

A publication for and about our valued Michigan customers • www.CECOnTrack.com • April 2019



A MESSAGE FROM CONTINENTAL EQUIPMENT COMPANY



Mark Kelso, General Manager

CONTINENTAL EQUIPMENT

Dear Valued Customer:

Construction's technological revolution is on a dizzying pace. The industry has embraced telematics for gathering data; increased usage of GPS, drone surveying, parts ordering via the web; and more. Komatsu continues to be at the forefront with *intelligent* Machine Control dozers and excavators that are proven to increase production and efficiency, while reducing costs.

Komatsu wants customers to realize the greatest benefit from its *intelligent* Machine Control equipment, so when it launched the machines, we worked together to add personnel to our staff who can provide high-level technical support. Komatsu has also introduced SMARTCONSTRUCTION, a suite of services designed to assist customers with drone surveying, jobsite setup, model building and much more. Read about the benefits of SMARTCONSTRUCTION in this issue of your CEC On Track magazine, then contact us to see how our SMARTCONSTRUCTION team members can be of service to you.

Rear cameras are now a staple in the construction industry, allowing operators to use an in-cab monitor to see what's behind them. Komatsu has taken the concept a step further with KomVision, which places multiple video cameras around a machine to give operators an all-around view. Check out the article on KomVision inside to learn more.

If you want a wealth of information about your machinery, as well as the ability to find parts and fulfill service needs, the new MyKomatsu website provides it all in one convenient place. More details are in this issue.

We also have informative stories about a customer using *intelligent* Machine Control dozers as well as Komatsu corporate trainers who can help you maximize production.

We hope 2019's construction season is a busy and profitable one for you. If there's anything we can do to assist you, please call or stop by one of our branch locations.

Sincerely,

Continental Equipment Company

Mark Kelso,

General Manager

Komatsu leads the tech revolution



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CL TRUCKING & EXCAVATING, LLC

Diversified offerings, great employees lead to success for this Ionia, Mich., company



Chad Listerman, Owner

In the early 1990s, Chad Listerman had a solid career as a night-shift line mechanic, which allowed him to take on excavating jobs and raise cattle during the day. By 1993, one of those hobbies began to mold into a full-time thing, and the graveyard shift became a distant memory.

"I got off work at 7 a.m., did side jobs until 4:00 p.m., headed home to try and get some sleep and then went back to work again around 10 p.m. – I was tired," recalled Listerman. "I had to make a decision. I grew up on a farm, so earning a living outside was always my dream. I sold my 10 beef cows, bought a backhoe and quit my job. It was a risk, but I wanted to give it a shot."

Foreman Corey Ferguson uses CL Trucking & Excavating's new Komatsu PC360LC-11 to dig a trench at a jobsite in Rockford, Mich. "We have 180 hours on it, and I've been in the seat for all of them," noted Ferguson. "It's fast and powerful, and the fuel



In the summer of 1993, Listerman began completing projects for customers around his Ionia, Mich., home. When one of the coldest winters on record rolled into the area, the amount of available work slowed to a trickle. Fortunately, Listerman caught on with a contractor who was building a motel nearby and had more jobs lined up as well. While the assignment kept Listerman's new business afloat, it also provided a boost for the future.

"We had to leave machines running all night and used an 84-inch wheel saw to cut through the frost to install pipe," remembered Listerman. "It was nice to have work through the winter, especially that first year, but more importantly, the owner taught me how to read blueprints and gave me some instruction on the commercial side of the business. We'd work all day, go eat and then he'd coach me. It was a great experience."

After that long winter, CL Trucking & Excavating, LLC (CLTE) never looked back. Today, the company has 65 employees and completes an array of projects including agricultural, commercial, and residential as well as some Michigan Department of Transportation and industrial work. It operates two sand and gravel pits, with a third site in Ionia for spoil dirt. In addition, a trucking side serves the company's excavation needs.

"We're very diverse," noted Listerman.
"Through the years we have continued to add services, which enabled us to hire more people.
Most days, we are going in about ten different directions, but that's fine. There was never a huge jump in growth; it has been very deliberate."

Solid foundation

That steady approach was possible due, in large part, to the solid foundation that Listerman built.



At the 62-acre Saddle Ridge Subdivision in Rockford, Mich., CL Trucking & Excavating uses a fleet of Komatsu equipment, including PC490LC-11 and PC360LC-11 excavators, to install more than 8,000 feet of storm and water pipe.

Foremen Corey Ferguson and Aaron Hartman joined the company in 1995 and have been integral to the firm ever since.

"We've been in business for 26 years, and Corey and Aaron have been here for 24 of them," shared Listerman. "They are a huge part of our success. You need good people in order to last in this business, and these two are an example of that."

Family is very valued to CLTE as well. Listerman's wife, Laura, is Payroll Administrator and her brother, Project Manager/Estimator John Lepien, has 18 years with the company. Listerman's father also worked for CLTE and recently retired at age 75.

"Having family involved has been crucial," noted Listerman. "From the beginning, Laura has played a very important role in our success. The joke is that the 'L' in our name stands for Laura instead of Listerman. John's been a huge factor as well. Everyone puts in long hours and helps us make good decisions."

Listerman's longstanding relationships extend beyond the firm's employees. His connection with Continental Equipment Company (CEC) predates CLTE.

"When I sold my cows, (CEC Owner) Larry Behrenwald, who has a farm and is a family friend, bought them," Listerman said. "I used that money as a down payment for the backhoe that I purchased from CEC. I've been with them ever since."

In addition to Behrenwald, Area Manager Craig Williams has called on Listerman and CLTE for 25 years.

"Craig's been the only CEC salesman I've ever had, which I guess makes him kind of old," he joked. "I really value the consistency with CEC; it makes a huge difference."

Exceptional excavators

With a long history between CLTE and CEC, it's natural that the relationship has resulted in a significant number of Komatsu products in Listerman's fleet.

"We are huge fans of Komatsu equipment," said Listerman. "I've run Komatsu machines for 25 years, and I've never had to put a hydraulic pump or engine in any of them. They are very solid machines."

Komatsu excavators are the hands-down favorite at CLTE, which has 13 of them ranging in size from a PC27MR-2 utility model to a PC490LC-11. The newest addition is a PC360LC-11 that Listerman purchased earlier this year.

Continued . . .

'CEC provides unbeatable service'

... continued



(L-R) The CL Trucking & Excavating team of Corey Ferguson, John Lepien, Aaron Hartman and Chad Listerman have been calling on Continental Equipment Company Area Manager Craig Williams for 25 years.



