version, mandatory in some jurisdictions, is also available.

SAFE FOR WORKERS AND MACHINES

The request for and market demand of the newest LUBE-A-BOOM® product is all about worker safety in potentially dangerous situations.

"For any aerial lift, cherry picker or other equipment that moves, slides or lifts and has to be around power – or has anything to do with electrical applications – this is going to insulate the properties that are lubed," explains



Jo Roberts. "INSULA-TOR will prevent these particular workers from being shocked when applying lubricant to the machines, as they and all equipment users must do."

As a highly dielectric product, LUBE-A-BOOM® INSULATOR is an ideal friction reducing lubricant for use around power exposure. It not only insulates and lubricates equipment, but like other members of the LUBE-A-BOOM® product family, it also protects surfaces

against moisture and corrosion. Source: LAB, LLC

LED Light Towers Shine Bright for Autonomous Operation

Generac Mobile Products continues to lead the way in innovative, efficient mobile lighting with the new and improved MLT-4060MVD LED mobile light tower. Purposedesigned for applications in remote locations and extreme environments, this light tower includes features that allow for autonomous operation. An extra-large fuel tank and low fuel consumption allow the tower to run up to 533 hours on a single diesel tank fill and a 750-hour oil change interval, minimizing maintenance costs.

New, more powerful 296 W LED fixtures provide powerful illumination. Generac Mobile Products has nearly doubled the amount of total lumens to 172,200 – equivalent light coverage to that of a metal halide light tower without the hassle of bulb degradation and replacement. In fact, Generac LEDs are designed to last the



lifetime of the light tower, with a 10-year life expectancy.

The tower is outfitted with many easyto-use features. The Power Zone® Autolight Controller, which offers users programmable settings for automated control, including start/stop and dusk-to-dawn settings is standard. The 7 m vertical mast deploys quickly and easily and is fully rotational from ground level. The 4 Generac LED fixtures

light up instantly, so there is no waiting for warmup, cool-down or restrike. Fixtures are built to last, without glass. The impact-resistant plastic modules are IP68-rated against water and dirt ingress.

MLT4060MVD light towers are designed to withstand the rigors of the outdoor





working environment. Each tower has a durable, rust-resistant aluminum cabinet, designed to stand up to weather extremes. New gas-assisted struts make the flip hood easy to raise, providing for ease of service and maintenance.

Source: Generac Mobile Products

Mack[®] Granite[®] Model to be Available with Lytx[®] Offer

Mack Trucks recently expanded the availability of a pre-wire option for equipment from Lytx® – the global leader in video telematics – to the Mack® Granite® model. Mack made the announcement during a ride and drive event featuring Lytx DriveCam®-equipped Mack models in Fontana, California.

"Expanding the Lytx offer to our Granite model means customers with on- and offroad vocational applications have access to the latest safety solutions," said David Pardue, vice president of connected vehicles and uptime services for Mack Trucks. "Whether being used to make drivers become more efficient, or helping prove a driver's innocence in an accident, the Lytx video-based safety program delivers great value to customers."

The expanded collaboration with Lytx builds on a memorandum of understanding Mack and Lytx entered in October 2017.

"Mack continues to be a tremendous partner in enabling our ultimate shared



goal of keeping drivers safe while delivering tangible value to fleet operations," said Eliot Feldstein, Lytx's senior vice president of strategy and corporate development. "With Mack now expanding the pre-wire of Lytx solutions to its Granite models, even more customers will experience the benefits of our programs faster and with best-in-class workmanship. We couldn't be more excited about this offering."

Lytx DriveCam helps reduce unsafe driving behaviors for more than 3,000 organizations through video-based driver coaching and predictive analytics. By adding Lytx Video Services, customers can go beyond safety and help eliminate operational blind spots that keep them from maximizing efficiency, productivity and profitability by adding features like on-demand continually recorded video, optional live stream



OSHA Heat Safety Tool

and support for multiple cameras. This captured footage can be used to provide proof of service or delivery verification through video confirmation.

Available in axle forward or axle back models, the rugged Mack Granite model can be specified for a wide variety of construction jobs, including dump and concrete mixer applications. Granite models are equally at home in the demanding refuse segment as rear-loaders or roll-offs. Municipal customers depend on Granite models for plow applications. For severeduty applications like heavy-haul and logging, Granite models can be specified as a tractor with heavy-duty upgrades.

Depending on the application, Mack Granite models are available with the lightweight, yet powerful Mack MP7 engine or the Mack MP8. Both engines are optimally paired with the Mack mDRIVE™ HD automated manual transmission, which is standard on all Granite models.

