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EARTHWORKS ENTERPRISE

Son makes father's dream a reality as they build one of the Rio Grande Valley's top earthmoving companies

Owner and President
Humberto "Beto" Garcia Jr. (left)
and General Superintendent
Humberto Garcia Sr.

KOMATSU

A MESSAGE FROM

THE VICE PRESIDENT



Bruce Truesdale



Dear Valued Customer:

While industry groups are actively recruiting new employees to fill skilled-labor positions, a shortage of such workers remains. One aspect of today's construction industry that many potential crew members may find attractive is the growing use of technology, especially when it comes to equipment.

Komatsu revolutionized integrated GPS technology and is now taking its *intelligent* Machine Control dozers to the next level with Proactive Dozing Control logic to mimic the actions of seasoned operators during rough-cut application. Now, these dozers truly deliver first-to-last-pass auto blade control and continuous data collection. We believe this is another giant leap in helping novice operators become skilled dozer hands faster. You can read more about how Komatsu has continued to improve its innovative technology in this issue of your WPI Update magazine.

Komatsu also led the way in bringing integrated technology to excavators and has added another to the lineup with its new PC290LCi-11. It is well-suited for applications that require good stability and working range, and its size helps to avoid most transportation limits associated with larger-size-class excavators. Find out more inside.

This issue features two case studies, one shares the success story of a customer who relies on the *intelligent* Machine Control technology, while the second focuses on a waste-industry application. I think you will find both interesting as each provides insight into how Komatsu machinery offers greater accuracy, efficiency and productivity.

Whatever equipment you use, proper maintenance is essential. Fluids are part of that and it's important to use the ones designed for the conditions you face in order to get the best protection. If high heat is a problem, Komatsu's HO56-HE hydraulic oil could be the solution. We've included an article that details its benefits.

As always, if there's anything we can do for you, please call or stop by one of our branch locations.

Sincerely,

WAUKĖSHA-PEARCE INDUSTRIES, LLC

Bener A Tenas Cla

Bruce Truesdale

Vice President of CMD Operations

Taking 'intelligence' to the next level



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EARTHWORKS ENTERPRISE

Son makes father's dream a reality as they build one of Rio Grande Valley's top earthmoving companies

When Humberto "Beto" Garcia started Earthworks Enterprise in 2012, he knew the only way for it to succeed was for him to learn the earthmoving process, something he had little experience in. Fortunately, his father, Humberto Sr., was well-versed in what to do and could teach him the ropes.

"Dad always wanted to run a 'dirt business,' as he terms this," recalled Beto. "I wanted to help make that a reality, so along with a partner, Jorge Andrade, we founded Earthworks Enterprise and made Dad the General Superintendent. I followed his lead, and he taught me the proper techniques of moving earth safely, productively and profitably. He has a machine engine inside of him; he doesn't stop. Dad is often the first one on the jobsite and the last one to leave."

Humberto Sr. started his career as a construction laborer and worked his way up to lowboy driver, then equipment operator. His experience paid dividends right away as he guided Earthworks Enterprise's first crew of four, which included father and son,

through completion of site work for a private developer's residential subdivision.

"Our success and growth are directly tied to Dad's leadership and drive," Beto emphasized. "Immediately after we finished the first development, we moved to a second and have remained on a steady pace ever since."

Beto is Earthworks Enterprise's President while Andrade serves as the Vice President of the Penitas-based company. It covers the Rio Grande Valley and usually has eight to ten jobs going at once.

Change in focus

Beto noted that in the initial stages, they focused on private work because Earthworks Enterprise had no bonding capacity. At the outset, the firm's small fleet consisted of a motor grader, water truck, roller and paver.

Seven years later, the company employs 60 people and has an assortment of machinery primarily for municipal and county jobs as a general contractor. Earthworks Enterprise self-performs nearly 100 percent of a project's scope with crews dedicated to dirt work, surveying, asphalt paving and concrete.

"We still do some residential, mainly with the same customers we established relationships with early on," shared Beto. "For the most part, however, large-scale, low-bid jobs that require multiple crews are now our bread and butter."

To date, its largest undertaking was a \$6 million reconstruction for San Patricio County that involved 22 miles of road. "Redoing the base included putting geogrid liner on the bottom, then placing 80,000 tons of limestone on top of it," said Beto. "That was followed by a two-course surface treatment and

Humberto "Beto"
Garcia Jr. (left) and his
father Humberto Sr.
operate Penitas-based
Earthworks Enterprise.
Beto is an Owner
and President while
Humberto Sr. is the
General Superintendent.





An Earthworks Enterprise operator strips topsoil with a Komatsu *intelligent* Machine Control D61PXi-23 dozer on a pond project in McAllen. "The savings are phenomenal," said Owner/President Beto Garcia. "With the dozer, once we download the file, we turn on the automatics and let the machine go to work. It always knows where it is in relationship to final elevation and with each pass it puts the optimal load on the blade. There is no overcutting, so the need to replace material is eliminated."