"We have 180 hours on it, and I've been in the seat for all of them," shared Ferguson. "It's fast and powerful, and the fuel consumption is really nice. I have great visibility from the cab, and the rearview camera adds even more to that factor. Space is very limited on a jobsite, so it's helpful to be able to see what's behind you."

While the PC360LC is the newest, the MVP of the excavator fleet is the PC228USLC tight-tail-swing excavator. CLTE has four PC228s and deploys them often.

"The PC228 is second-to-none," stated Listerman emphatically. "It's the perfect size for us because it can perform on many types of projects. The zero-tail-swing is ideal for road work and water mains under eight feet."

In addition to excavators, the company has two dozers, a pair of wheel loaders and a GD555-3C motor grader in its fleet.

"Komatsu equipment has some of the quickest cycle times," noted Hartman. "That allows us to work faster and be more productive, which benefits our bottom line."

Just as the Komatsu machines have continuously proven themselves with Listerman, so has CEC.

"CEC provides unbeatable service," said Listerman. "Having them behind the equipment gives me a lot of confidence. We trust them, and Craig is a bucket of knowledge and is helpful in every aspect. It's an all-around great partnership."

Looking ahead

Although CLTE has 26 years to its credit, don't expect Listerman and others at the firm to kick up their feet and ride off into the sunset just yet.

"I'm only 48, and most here are my age or younger, so we've got quite a few more years left in us," said Listerman. "Hopefully, the economy remains strong. If that happens, I could see us continuing to grow and adding more people in the future.

"We are in good shape right now, and that's a testament to the people who work here," he stated. "Our word and our handshake mean something; that's what has made us successful. Great people are the foundation. As long as we focus on people, relationships and technology, we'll be fine."

(R)WORKS FOR ME AEZASI KOMATSI

"WE'RE NOT A BIG COMPANY, BUT KOMATSU TREATS US LIKE WE ARE."

BETTER SUPPORT.

"My cousin Thomas and I started our construction company on a wing and a prayer.

We couldn't have done it without the financing, training, tech assistance and support we received from Komatsu and our distributor. The products are top quality. They make us efficient at our job, and feel connected—like they want to be our partner in this. That's why Komatsu works for us!"

Brian (left) and Thomas Cronin / Prosperity Construction / Jackson, MS

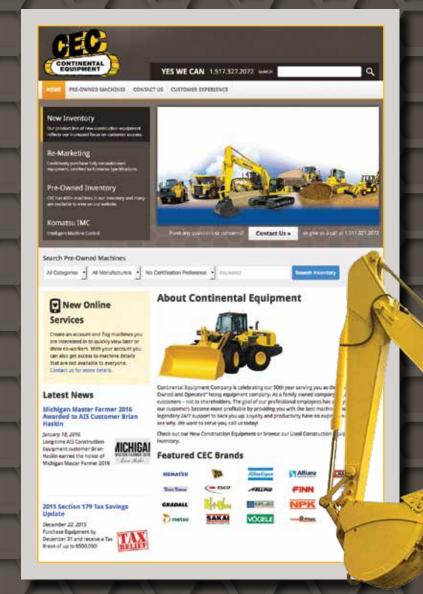


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SPECIAL EVENT



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COMPLETE LINEUP

Customers test wide range of Komatsu equipment using a variety of materials at Demo Days

Construction equipment owners and operators from across the United States met at the Cartersville Customer Center in Georgia for the three-day fall Komatsu Demo Days event. To provide realistic working conditions, sand, gravel and rocks of various sizes were available so that customers could test machines to their fullest capabilities using materials consistent with their usual jobsites.

Each day began with a tour of the Chattanooga Manufacturing Operation in Tennessee, where many Komatsu excavator models are assembled. After a catered lunch and an informational session about KOMTRAX and Komatsu CARE, attendees made their way to the 45-acre demonstration site to test the latest equipment Komatsu offers.

Continued . . .



Nate Street, Michiana Aggregates (left), and Tim Ferguson, CEC, check out the excavators at Demo Days.

Online Exclusive



Scan to watch a video of one customer's experience at Demo Days.



The recent, three-day Demo Days event included more than 40 machines for guests to operate at the 45-acre Cartersville Customer Center demonstration site.

Providing a new experience at every visit

... continued



(L-R) Dave Shafer, Trojan Sand and Gravel; Paul Cunningham and Phillip Straight, Lake Pleasant Recycling; and John Doody, CEC, gather at Demo Days.



(L-R) Chad Fullerton and Jim Purcell, CEC; meet with Nick Tkaczyk, A-1 Site Development.

"Demo Days featured more than 40 Komatsu machines for attendees to operate," explained Komatsu Director of Training and Publications Bill Chimley. "Customers could try out our full range of equipment, with Komatsu experts ready to answer any questions."

New competition

The newest addition to the event was a timed competition where participants used a Komatsu PC55MR-5 compact excavator to pick up and drop three rubber balls into a tub as quickly as possible. Daily winners earned a Komatsu jacket and all who finished in 30 seconds or less received a Komatsu hat.