Source: Mack Trucks

When you are working in the heat, safety comes first. With the OSHA-NIOSH Heat Safety Tool, you have vital safety information available whenever and wherever you need it – right on your mobile phone. The app allows workers and supervisors to calculate the heat index for their worksite, and, based on the heat index, displays a risk level to outdoor workers. Then, with a simple "click", you can get reminders about the protective measures that should be taken at that risk level to protect workers from heat-related illness-reminders about drinking enough fluids, scheduling rest breaks, planning for and knowing what to do in an emergency, adjusting work operations, gradually building up the workload for new workers, training on heat illness signs and symptoms, and monitoring each other for signs and symptoms of heat-related illness.

Working in full sunlight can increase heat index values by 15°F (8°C). Keep this in mind and plan additional precautions for working in these conditions.

The OSHA-NIOSH Heat Tool is available for Android and iPhone devices.

Stay informed and safe in the heat, check your risk level.

Source: U.S. Department of Labor (DOL), Occupational Safety and Health Administration (OSHA) and the Centers for Disease Control and Prevention (CDC), National

PALFINGER Presents Its First Crawler Crane

At the IAA Commercial Vehicles show in September in Hanover, Germany, the PALFINGER Crawler Crane PCC will celebrate its world première. The all-rounder on a crawler chassis is initially available in 3 variants of about 50 to 115 tm.

PCC stands for PALFINGER Crawler Crane – the first PALFINGER crane mounted on a crawler chassis – offered as a holistic concept.

The crawler crane achieves its full potential not only on difficult terrain and with gradients of up to 60%. Being around 40 cm narrower than a conventional truck, it offers new lifting potential even in confined areas where one centimeter extra can make all the difference. Thanks to the knuckle boom that can be angled upwards, the high lifting power and compact dimensions, the PALFINGER Crawler Crane PCC is also the perfect system for use in urban areas as well as in the industrial and indoor sector. The crawler allows the crane to be quickly repositioned on construction sites as and when necessary. Another advantage is that the crawler and crane

can be controlled, transported and operated separately, which is particularly useful in situations where weight restrictions apply. The crane module can also propel itself on its own stabilisers without the crawler – a process also known as "shifting". If necessary, the PCC

can also be mounted

Institute for Occupational

Safety and Health (NIOSH)

onto the transport truck. This means greater utilisation and maximum flexibility with maximum power for the user.

The first crane manufacturer to offer the crane and crawler from a single source, PALFINGER creates clear added value for the customer. The 3 modules (crawler, crane and counterweight) can be individually combined and operated optimally for a diverse array of tasks. The modules are perfectly matched, while the interfaces and



functions have been thought through right down to the very last detail. For servicing, maintenance and training, one contact person has been appointed for the entire device. Initial training by factory personnel when the device is handed over and, if desired, assistance with the initial jobs, round off the service package. This, too, saves time and money.

Source: PALFINGER AG

Hydro Rents Selected for Multi-Trade Access Solution and Safety Training at Lexington Hospital Expansion

Hydro Rents Carolina, Inc., part of AGF Access Group's rental division, was selected by Alabama-based general contractor Brasfield & Gorrie to provide a full turnkey solution of service, installation, training and equipment rental for the construction of the new Lexington Medical Center addition, the largest hospital expansion in South Carolina history.

The new 10-story patient care tower in Columbia will add 50,632 m², 20 special care nursery beds, 8 operating rooms, 71 inpatient beds and much more to its already popular facility. The immense job, stretching up to 56.3 m, required a multitrade access solution; one that would allow steel erection, glazing, waterproofing, caulking, brick masonry, and glass installations to be completed simultaneously.

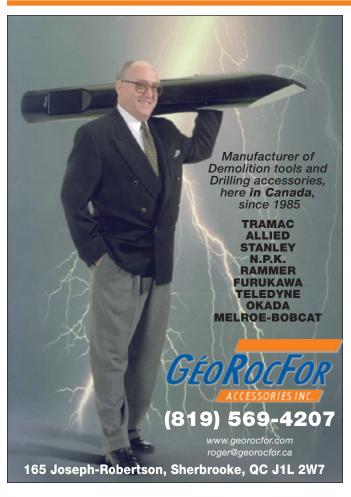
"Scaffolding and aerial lifts can't go that high with the same capability," said Allen Heape, general manager of Hydro Rents Carolina, Inc. "The only solution that was



going to work for them was to use multiple mast climbers that supported extra high capacity for the workers and their tools. That way the workers could chase the steel up and perform any number of tasks at the same time."

Hydro Rents delivered approximately 30 tractor trailer loads of equipment to the jobsite starting in June 2017, supplying 23 factory-new Hydro Mobile platforms and 1,500 mast sections to complete the job. This included 18 Hydro Mobile M-Series mast climbers and 5 P-Series mast climbers. There were also 4 Hydro Mobile H-500 hoists to help move brick up and down.