20,000 gallons of asphalt. Instead of storm sewer, we reshaped the swales for positive drainage."

Earthworks Enterprise recently completed a three-mile full reconstruction and widening project for the city of McAllen that expanded an existing two-lane roadway into five. The company removed existing pavement and relocated and adjusted utilities. In addition, it put in sidewalks and storm sewer as well as curb and gutter, where none previously existed. Crews excavated approximately 19,000 cubic yards of dirt, installed 9,000 linear feet of utilities and 1,500 yards of concrete and put down some 6,000 tons of asphalt.

Time, cost savings with intelligent Machine Control

Another endeavor in McAllen saw Earthworks Enterprise cut and haul away nearly 50,000 yards of dirt for a new pond designed to alleviate flooding concerns during heavy rains. It also put in a small drainage pipe that will siphon off excess water, should the pond fill completely.

Prior to starting this project, Earthworks Enterprise surveyed the site by drone, built a computer model for the job and downloaded the completed file to the company's Komatsu D61PXi-23 *intelligent* Machine Control dozer. Earthworks Enterprise added the machine after Beto attended a lunch-and-learn event at WPI's Edinburg branch.

"I was invited by a friend, who already knew about Komatsu *intelligent* Machine Control equipment," Beto said. "I liked what I saw and wanted to try a dozer. I was immediately impressed with the accuracy and how well it performed, so we purchased the D61PXi. We then quickly acquired a PC210LCi-11 excavator, too.

"The savings are phenomenal," he continued. "With the dozer, once we download the file, we turn on the automatics and let the machine go to work. It always knows where it is in relationship to final elevation and with each pass it puts the optimal load on the blade. There is no overcutting, so the need to replace material is eliminated. It helps a novice operator look like a seasoned pro and makes the experienced person even better."

Earthworks Enterprise achieves similar results with the excavator. The company performs mass excavations, as well as trench digs with the PC210LCi, which features semi-automatic control. Once target elevation is reached, it prevents the operator from cutting any deeper.

"In some instances, using the intelligent machines reduces our estimated project time by half, compared to the traditional method of repeated surveying and grade checks," said Beto. "We also really like that the GPS system is integrated, so there are no masts or

Continued . . .

'The savings are phenomenal'

continue

cables to install or take down, which bites into production time. I definitely see us adding more intelligent machines as we're able."

Earthworks Enterprise purchased the *intelligent* Machine Control dozer and excavator with the assistance of WPI Sales

Superintendent Ruben Flores digs a utility trench with a Komatsu PC210LCi-11 intelligent Machine Control excavator. "It saves us a lot of time and material because once it reaches target elevation, the excavator prevents the operator from digging deeper," said Flores. "The accuracy is amazing, and we get a lot more work done compared to using traditional machines and methods."



Representative Omar Escobar. The Tier 4 machines are covered by Komatsu CARE, with WPI technicians performing complimentary routine, scheduled services for the first three years or 2,000 hours.

"Omar and WPI give us outstanding support," said Beto. "They always have someone ready and willing to help, including their Technical Solutions Experts, if we have questions related to the intelligent machines or our models. If we need parts, they have them on-hand. We have built a great relationship in a fairly short time."

Ready to take on highway work

Acquiring the expertise to build site models came relatively easy to Beto, who was in the computer industry prior to starting Earthworks Enterprise. His skills at running an earthmoving company have continued to grow, and he's taking steps toward the firm's future expansion.

"We're now Texas Department of Transportation certified, so we have been bidding highway work," Beto reported. "We are ready to attack that market, and I'm confident we will be successful in that arena.

"Seeing how happy Dad is tells me that I made the right move," he added. "I also love what I do now, especially because I get to do it alongside of him. Coming to work every day is enjoyable."

WPI Sales Representative Omar Escobar (left) helped Earthworks Enterprise Owner/President Beto Garcia acquire Komatsu *intelligent* Machine Control equipment. "Omar and WPI give us outstanding support," said Beto. "They always have someone ready and willing to help, including their Technical Solutions Experts, if we have questions related to the intelligent machines or our models."





GUEST OPINION

TAKE A DIFFERENT ROUTE

Construction careers often pay as much or more than those requiring traditional four-year degree



Deanna Quintana

Deanna Quintana emphasizes that careers in construction and the skilled trades can be as, or more, lucrative and rewarding than those requiring the traditional route of higher education that leads to a four-year degree. As our children grow up, we continually ingrain in them that there is one route to success – a four-year degree. However, higher education is not solely defined by a bachelor's degree. There are other paths that will guide them in the right direction before entering the workforce.