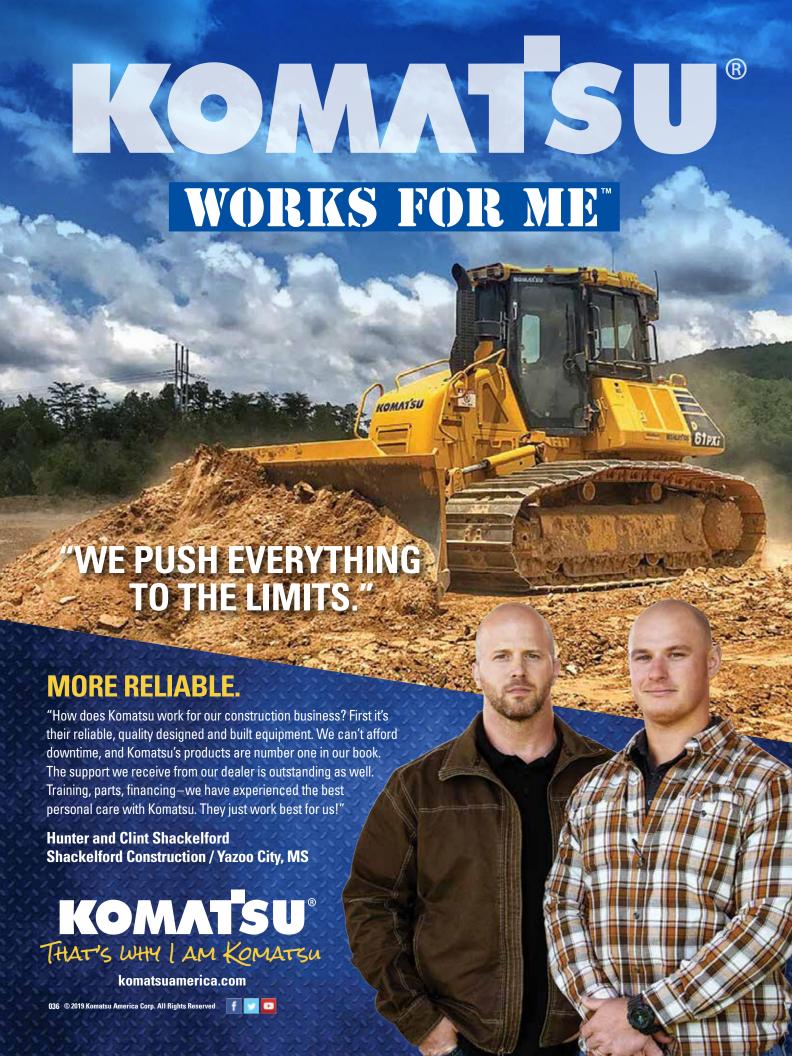
"We work in a very competitive industry and wanted to introduce some of that spirit into the event," said Rich Smith, Vice President, Product and Services Division, Komatsu America. "Our goal is to give the customers a new experience every time they visit the Cartersville Customer Center."

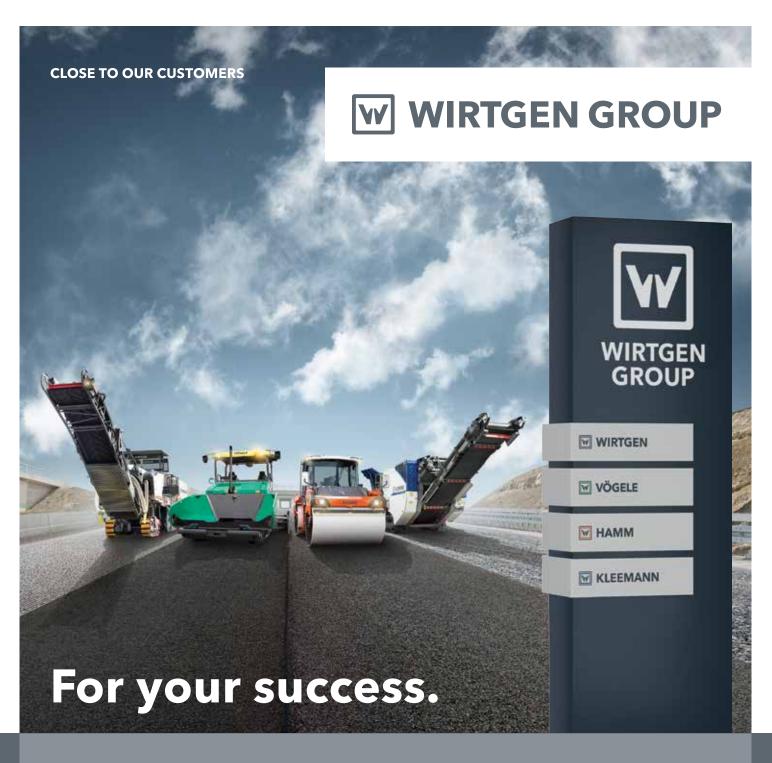


Steve (left) and Duane Hamilton of Duane Hamilton Excavating get ready to test equipment.

The newest addition to Demo Days was a timed event where attendees operated a Komatsu PC55MR-5 compact excavator and competed to place three rubber balls into a bucket as quickly as possible.







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INDUSTRY NEWS

NEW WATER LEGISLATION

America's Water Infrastructure Act provides billions for Corps of Engineers and drinking-water projects

Congress recently passed and President Trump signed America's Water Infrastructure Act that authorizes more than \$8 billion for a wide range of undertakings. The measure divides the total dollars, with \$3.7 billion dedicated to Army Corps of Engineers work and \$4.4 billion for drinking-water projects.

The legislation includes authorization of the Water Development Resources Act (WDRA), giving the Army Corps of Engineers funds for work on items such as locks and dams on the nation's rivers, which are used to convey commodities, including aggregates and grain. "A WDRA bill establishes the priorities," said Mike Steenhoek, Executive Director of Soy Transportation Coalition in a harvestpublicmedia.org story.

Reauthorization of the Environmental Protection Agency's (EPA) Drinking Water State Revolving Fund for the first time since 2003 is included in the act. It doubles the loan program's authorized spending to \$1.95 billion by the third year.

Loan program included

Additionally, the legislation included the EPA's Water Infrastructure Finance and Innovation Act (WIFIA) loan program for two years at \$50 million annually. It also removed WIFIA's pilot designation. "The reauthorization of WIFIA at \$50 million – and the fact that it is no longer a 'pilot' – is a significant milestone and a great victory for the entire water sector," said American Water Works Association CEO David LaFrance.

Other organizations also hailed the bipartisan bill, which both the House of Representatives and the Senate overwhelmingly passed. "This legislation reinforces the critical role

that municipal water infrastructure plays in communities all across the nation, as well as the need for robust federal funding to help support this infrastructure," said Adam Krantz, CEO of the National Association of Clean Water Agencies. "The association thanks Congress for its leadership on this issue and is committed to continued efforts to elevate water as a top national priority."

America's Water Infrastructure Act allocates more than \$8 billion for a wide range of projects. It authorizes the Water Development Resources Act and reauthorizes the Drinking Water State Revolving Fund.



CONSTRUCTION OUTLOOK

NEW YEAR BRINGS EXPANSION

Construction industry experts project continued growth for nearly every sector in 2019

Forecasters seem to agree that 2019 will continue the ongoing trend of growth in the construction industry, albeit at a slower pace than in previous years. The Dodge Construction Outlook report predicts total starts will reach nearly \$808.3 billion, up from the \$806.8 billion it projected for 2018.

"The fundamentals continue to be sound, and I don't think we're going to be seeing a repeat of what took place in 2008 and 2009," said Robert Murray, Chief Economist for Dodge Data and Analytics.

A decade ago, the overall economy went into turmoil, then began recovering from one of the worst downturns since the Great Depression. Construction was especially hard hit, causing hundreds of businesses to close or severely cut back on staffing. Millions of construction workers were let go and never returned to the profession.