The M-Series platforms provided the workers with large, 2.1 m wide decks, anywhere from 0.6 to 3 m in length. The





easy-to-use, 10,000 kg capacity platforms allowed workers to load them up with their tools and supplies, such as fiberglass mat sheating, brick and glass for the entire shift. With their smaller footprints, the 2,700 kg capacity P-Series platforms were perfect for constricted areas where the M-Series units could not fit.

"Safety is a huge part of what we do on a daily basis, 24/7," said Mr. Heape. "We take safety very seriously. Hydro Rents organized over 20 classes to train the workers, who were unfamiliar with this type of access equipment. Operators were put through 4-hour user and operator courses on site and anyone working on the platforms had to have a familiarization class before they stepped on the Hydro-Mobile. We had to train over 100 operators how to use the equipment properly to ensure safety and efficiency on the jobsite."

"Not only are we proud to contribute to the building of the new medical center extension in a safe and efficient manner, but we are helping to build an important part of the Columbia community," he added. "This is a significant project for the state of South Carolina and we are full of pride to be playing a crucial part in its construction."

Hydro Rents Carolina, Inc., provides a wide variety of equipment brands such as Hydro Mobile, Multiquip, Hilti, Diamond Products, ReechCraft, and the new MULE (Material Unit Lift Enhancer) by Construction Robotics. There are 8 branches of Hydro Rents located throughout North America. Each location offers a variety of construction equipment for rent at competitive prices. Hydro Rents is known for creating hazard-free work environments while increasing worker safety, security, longevity and productivity.

The Lexington Medical Center is scheduled to be completed in 2019.

Source: AGF Access Group Inc.

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The 2019 Media Kit is available for download on www.infrastructures.com

The Interforst show, held this year from July 18-22, in Munich, Germany, is the leading international fair for the forestry sector. At 4-year intervals it presents future-oriented solutions for the entire timber and forestry sector. A total of 451 exhibitors displayed their products on an area of over 70,000 m².

Mercedes-Benz Special Trucks was exhibiting the Unimog for the first time with its own stand at Interforst. The universal implement carrier is tailor-made for yearround use by municipal forestry departments, private forest owners, forestry managers and contractors.

The exhibits highlighted the great flexibility of the Unimog in forestry applica-

- Unimog U 529 with a Fliegl 2-axle tandem push-trailer;
- Unimog U 530 long wheelbase equipped with a Schliesing front-mounted chipper, a Huber cable winch and high-level bucket loader;
- Unimog U 530 with a Werner heightadjustable cab for the operation of the



body-mounted crane and the Jenz towed chipper.

As a universal, professional implement carrier with a high payload and towing capacity, the Unimog is available for use on 365 days of the year, and dependably takes care of a wide variety of applications related to forest management. In the spring it helps to maintain paths, in the summer it maintains wooded and green areas, in the autumn it chops timber and in the winter it

clears the roads and paths of snow.

Its compact dimensions make it particularly maneuverable - an important criterion when things get tight during the care and maintenance of forests, grassed areas and networks of paths. Auxiliary rear axle steering is available to reduce the already small standard turning circle by a further 20% or so, which further improves maneuverability.

Source: Daimler AG

Where Structure and Ornamentation Merge

Researchers at ETH Zurich have fabricated an 80 m² lightweight concrete slab at the DFAB House, making it the world's first full-scale architectural project to use 3D sand printing for its formwork.

Just 20 mm thick at its thinnest point, decoratively ribbed and not even half as heavy as a conventional concrete ceiling: with "Smart Slab", the name says it all. The slab combines the structural strength of concrete with the design freedom of 3D printing. Developed by the research group of Benjamin Dillenburger, assistant professor for Digital Building Technologies at ETH Zurich, Smart Slab is one of the core elements of the residential unit DFAB House (see box) at Empa's and Eawag's research and innovation platform NEST in Dübendorf. The 80 m², 15 t, ceiling consists of 11 concrete segments and connects the lower floor with the 2-story timber volume above.

ONLY AS MUCH CONCRETE AS NEEDED

3D concrete printing is currently experiencing a boom in architecture, and entire houses have already been printed layer by layer. However, for the Smart Slab project, the researchers did not produce the building components themselves with 3D printing but rather the formwork - i.e. the mould. To achieve this, they used a large-scale 3D sand printer, which means the resulting moulds consist of a kind of artificial sandstone. One of the advantages over the layered concrete printing process is that high performant fiber-reinforced concrete can be used and the structure can be fabricated in the precision of millimeters.

Formwork production is the most laborintensive step in concrete construction,
particularly for non-standardized components. Since concrete is relatively cheap
and readily abundant, the temptation is for
the construction industry to produce the
same solid ceilings over and over again,
but the disadvantage is excessive material
consumption and implicitly, a big carbon
footprint. Digital fabrication methods can
make a key contribution here: components
can be optimized, enabling the necessary stability with far less material. The
geometric complexity of a component does
not matter in 3D printing, nor does it cause

any additional costs – the printer simply prints what it is told to.