The American Institute of Architects predicts 4 percent growth in 2019 for nonresidential construction, which includes several market sectors.



In 2018, industry unemployment fell to 3.9 percent, nearly the level recorded pre-recession. Construction employment numbers are expected to continue rising. A recent survey of construction executives by the Vistage Research Center found that 64 percent planned to increase hiring in 2019. Another study from Associated General Contractors of America (AGC) showed a large percentage of businesses wanting to hire, if they can overcome the challenge of finding workers. Eighty percent of construction firms reported having trouble hiring hourly craft workers and expect that task to remain difficult or become harder.

"Demand for construction remains strong and pay is rising faster than the overall economy," said Ken Simonson, AGC's Chief Economist. "However, contractors are having increasing difficulty finding qualified workers as industry unemployment slides to historic lows."

Agree to disagree?

Despite agreement on overall growth, industry experts are not always on the same page with regard to individual markets. For instance, Dodge Data & Analytics sees nonresidential construction as basically flat in 2019. On the other hand, the American Institute of Architects (AIA) projects an increase of 4 percent, led by institutional building with a 4.5 percent expansion.

According to AIA, institutional building includes sectors such as public safety, healthcare facilities, education, amusement/recreation and religious. It projects a rise in each category, with the exception of religious, which it sees as flat.

"At the halfway point of 2018, this panel was even more optimistic," said AIA Chief Economist



Dodge Data & Analytics and the American Road & Transportation Builders Association (ARTBA) forecast transportation infrastructure expenditures to rise in 2019. Dodge sees 3 percent growth in the market, while ARTBA eyes an increase of 4.2 percent.

Dr. Kermit Baker last fall. "Its forecasts were marked up to 4.7 percent growth in spending for 2018 and an additional 4.0 percent in 2019. If these projections materialize, by the end of the next year the industry will have seen nine years of consecutive growth, and total spending on nonresidential buildings will be 5 percent greater – ignoring inflationary adjustments – than the last market peak of 2008."

AIA also foresees that the commercial/industrial market will gain 3.4 percent, led by industrial at 4.9 percent. The organization projects office space to expand by 4.1 percent, hotels by 3.6 percent and retail by 2.7 percent.

Transportation to take off

Another bright spot, according to both Dodge Data & Analytics and the American Road & Transportation Builders Association (ARTBA), will be transportation infrastructure. Dodge forecasts 3 percent growth in the market, while ARTBA eyes an uptick of 4.2 percent, which is identical to 2018 when airport terminal and runway construction led transportation spending.

Airport-related work grew nearly 40 percent in 2018, and ARTBA believes it will rise by 4.5 percent in 2019 compared to the previous year. It expects ports and waterways to experience 3 percent growth. Additional forecasts from ARTBA include an upsurge in bridge and tunnel

work this year and next, after a slowing in the sector for 2018. Public transit and rail construction will increase 5.7 percent, with subway and light rail investment expected to reach a record level.

Public highway and street construction were up in 2018 as well, and ARTBA Chief Economist Dr. Alison Premo Black said greater transportation investment by federal, state and local governments will help drive growth in 2019. ARTBA projects it to reach \$278.1 billion, up from \$266.9 billion.

ARTBA said highway construction is expected to increase in approximately 50 percent of states and in Washington, D.C., while slowing down or remaining steady in the other half. The real value of public highway, street and related work by state DOTs and local government should ramp up 5 percent to \$66.5 billion, according to ARTBA. It also anticipates private highways, bridges, parking lots and driveways to hit approximately \$69.1 billion, up from \$65.9 billion in 2018.

Black did caution that reauthorization of the current surface transportation law (FAST Act) in 2020 and Congress' ability to find additional revenue sources may dampen the outlook. "If states start delaying transportation improvement projects in response to uncertainty over the future of the federal program, it will temper 2019 market growth," shared Black. ■

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'OUR BRAND OF CHOICE'

High production, costs savings with *intelligent* Machine Control dozer spur growing firm to build Komatsu fleet

Good decisions are often directly tied to profitability and prosperity. Justin Lott, Co-owner/Senior Vice President of Southern Transport & Equipment, LLC, learned that lesson after completing fire school.

"I had my sights set on being a firefighter, but I had to finish EMT training as well," recalled Lott. "The summer after I graduated, I took a job working for an oil-field company to make some money. I quickly realized that type of work paid much better than I was projected to make as a firefighter. I was given an opportunity to grow with the business that I worked for, so I took it."

Lott started his own land-clearing and earthwork firm to keep busy during breaks in the company's two-weeks-on, two-weeks-off schedule. Those side jobs eventually evolved into a full-time business, and after a few years, he combined forces with three other entrepreneurs to form Southern Transport & Equipment in 2017.

First impressions

The new venture needed a dozer to make aggressive pushes in tough material. A colleague suggested a standard Komatsu D155. A visit with the local Komatsu distributor convinced Lott to demo an *intelligent* Machine Control D155AXi-8.

"The material at the test site was a very coarse aggregate, and the dozer handled it with ease," Lott recalled. "The grade control is phenomenal, and the fact that we can use a machine of its size from first pass to last on large-scale projects is incredible."

After purchasing the initial D155AXi-8 and then a second, Southern Transport & Equipment also added two *intelligent* Machine

Control D65PXi-18s, a D61PXi-24 and a D85PXi-18. "No matter the size of the dozer, the integrated GPS system works flawlessly," reported Lott. "The costs savings are apparent. Fuel usage is down, while production and efficiency are up. We love that there are no masts or cables to install or remove every day. That increases time spent moving material."

The company has invested in standard Komatsu machinery as well, including a WA500 wheel loader it uses to fill trucks at a gravel pit. On some projects, Southern Transport & Equipment utilizes PC360LC-11 excavators and HM400 articulated trucks to move mass amounts of material.

"Once we tried the intelligent dozers, Komatsu equipment became our brand of choice," declared Lott. ■



Justin Lott, Co-owner/Senior Vice President, Southern Transport & Equipment

Southern Transport & Equipment relies heavily on Komatsu *intelligent* Machine Control dozers. "No matter the size, the integrated system works flawlessly," said Justin Lott, Co-owner/Senior Vice President. "The cost savings are apparent. Fuel usage is down, while production and efficiency are up."





Discover more

MODERN JOBSITE SOLUTIONS

SMARTCONSTRUCTION provides a full suite of offerings to help implement technology



Jason Anetsberger, Komatsu Senior Product Manager

Technology continues to evolve at a rapid pace in the construction industry, and those companies that embrace and fully utilize it are more likely to win future bids and finish jobs faster and more profitably. Komatsu is committed to helping customers optimize their jobsite productivity through its SMARTCONSTRUCTION suite of offerings, including *intelligent* Machine Control dozers and excavators.

Available through Komatsu distributors, SMARTCONSTRUCTION provides aerial mapping, 3-D modeling, training and consultation, GPS hardware and jobsite setup. Komatsu-certified Technology Solutions Experts (TSEs) and SMARTCONSTRUCTION consultants can assist customers with technology implementation as well as optimization of the jobsite.

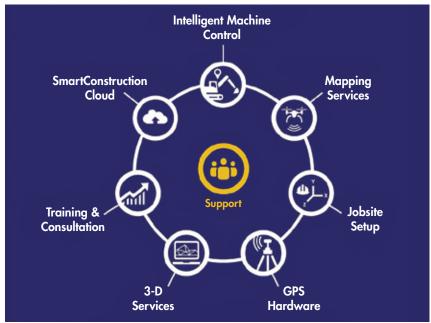
"We want every user to realize the full potential of their jobsite," stated Jason Anetsberger, Komatsu Senior Product Manager. "Technology is changing every day, and our customers want to be on the cutting edge. With SMARTCONSTRUCTION, we can help them access the latest innovations. Our TSEs and consultants have the knowledge and skills to help with every aspect, whether it's choosing the right intelligent machinery and implementing it into a fleet, training on base and rover usage or providing aerial mapping and other solutions that maximize production and efficiency."

Komatsu sparked a revolutionary leap in machinery with the introduction of its GPS-integrated *intelligent* Machine Control dozers in 2013. Excavators followed soon after. Komatsu developed SMARTCONSTRUCTION as a one-stop source for solutions that help *intelligent* Machine Control users maximize production and efficiency.

"For those new to *intelligent* Machine Control equipment, we offer initial instruction from our certified trainers on how to quickly and easily adopt the technology," said Anetsberger. "From there, we focus on consulting with customers to deliver the targeted jobsite efficiency improvements."

Improved accuracy with aerial mapping

One popular SMARTCONSTRUCTION service is aerial mapping, which gathers topographic data from above. Surveys can be



Komatsu's SMARTCONSTRUCTION program provides one-stop solutions to help *intelligent* Machine Control users maximize the advantages of the technology throughout a project.



Komatsu and its distributors have partnered with leaders in aerial mapping technology so that customers can enjoy the benefits of highly accurate, yet quickly gathered topographic data.

completed before, during and after a project to measure existing and ongoing volumetric changes, stockpile calculations, record amounts of material moved and gather final as-built data.

Anetsberger said customers are amazed by the resolution and accuracy of the data collected. The highly detailed information gathered prior to the start of a project helps in preparing better estimates and bids, as well as in jobsite planning for greater production and efficiency.

During the construction phase, drones can finish numerous surveys per day without disrupting an active jobsite. That allows companies to get a more accurate picture of progress in less time compared to traditional methods.

"Aerial mapping with drones is something that customers request frequently," said Anetsberger. "Time savings is one of the main reasons. We find that it takes one drone operator roughly 30 minutes to survey a 40-acre site. Compare that to the half-day it typically takes a manned topography crew, and it's easy to see why there's a demand for



Komatsu Technology Solutions Experts and SMARTCONSTRUCTION consultants play a vital role delivering SMARTCONSTRUCTION services on the jobsite. Trained and certified by Komatsu, they are specialists at deploying technology to help operations run at peak efficiency.

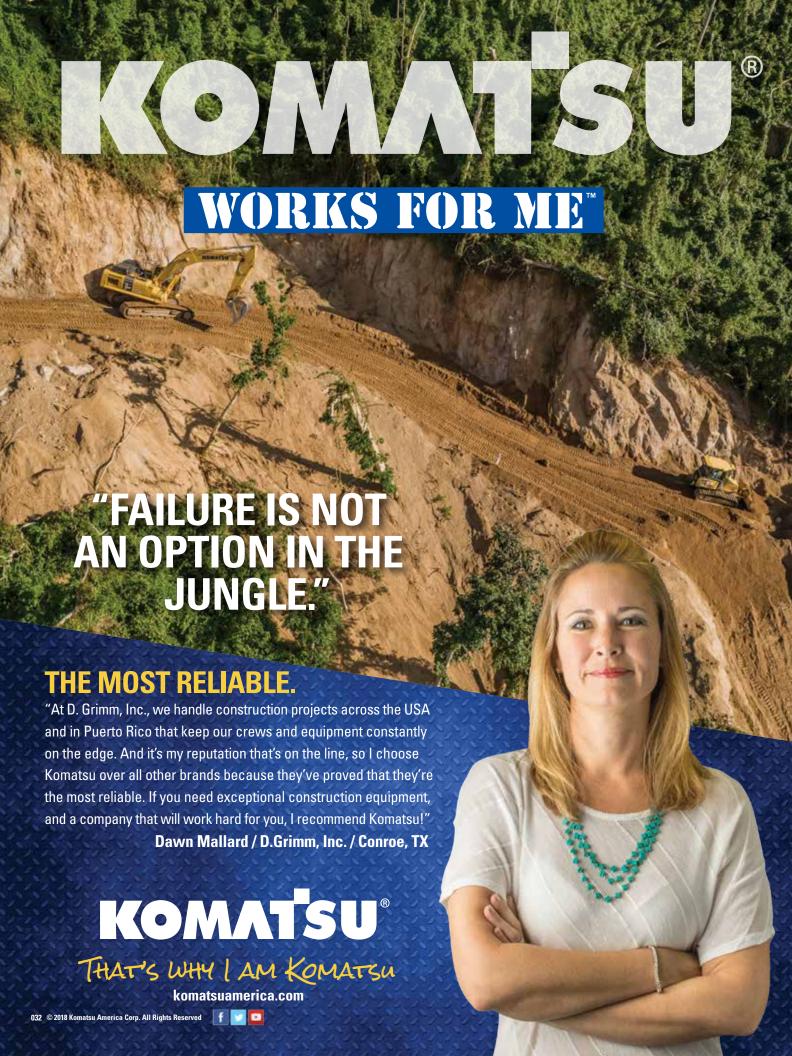
this service. Additionally, on many jobsites, manned topography may measure only every 20 or 50 feet on a grid, whereas a drone can map nearly every tenth of a foot. That offers greater resolution and improved accuracy."