COMPUTATIONAL DESIGN COORDINATES PARAMETERS

Professor Dillenburger's research group developed a new software to fabricate the formwork elements, which is able to record and coordinate all parameters relevant to







production. In addition to basic data such as room dimensions, the researchers also entered a scan of the curved wall, accurate down to the last millimeter, which acts as the main support for the concrete ceiling. With the software, one could adapt the geometry of the slab so that at each point it was applied only as thick as structurally necessary to support the force flow. "We didn't draw the slab; we programmed it," says Mania Aghaei Meibodi, Smart Slab project lead and senior researcher in Dillenburger's group. "It would not have been

possible to coordinate all these aspects with analogue planning, particularly with such precision."









If you look at the ceiling from below, you see an organic ornamental structure with different hierarchies. The main ribs carry the loads, while the smaller filigree ribs are mainly used for architectural expression and acoustics. Statics and ornamentation go hand-in-hand. The lighting and sprinkler systems are also integrated into the slab

structure. Their size and position were similarly coordinated with the planning software. In this way, the building technology disappears elegantly into the slab to occupy very little space. This saves only a few centimeters in the DFAB House project, but in high-rises this may mean a few extra floors could be fitted into the same height.

FABRICATION AT THE PUSH OF A BUTTON

After planning on the computer is completed, the fabrication data can then be exported to the machines at the push of a button. This is where several industry partners came into play for Smart Slab: one produced the high-resolution, 3D-printed sand formworks, which were divided into pallet-sized sections for printing and transport reasons, while another fabricated the timber formwork by means of CNC laser cutting. The latter gives shape to the upper part of the Smart Slab and leaves hollow areas that reduce material and weight and at the same time create space for electrical

cables.

The 2 types of formwork for the concreting were then brought together by a third company, which first sprayed the fibre-reinforced concrete onto the sand formwork to produce the finely ribbed surface of the lower concrete shell and then casted the remaining concrete into the timber formwork.

STRONG THANKS TO PRESTRESSING

After a 2-week hardening process, the 11 individual concrete segments were ready for transport to the NEST. Thanks to the precise planning and prefabrication, the installation time at the construction site was reduced to a minimum: a crane hoisted the concrete elements onto the load-bearing wall, where the prestressing took place. Workers pulled steel cables lengthwise and crosswise through the concrete support and into the channels already inserted in the formwork. Tensioning the cables massively increases the system's load capacity.

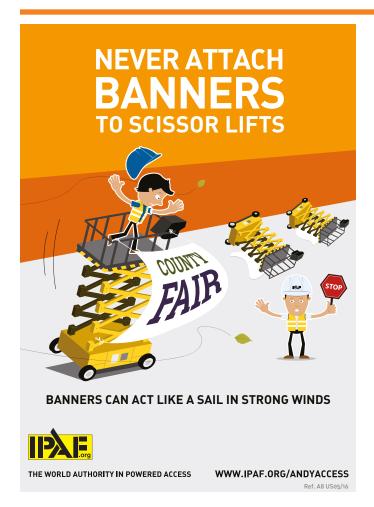
"It was spectacular to see on the construction site how seamlessly our elements fitted with each other and with the

Smart Slab partners

ETH Zurich research groups: Chair for Digital Building Technologies, Benjamin Dillenburger (lead); Chair for Building Materials, Robert Flatt; Chair of Structural Design, Joseph Schwartz Industry partners: Bürgin Creations; Frutiger AG; voxeljet AG; Georg Ackermann GmbH; Stahlton AG; Christenguss AG; Fischer Rista AG; Rudolf Glauser AG; Gom International AG

existing components of the DFAB House," says Benjamin Dillenburger. "We owe this in part to the outstanding interdisciplinary collaboration with our partners. The meticulous work that we had invested into planning completely paid off."

Source: ETH Zurich





Dana Collaborates with Mecalac to Provide e-Drivetrain for World's First Electric Compact Wheeled Excavator

Dana Incorporated recently announced that the company has been collaborating with Mecalac to develop a customized e-Drivetrain system for the new Mecalac e12 electric compact wheeled excavator. This vehicle earned the Energy Transition Award earlier this year as part of the 2018 Intermat Innovation Awards.

With the proven Mecalac 12MTX as a base frame, this version is the world's first compact wheeled excavator powered entirely by electricity. Featuring Spicer® 112 axles and a Spicer 367 shift-on-fly transmission, the Mecalac e12 wheeled excavator delivers the range, performance, and compact size required to support modern urban construction sites.

"As the European construction market embraces the trend toward zero-emission standards for small to mid-sized vehicles, our customers are demanding great strides in efficiency while also requiring reliable performance," said Jean-Baptiste Rousseau, technologies manager at Mecalac.
"Dana was able to adapt the 12MTX
drivetrain to add electric drive capabilities

within our existing vehicle architecture.

With their technical expertise

and open collaboration, we developed an optimal solution and accelerated the delivery of this vehicle to market."

With an 8-hour working range, the engine compartment in the Mecalac e12 houses LiFePO4 (lithium iron phosphate) battery technology for service life that is 3 times longer than classic batteries. The batteries can be charged in approximately 7 hours.

Dana has a long history of developing drivetrain systems for hybrid and electric vehicle architectures. The company also offers patented battery and electronic cooling technologies, along with fuel-cell technology. In addition, Dana engineers had extensive experience with this particular application because the diesel-powered version of this vehicle also features Spicer



drivetrain components.

"As a Tier-One supplier, we understand that the success of electrification in the off-highway industry is driven by performance. These technologies must support a







smooth transition to fully integrated electric-drive technologies optimized within a single package, providing both electrified and conventional powertrain options," said Aziz Aghili, president of Dana Off-Highway Drive and Motion Technologies. "Dana's support for new energy vehicles has been considerable, and growing every year, as the importance of engineering for

hybridization and electrification is further elevated throughout the industry."

Dana is leveraging a wide portfolio of technologies for off-highway customers to offer dozens of successful electrified driveline applications in production and pre-production testing.

Source: Dana Incorporated

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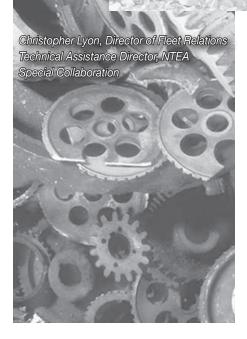
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Underhood Versus PTO Solutions



Vocational vehicles are designed to handle many unique tasks and come with a multitude of auxiliary equipment and support. The key question becomes what works best for operations. Many variables need to be considered before a fleet professional can offer a recommendation or even think about starting the work truck design process. Historically, in Classes 2-5, auxiliary power export options have been mainly limited to a belt-driven provision off the engine and under the hood. As automatic transmissions advance, many are turning to power takeoff (PTO) as a viable alternative. With the addition of PTO, numerous auxiliary options have become available to the vocational truck market.

A STARTING POINT

Understanding design constraints is the most critical aspect. Begin by defining the truck's desired functionality, operating conditions, drive/duty cycles and environmental conditions. Secondly, identify what types of auxiliary equipment are going

to be powered. Determine if you require air, hydraulic or a combination of the two. Lastly, it may be financially beneficial to plan for future demands on the truck. Specification writers do not always anticipate a change in job requirements, which would be a minor cost increase at present versus a more expensive future retrofit. A common example involves dump trucks repurposed with snowplow functionality. Designing a vehicle with central hydraulics could have greatly reduced retrofit cost from the beginning. This is not always possible due to budget constraints and other unknown factors. With this knowledge and a little bit of forethought, you can determine what is best for your operation. For either alternative, the answer can be complicated. It is a good idea to think through the implications surrounding:

- system output (power of an underhood solution versus the PTO alternative);
- space the solution requires of your vehicle;
- weight considerations as each add-on diminishes effective payload;
- maintainability:
- cost.

DEFINING DEMAND AND CONTROLLING COSTS

Everyone wants a vocational vehicle versatile enough to accomplish almost any task; however, this is not financially practical. Understanding demand can save you money in the long run. Thinking about onboard air solutions, the required pres-

sure and volume will dictate the best type of compressor and, ultimately, how much



power is required. Engine-driven compressors are typically most cost-effective for low- to mid-volume requirements (usually 550-2,500 l/min). Larger compressors often carry higher upfront costs as compared to PTO solutions. However, be sure to consider the big picture, including available options from OEM and aftermarket component suppliers. When looking at other auxiliary equipment (such as hydraulic solutions), you can follow the same exercise. When reviewing hydraulic options for a dump bed or snowplow, depending on the duty cycle required, it may be beneficial to look at self-contained electric units that provide hydraulic operations at the point of use (such as a lift cylinder). Oftentimes, this can be very





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cost-effective and simplify truck design. More complex power requirements (like a large generator or other equipment with a driveshaft) will need a PTO provision and an additional gearbox.

AVOIDING MISTAKES

As mentioned, foresight is vital to getting the best solution at the most economical price. Vehicle maintainability, especially related to component locations, is key to



selecting the best fit. Each additional auxiliary component could potentially influence maintainability of a work truck and the component itself. Accounting for space on board and understanding applicability of available solutions help ensure a good selection that gives you the output required to meet your needs with the right capacity balance. Items like generators, cranes and welders may physically intrude on limited space. Another common mistake is simply relying on what has been done historically. Technology continues to advance; new

> options are constantly hitting the market. It is important to examine all advantages of new product offerings rather than assume the traditional option is, in fact, the best solution. Taking the time to analyze work environments, challenges, and actual demands positions you, as a fleet professional, to make the right choice.