Allows excavation companies to concentrate on moving dirt

SMARTCONSTRUCTION personnel can not only help companies utilize the data collected from aerial mapping, but also with other data services such as takeoffs.

3-D data modeling services are offered to provide customers of all sizes and capabilities with information for their GPS equipment.

"We are providing quality 3-D data, and our TSEs and consultants know how to optimize it for the machine and the application," said Anetsberger. "With SMARTCONSTRUCTION, we are able to take all of the knowledge and data we have compiled and use it as a total solution to help our customers operate their jobsites at maximum efficiency. That lets earthmoving and excavation companies concentrate on what they do best − move dirt." ■



PASSING THE TEST

Attention to detail is the key for Komatsu's Arizona Proving Grounds General Manager Neil Johnson

QUESTION: What is the Komatsu Arizona Proving Grounds?

ANSWER: It's a 660-acre facility in Sahuarita, Ariz., where up to 40 employees conduct research and development primarily for Komatsu mining haul trucks. However, with the formation of Komatsu Mining, we are expanding our reach to test other mining products. We currently have a PC7000 excavator and P&H 77XR drill here.

QUESTION: What kind of testing takes place at the facility?

ANSWER: We focus on three types of testing: performance, structural and durability. Typically, we address the first two on our site. We have a mine operation set up here, and we spend hours running the equipment through various exercises. Once we complete performance and structural testing, we closely monitor the durability of the machine at a customer's site for approximately 2,500 hours.

QUESTION: What role does the Arizona Proving Grounds play in the development and testing of Komatsu's Autonomous Haulage System (AHS)?

ANSWER: We are the only Komatsu site that engages in AHS development and benchmarking. We have the same testing process for AHS as we do for the trucks. The group in Peoria, Ill., handles the design and integration, and we put it to work in the field to validate performance. We ensure that the sensors in all structures meet life expectancy and measure stress as well as vibration on those components.

Here in Arizona, we also analyze software updates before they are integrated into Komatsu

GENERAL STATES

This is one of a series of articles based on interviews with key people at Komatsu discussing the company's commitment to its customers in the construction and mining industries – and their visions for the future.

Neil Johnson, General Manager, Komatsu's Arizona Proving Grounds

Neil Johnson has spent his entire career with Komatsu. After graduating with a degree in mechanical engineering in Newcastle, England, he began conducting research and development on excavators for Komatsu UK Limited.

"For nine years, I worked with wheeled, crawler, high-reach, road-rail, super-long-front and utility excavators," recalled Johnson.

In 2009, he moved stateside to Komatsu's U.S. Test Group (USTG) in Cartersville, Ga.

"When I came to the States, I visited customer sites and conducted many field tests," shared Johnson. "Then, I got involved with the *intelligent* Machine Control machines, which used a D51-22 dozer that was converted to the prototype for the D61PXi dozer."

Two years after arriving in Georgia, he moved to the Arizona Proving Grounds, where he served as Chief Engineer and was eventually promoted to his current role of General Manager. His tenure at the facility has included several exciting projects.

"One of the major events was moving to this current facility in 2015," noted Johnson. "We put a lot of thought into the building design, test courses and the mining site, in addition to installing permanent infrastructure for the Autonomous Haulage System."

In his free time, Johnson enjoys traveling with his wife, Angela, and riding motorcycles, in addition to mechanical projects.

Continued . . .

Working to meet customers' high standards

... continued

equipment. Our group performs a stability test, which is a 150-hour exercise that searches for any failures in the system. If issues are detected, they are addressed and testing begins again. We pride ourselves on delivering products and technology that perform to our customers' high standards from the very beginning.

Equipment goes through rigorous testing at the Arizona Proving Grounds. "We focus on three types of testing: performance, structural and durability," said General Manager Neil Johnson. "We have a mine operation set up here, and we spend hours running the equipment through various exercises."



In addition to equipment and technology testing, the Arizona Proving Grounds evaluates mining site plans to help customers layout their operations in the most efficient manner.



QUESTION: In addition to addressing equipment and technology, are there other ways you help customers increase productivity?

ANSWER: While equipment and technology are major components to efficient operation, we also look at site design. Sometimes removing three stop signs from an operation or changing an incline can result in significant fuel savings, so we work with customers to address those as well.

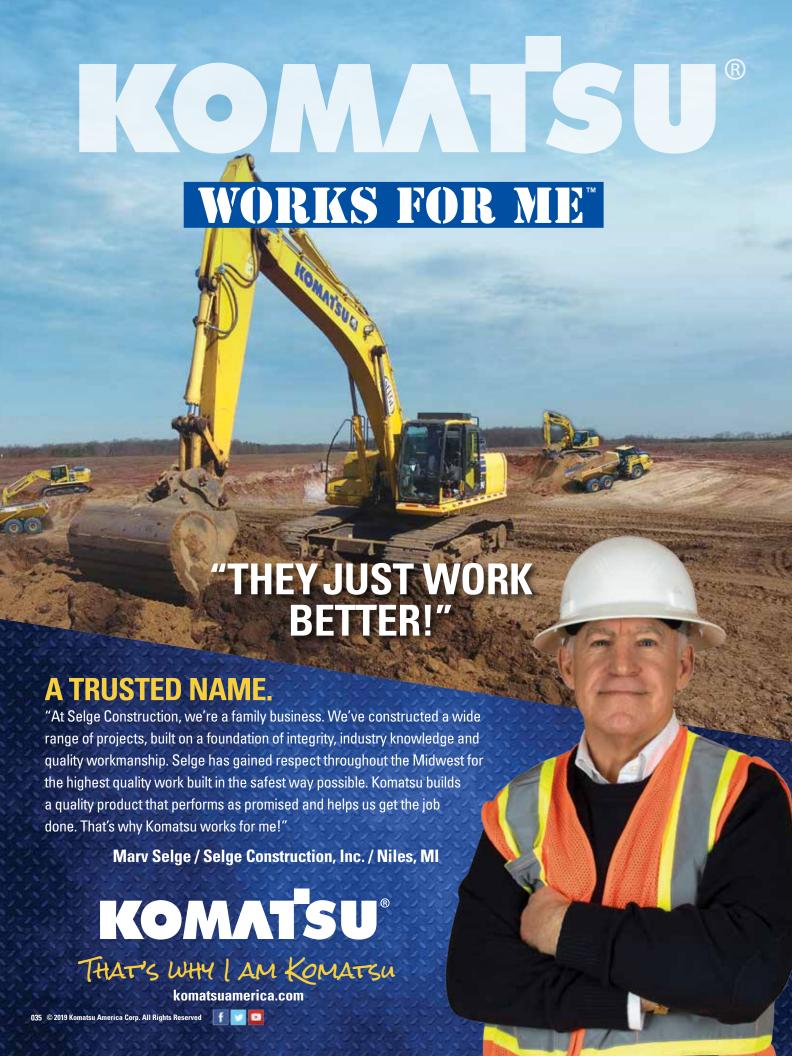
QUESTION: What does the future look like for the Arizona Proving Grounds?