REAL-WORLD PERSPECTIVE

It may prove helpful to consider a practical application. For

example, external power export solutions have come a long way from a standalone

gas or drive shaft-driven generator. One solution for worksite power management may be partially integrated into a truck you have already designed (or plan to take into account). A hydraulic generator is one answer; the concept is similar to the gasoline-powered standalone counterpart, but it is more compact and versatile. These generators can be specified or retrofitted into existing work trucks with hydraulic circuits. Without the gasoline power plant, size and weight can be reduced by 50%. In terms of maintenance costs, there are no gasoline engines to support and fewer environmental factors. Considering these dynamics demonstrates the importance of looking at the big picture and evaluating alternative solutions to minimize additional auxiliary equipment needs, maintenance issues and operating costs.



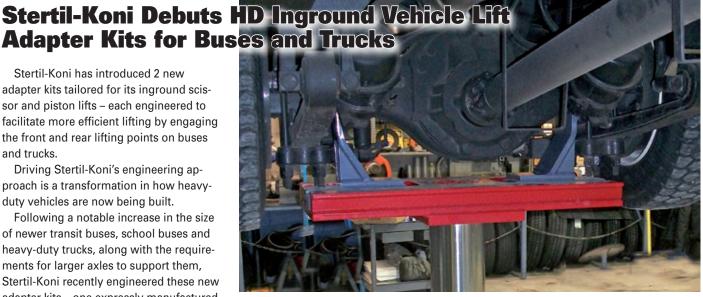
Stertil-Koni has introduced 2 new adapter kits tailored for its inground scissor and piston lifts - each engineered to facilitate more efficient lifting by engaging the front and rear lifting points on buses and trucks.

Driving Stertil-Koni's engineering approach is a transformation in how heavyduty vehicles are now being built.

Following a notable increase in the size of newer transit buses, school buses and heavy-duty trucks, along with the requirements for larger axles to support them, Stertil-Koni recently engineered these new adapter kits - one expressly manufactured for transit buses and another suitable for both trucks and school buses. Stertil-Koni's school bus and truck adapters are constructed to be wider and taller, while transit bus adapters are flatter and broader.

The new adapters have been optimized for both new vehicles with the latest axles as well as older vehicles that have been on the road for some time.

"The net result is to increase the



versatility, safety, and performance of Stertil-Koni's DIAMONDLIFT, a state-of-theart high-pressure telescopic piston lift, and ECOLIFT, the original ultra-shallow, full-rise axle-engaging scissor lift," notes Matthias Lennemann, Stertil-Koni heavy-duty inground lift sales manager.

Each adapter pair has a capacity of up to 15,875 kg, depending on the type of lift with which it is used. The kits are also

available to current Stertil-Koni inground lift customers.

Stertil-Koni's breadth of adapters extends beyond the bus and truck industries. Adapters are available for virtually every vehicle type, from agricultural and construction equipment to waste collection, military vehicles and more.

Source: Stertil-Koni

Appointments

Strongco Corporation recently announced the appointment of Oliver Nachevski, formerly vice president, Construction Equipment, to the position of vice president and COO.

"Over the past several years, Strongco has undergone significant change in an effort to reposition the business and focus on our core strengths. The creation of the COO role will provide more centralized leadership, with the goal of



delivering greater operational excellence during the next phase of stability, sustainability and strategic growth," said Robert Beutel, executive chairman of Strongco. "Oliver's many years of service at Strongco, combined with his demonstrated leadership, make him well suited to propel our operating initiatives across all of the business units. On behalf of the Board of directors, I look forward to him bringing this experience and commitment to his new post."

In his new position at Strongco, Mr. Nachevski will oversee all operations, including Construction Equipment, Cranes and Finance, and will play a key part in coordinating and integrating the business for maximum efficiency and reward.

Oliver Nachevski joined Strongco in 1996, and in that time he has made a significant impact on many facets of the business. He has held many titles, such as controller, Western Division, where he earned a CGA designation in Alberta. In 2004, he accepted a position at head office as assistant controller and national credit manager, and later director, National Credit and Inventory. In 2008, he became operations manager, Cranes and Material Handling Division, and in 2012 was promoted to lead the implementation of Strongco's new SAP computer system as director, Dealer Management System Implementation. In 2013, he was appointed regional vice president, Case and in 2016 promoted to vice president, Construction Equipment, which centralized leadership for both Strongco's Case and Multiline/Volvo divisions.

Source: Strongco Corporation

On July 25, 2018, Roy Littlefield, executive vice president of the **Tire Industry Association** (TIA) officially announced the names of the honorees for the **2018 Hall of Fame Award**, TIA's highest honor and one of the most prestigious accolades of the tire industry at a global level. **Arvind Poddar**, chairman and managing director of **Balkrishna Industries Limited** (BKT) will be officially inducted into the



association's Hall of Fame on the occasion of the Tire Industry Honors Awards Ceremony. The event will take place at the Paris Las Vegas Hotel on October 29, one day before the opening of the 2018 SEMA Show, the leading automotive specialty and aftermarket fair, held at Las Vegas.

The TIA was founded in 1920 in the U.S. Having started as a national organization, the TIA is today an international non-profit organization operating at a global scale and representing all segments of the tire industry. The association is committed to enhance the image of the tire industry promoting safety, training and education as well as conventions, advocacy, certifications and publications for the tire industry.

The TIA Hall of Fame dates back to the year 1985, in which the first celebrities of the tire industry were inducted. The TIA Hall of Fame aims at honoring and preserving the names of outstanding personalities, whose likewise outstanding accomplishments have brought fame to the tire, rubber, and transportation industries. The award is the TIA's highest honor that is conferred yearly to players in the tire industry – whether they are manufacturers, inventors, suppliers, dealers or retreaders.

"I cannot but consider the announcement of this prestigious – I dare to say the most prestigious – award in the tire industry as a great honor that fills me with pride from both a personal and professional point of view," stated Mr. Arvind Poddar, chairman and managing director of BKT. "Without any doubt, this is a great moment and a great achievement for my personal develop-



ment and my professional carrier. It is also a confirmation of the passionate spirit and commitment that drives all our projects and all people in our company aiming at being an example for future generations."

Entering the TIA Hall of Fame, not only means a personal accolade for BKT's CEO. This award is fully in line with the multinational group's commitment, growth and evolution in the course of the years, which has turned the company into a benchmark for the global Off-Highway tire market thanks to extraordinary achievements in terms of innovation and sustainability, offering one of the most extensive product portfolios in the segment.

Source: Balkrishna Industries Limited (BKT)

Continental Commercial Specialty Tires has appointed Pavel Prouza the head of sales and marketing for the Americas. In this role, he will oversee all material handling, earthmoving and agriculture tire business in North America, Central America and South America. The appointment is effective immediately.



Mr. Prouza joined Continental in 2007, with Continental's acquisition of

Siemens VDO where he served as the focus factory controller. With Continental, Mr. Prouza has spent time working and living in Auburn Hills, Michigan, and Silao, Mexico. Most recently, he was the head of controlling for Commercial Specialty Tires in Hanover, Germany.

Pavel Prouza holds a MBA from the Czech Management Institute and a master's degree from the Czech University of Life Sciences. He will report directly to Enno Straten, the global head of Commercial Specialty Tires.

"With his experience at the headquarters and his deep knowledge and experience in the Americas, Pavel Prouza heading the team will further strengthen our position in the American markets," said Mr. Straten.

Pavel Prouza succeeds Federico Jimenez, who is joining the Commercial Specialty Tires team in Spain as the key account manager for EMEA (Europe, Middle East and Africa).

Source: Continental Commercial Specialty Tires

Hatz Diesel of America has promoted Vicki Zarletti to Inside Sales coordinator as part of its continuing program to expand customer support throughout North America. Ms. Zarletti has been a valued member of the Hatz family for more than 20 years and has served in several sales support positions within the company. She will assist in quoting and processing engine orders, production scheduling, customer forecasts and marketing support.

Source: Hatz Diesel of America

VISTA – the World's Biggest Competition for Automotive Technicians

The final round of the world's biggest skills competition for automotive technicians was held in Curitiba, Brazil, last June. This year's Volvo International Service Training Awards (VISTA) involved 19,700 participants from Volvo Trucks' and Volvo Buses' global service networks. After an exciting final round where the 40 best teams from the world went head to head, VIIES RATAS from Estonia clinched the victory.

"Qualified and motivated service technicians are among the most important success factors for our workshops and customers. That's why we invest so heavily in continuous training and competence development. VISTA is the tip of the iceberg where all our service technicians every second year have the opportunity to test and prove their knowledge against their colleagues from around the world. The competition puts the spotlight on day-to-day work-related skills and crucial technical spearhead competence, it promotes cooperation and builds pride," said Claes Nilsson, president Volvo Trucks.

The very first VISTA competition was held back in 1957. Since then the truck mechanic profession has turned into an automotive technician, the computer has become an essential tool in the workshop, and the profession has undergone a fundamental change from the ground up. Modern trucks are technically highly advanced machines that require a more comprehensive and wider type of expertise than before. Today, technicians must be able to handle both mechanical and computer-related work. At the same time, razorsharp competition in the transport industry has meant continuously growing customer demands for constant vehicle uptime.