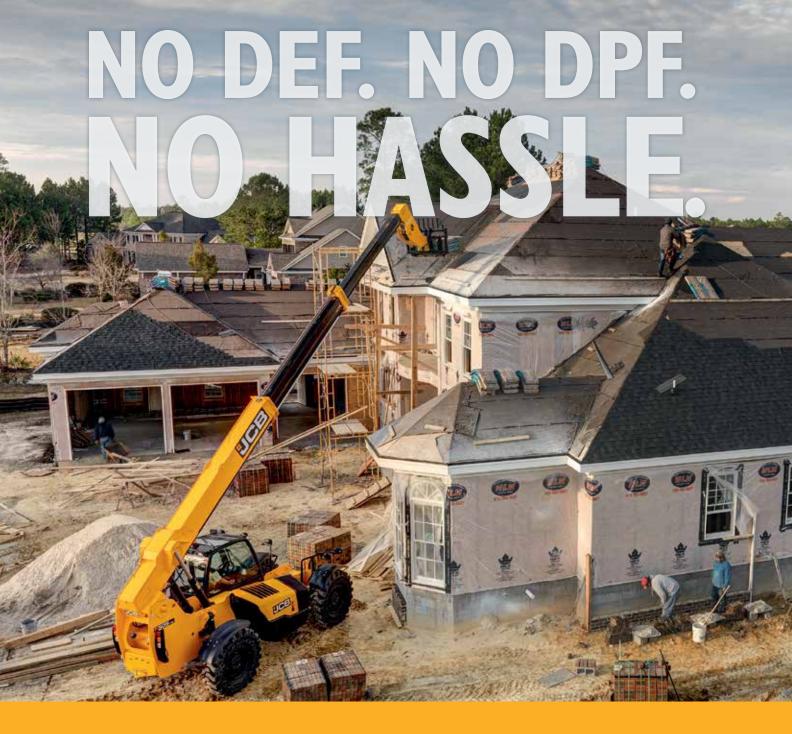
ANSWER: We have several new things coming up, including larger customer events. In the past, we primarily hosted individual customer demos, but, for the first time, we recently held an AHS event for a group of customers, and we have others planned. It's exciting to open the doors to the facility so that people can see it and experience the equipment, because both are really impressive.

We will continue to work with AHS, including testing the Innovative Autonomous Haul Vehicle. It is the world's first cabless, driverless haul truck. Komatsu debuted the prototype at MINExpo in 2016. After the show, it came straight here for testing. It's been a very good research platform. ■

Komatsu's Arizona Proving Grounds is a 660-acre facility north of Tucson in Sahuarita, Ariz. It primarily handles research and development for mining haul trucks and recently began testing other Komatsu Mining equipment and alternative technology.







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PRODUCT SUPPORT

ALL IN ONE PLACE

'MyKomatsu' website brings together wealth of machine information and support items

What if you could check the location of your machines, their health and how they are being used and then order parts or learn the status of an order already placed, all from the same tool? Soon, you will be able do all of that and more with the MyKomatsu website, set to launch in early 2019. The rollout across the country in the months to follow promises to bring a variety of information about your fleet and the support you need to maintain it, right to your desktop, laptop, tablet or mobile device.

"Customers told us they wanted comprehensive information in one convenient spot, instead of looking for it through multiple applications," said Rizwan Mirza, Komatsu Manager, KOMTRAX, Products and Services Division. "We responded with the new MyKomatsu website. Owners can monitor their fleet and find the necessary items to maintain it with a solid integration of the parts world."

MyKomatsu is more than just a telematics tool, it's also a complete redesign of Komatsu America's eCommerce solution. "MyKomatsu is designed to bring eCommerce and parts ordering back into the comprehensive fleet management conversation," says Dan Chapeck, Manager of Retail Marketing, Komatsu Parts. "We understand our customers require a tool that brings everything into one place, so our goal was to create a single environment where owners can learn about their machines, monitor jobsites, and maintain equipment with the highest quality Komatsu Genuine Parts, all in the same place."

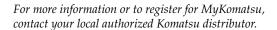
Free and easy-to-use

The MyKomatsu website (https://mykomatsu.komatsu) will offer a familiar suite of all-inclusive telematics solutions, allowing owners to access information about their equipment location, machine hours, load

factors, cautions and more, as reported through Komatsu's existing telematics resources, such as KOMTRAX or KOMTRAX Plus. Signing up for an account is free and simple and can be done through your local Komatsu distributor.

"You can get a general overview of an entire fleet, such as average idle time, as well as have the ability to drill down to specific machines for greater detail," said Mirza. "For example, owners can take a quick glance at the machine's performance or health; pull up a specific machine's spec sheet; look up operator and maintenance manuals or parts and service news; plus use a catalog to find a part and place an order online with a local Komatsu distributor."

"To best serve our customers and continue to earn the right to be their partner in business, we are offering tools to simplify the entire ownership experience. Being able to view and manage your business in this environment in the same way as you do in reality was the smartest place to start," added Chapeck. ■





Rizwan Mirza, Komatsu Manager, KOMTRAX, Products and Services Division



Dan Chapeck, Manager, Retail Marketing, Komatsu Parts



The MyKomatsu website (https://mykomatsu.komatsu) provides a wide range of information to track equipment, including hours, load factors, cautions and more. "Users can monitor their fleet and find the items necessary to maintain it," said Rizwan Mirza, Komatsu Manager, KOMTRAX, Products and Services Division.

PRODUCTIVITY POINTERS



MAKING MORE TOP OPERATORS

Komatsu helps build combination of skilled operators and well-designed machines for maximum production

Ask any group of construction equipment owners about the importance of their operators, and chances are you will hear very positive comments about the people in their cabs. That's because, according to Kurt Wilson, it takes a combination of well-designed machines and proficient operators to achieve top production.