"In principle, a truck always has to be ready to roll, which in practice means that the technicians have to carry out highly advanced and well-planned maintenance, they have to trouble-shoot, identify, analyze and rectify problems in the shortest possible time. Today there is no acceptance of long waiting times for service and repairs, there's no tolerance for correct parts not being available or for a job not being done right the very first time the vehicle enters the workshop," explains Martin Merrick, senior vice president Retail Development.

The theme for this year's VISTA - "Performance is Everything" - is a perfect description of what it's all about: in order for customers to be able to perform at their peak, our technicians must do so too.

"That's exactly how it is - our goal is to have the world's best service technicians servicing our customers' vehicles. Through VISTA we aim to draw attention to and reward the vital work that our dealers and workshops do every single day, and at the same time attract new talent to an interesting and varied profession that has a great future," says Anna Rogbrant, VISTA project manager.

Source: Volvo Trucks

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Agenda

APOM Technical Day

September 13, 2018 Lévis, QC Canada

67th IAA Commercial Vehicles

September 20 - 27, 2018 Hannover, Germany

DEMCON - Scandinavian demolition show

September 27 - 28, 2018 Stockholm, Sweden

The 11th annual WSI conference and expo

October 3 - 5, 2018 Las Vegas, NV USA

Waste & Recycling Expo Canada/Municipal Equipment Expo Canada

October 24 - 25, 2018 Toronto, ON Canada

IRF / R2T Global Expo & Conference

November 7 - 8, 2018 Las Vegas, NV USA

Tree Care Industry Association TCI EXPO 2018

November 8 - 10, 2018 Charlotte, NC USA

Congrès INFRA 2018

November 18 - 21, 2018 Quebec City, QC Canada

The Big 5 Dubai

November 26 - 29, 2018 Dubai, UAE

bauma CONEXPO INDIA 2018

December 11 - 14, 2018 Gurugram/Delhi, India

Landscape Ontario Congress

January 8 - 10, 2019 Toronto, ON Canada

World of Concrete 2019

January 22 - 25, 2019 Las Vegas, NV USA

World of Asphalt 2019

February 12 - 14, 2019 Indianapolis, IN USA

The Work Truck Show

March 5 - 8, 2019 Indianapolis, IN USA

National Heavy Equipment Show

March 28 - 29, 2019 Toronto, ON Canada

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April 8 - 14, 2019 Munich, Germany

Canada North Resource Expo

May 24 - 25, 2019 Prince George, BC Canada

Atlantic Truck Show

June 7 - 8, 2019 Moncton, NB Canada

MATEXPO 2019

September 11 - 15, 2019 Courtray, Belgium

ICUEE - International Construction and Utility Equipment Exposition

October 1 - 3, 2019 Louisville, KY USA

inter airport Europe 2019

October 8 - 11, 2019 Munich, Germany

bautec

February 18 - 21, 2020 Berlin, Germany

CONEXPO-CON/AGG 2020

March 10 - 14, 2020 Las Vegas, NV USA

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August 26 - 29, 2020 Homberg/Nieder-Ofleiden, Germany



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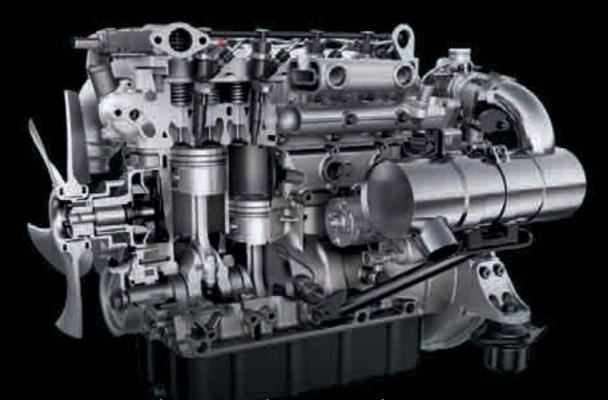
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Like our German counterparts who produce some of the world's most finely crafted products, Hatz utilizes only premium processes and components in the production of our engines. As a manufacturer of premium engine components used worldwide, our engines are designed from the ground up and built from the inside out to exceed the highest standards for which German engineering is famous. Is it any wonder Hatz Engines are renown for dependability, durability and outstanding performance?

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Comme nos homologues allemands qui produisent certains des produits les plus finement conçus au monde, Hatz utilise uniquement des procédés et des composants haut gamme dans la production de nos moteurs. En tant que fabricant de composants de très haute qualité pour des moteurs utilisés dans le monde entier, nos moteurs sont conçus de la base et construits pour surpasser les normes les plus élevées qui font la renommée de l'ingénierie allemande. Est-il étonnant que les moteurs Hatz soient réputés pour leur fiabilité, durabilité et performance exceptionnelle?

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