Wilson is one of three corporate trainers certified and qualified by Komatsu to offer expert-level instruction. They work with equipment owners and their staff members to help them get the most from Komatsu machines. With years of experience running equipment – as well as delivering training - all Komatsu corporate trainers have the skills and knowledge to help companies increase job efficiencies and operators enhance their skills.

requested location.

"As we work with operators, we are learning too," said Wilson. "We have techniques, tips and information about the machines that we

They offer training at Komatsu's Cartersville Customer Center in Georgia or at a customer's

on investment through hands-on and classroom learning. Training can be arranged through your Komatsu distributor. > VIDEO

(L-R) Komatsu Corporate

Gillard assist companies

Bresemann and Jason

in improving return

Trainers Kurt Wilson, Todd

can share based on our experiences. At the same time, they often provide us with valuable insight that we can incorporate into our training and pass along to others. It's a two-way street."

Focusing on safety

Safety is of utmost importance, so Komatsu corporate trainers emphasize it in every session. "Once we have established that safety comes first, then we typically begin with classroom activities," explained Todd Bresemann, another Komatsu trainer. "During these meetings, we present information about the machines, and, at the same time, participants help us better understand their particular circumstances and needs."

When a group moves from the classroom to a site, they begin with a complete walkaround of the machine. "We go over pre-operation inspections thoroughly, then move to systems, functions and actual operation," said Jason Gillard, the third training team member.

"We help operators familiarize themselves with the latest machine features as well as proven operational techniques," noted Gillard. "Our aim is to assist those who run equipment to boost operational effectiveness, and to do so in ways that reduce maintenance issues. That leads to increased machine availability, which, in turn, provides even greater output and lower per-ton and per-yard costs."

"Observing people in action is always part of the process, with the goal of pointing out strategies to use the machinery most effectively," added Wilson. "We want to see companies achieve the greatest returns on their equipment investment as possible, and we know that skilled employees are one of the keys to doing that." ■

DESIGN INNOVATION



BIRD'S-EYE VIEW

New camera system gives operators unparalleled look at work area from excavator cab

Jobsites are often described as choreographed chaos – multiple machines and workers completing tasks in tight spaces and under extreme deadline pressure. That is why Komatsu developed KomVision, a multi-camera system that helps operators better track activity around their machines.

"Rearview cameras are already standard on our machines today; this was the next logical step," said Komatsu Senior Product Marketing Manager, Tracked Products Kurt Moncini. "Inside an excavator, the counterweight as well as the engine and pump compartments create unavoidable blind spots for the operator. KomVision helps eliminate them and improve situational awareness for everyone on a jobsite."

KomVision uses software to stitch together video from mounted cameras and then displays it on the in-cab monitor in real-time as one image that looks as if it were filmed from above the machine.

"It gives the operator a bird's-eye view of everything surrounding the excavator," Moncini added. "This is a great feature, especially for those who work in confined spaces. The operator has a complete view of the area to locate poles, equipment or crew members near the machine. It significantly improves situational awareness."

KomVision is currently available on six Komatsu excavators – PC170LC, PC238USLC, HB365LC, PC650LC, PC1250 and PC1250LC – and Moncini expects that number to increase in the near future.

Customized views

On standard excavators, the four-camera system captures a 300-degree view, while short-tail models use three cameras to monitor 240 degrees, with the remaining area in clear, first-person view of the operator. KomVision's view reaches beyond a fully extended arm and bucket to cover the entire work zone. Additionally, the counterweight swing radius is marked with a red line while a yellow one denotes a "caution area" with a radius that is two meters wider.

"You get an optimal view of your surroundings to easily identify any potential hazards within those zones," noted Moncini. "Increasing an operator's situational awareness is the primary objective."

Operators can use the default, split-screen mode, which displays the bird's-eye view on the left and a selectable camera view on the right, or they can switch to full-screen mode to display the feed from all cameras simultaneously.

"When backing up, for example, the operator can use the split-screen mode to see the rearview camera on one side and the overhead view on the other," noted Moncini. "It's customizable and easy to toggle between cameras."



Kurt Moncini, Komatsu Senior Product Marketing Manager, Tracked Products



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INDUSTRY ACHIEVEMENT

2 BILLION TONS HAULED

FrontRunner autonomous haulage system sets record with latest milestone

The numbers doubled quickly. In 2016, Komatsu's FrontRunner Autonomous Haulage System (AHS) marked 1 billion tons hauled since its first commercial deployment in 2008. Then, in 2018, AHS hit the 2-billion-ton mark, which is higher than all other commercial systems combined.

The feat was accomplished with more than 130 driverless trucks in operation in mines across the world. The number of tons hauled will keep rising significantly, with an additional 150 trucks slated for deployment in the Canadian oil sands throughout the next seven years.

"AHS continues to play an increasingly crucial role in effective mine management as more and more operations transition from manned to unmanned fleets," said Dan Funcannon, Vice President/General Manager, Large Mining Truck Division, Komatsu America. "As the demand for AHS grows, Komatsu will continue raising the bar in an effort to help mines provide safer environments, maximize production and reduce operating costs."

Future focused

Komatsu has accelerated the pace of AHS deployment by working closely with customers and educating them about the system's 10-year, zero-harm and productivity record as well as unmatched ability to accommodate an array of mining environments. Today's FrontRunner system operates around the clock to haul copper, iron and oil sands at seven sites across three continents.

"The ongoing investment in technology and equipment by major mining companies underscores their belief in the value of autonomous haulage," said Anthony Cook, Vice President Autonomous and Communications Solutions at Modular Mining Systems, a subsidiary of Komatsu.

Komatsu's best-in-class approach for FrontRunner AHS brings the world's best-selling, ultra-class dump trucks together with Modular Mining Systems' industry-leading DISPATCH Fleet Management System, the preferred management system in nine of the 10 largest mining operations in the world. The system enables 100-percent compliance with proven optimization methodology, delivering unrivaled performance.

Komatsu plans to enhance AHS' mixed-operations functions. In an effort to enhance safety and efficiency, Komatsu is working with industry stakeholders to standardize interoperability between Komatsu and non-Komatsu autonomous vehicles.



Dan Funcannon, Vice President/ General Manager, Large Mining Truck Division, Komatsu America

Komatsu's FrontRunner
Autonomous Haulage
System passed the
2-billion-tons hauled mark
recently. Commercial
deployment of the
driverless trucks began in
2008, and today there are
more than 130 of them in
operation around the world.







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