While there are misconceptions about the construction and skilled-labor industry, numbers prove that there are millions of jobs available in this field and compared to college graduates, they're well-paid. The average starting salary for college graduates stands at \$50,004; however, student debt is on the rise and the class of 2018 graduated with an average of \$29,800 in loans. One of the most important reasons students choose to pursue a four-year degree is to land a high-paying job. The truth is, multiple careers in construction make an average of \$65,000 per year and do not require a degree from a large institution.

This poses the question: How does one get higher education without going to a traditional college or university? The answer is simple: apprenticeships; technical

or community colleges; and career and technical education (CTE).

Earning while learning

Apprenticeships provide valuable on-the-job training and are structured programs relating to the technical and academic competencies that apply to the job. In fact, the construction industry in the United States represents approximately 30 percent of all active, registered apprentices. Construction is one of the few industries where individuals are given the opportunity to develop skills and knowledge about a career, while earning a paycheck.

Technical or community colleges offer shorter time spent in school and can be just as beneficial and rewarding as a four-year degree. In these programs, minimal debt is incurred, and the skills and education obtained apply directly to careers upon graduation.

CTE prepares secondary, postsecondary and adult students with the hard and soft skills needed to build a successful career and life. Classes prepare students for a variety of high-skill, high-wage and high-demand careers.

While a four-year degree may be the path for some, it is not the only form of post-secondary education. Higher education is about acquiring skills and knowledge that will help you succeed in your desired career path. ■



Deanna Quintana is a marketing intern at the National Center for Construction Education and Research (NCCER). She is learning about the industry and how to recruit and educate new craft professionals. This article is excerpted from a blog post, and reprinted with permission from "Breaking Ground: The NCCER Blog" at blog.nccer.org.

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EMBRACING TECHNOLOGY

Construction companies adopting innovations; expert advises using a measured approach

Editor's note: Some information for this article was supplied by Damon Haber, Co-founder and Chief Revenue Officer at Record360. During the past two decades, the development and acceptance of construction technology has made huge strides. GPS-based grade control is a perfect example. It has evolved from masts and cables on the outside of machines to integrated systems that can automatically raise and lower dozer blades. Today, companies are increasingly accessing information about their machinery via mobile platforms such as smartphones and tablets, using Wi-Fi or cellular networks.

Construction companies that fail to embrace these new strategies may fall behind those that do and could eventually be forced to close. It's essential to adopt innovations in today's world, although firms should take a measured and realistic approach to implementation, says Damon Haber, Co-founder and Chief Revenue Officer at Record360, which helps businesses add the latest products to their operations.

"I was an operator before I became a tech guy, so I understand how it is affecting companies and individuals," Haber said. "Like equipment, devices and apps don't create outcomes; however, they can be valuable tools that help achieve them. Failures often happen when companies try to do too much or have no clear objectives as to why they want to implement certain solutions."

Other obstacles to successful adoption include leaving key personnel out of the process and underestimating the impact of change. "Definitely take those factors into consideration prior to any final decisions," advised Haber.

Mobile on the rise

Mobile solutions continue to grow in the construction industry, and this is one sector where caution is especially necessary, according to Haber. Technology can be used to track equipment for maintenance, order parts, locate machines and much more.

"Every major manufacturer has an app, and all are proven," said Haber. "So, it's not an issue of whether a construction company can use them; however, they must look at the technical considerations."

Haber points to the devices themselves as a critical item for examination. "It's important to consider the costs, as well as the features and benefits of each device. For instance,



Best practices for adopting technology include starting small, setting measurable goals and outcomes as well as securing commitments from end-users. "You can always get bigger," said Damon Haber, Co-founder and Chief Revenue Officer at Record360. "You should also look at today's modern solutions and see how they can flex to match desired business goals."



Mobile technology continues to grow in the construction industry, and this is one area where caution is especially necessary, according to Damon Haber, Co-founder and Chief Revenue Officer at Record360. "Every major manufacturer has an app, and all are proven," said Haber. "So, it's not an issue of whether a construction company can use them; however, they must look at the technical considerations."

Apple and Android each have advantages and disadvantages."

Additional factors to weigh include using Wi-Fi or cellular networks, data costs, native versus web platforms, security encryption, level of support from your provider and provider integration capabilities.

"All are important to analyze, although they should not deter companies from using mobile options," said Haber. "Embracing them could be a key aspect in attracting new talent. Today's younger workforce is already very familiar with how to use mobile devices. Studies show that millennials use their smartphones up to 223 minutes per day."

Best practices include starting small

There are some best practices for introducing technology, mobile or otherwise. Among them are starting small, setting measurable goals and outcomes in addition to securing commitments from end-users.

"You can always get bigger," Haber emphasized. "Before full implementation, it's wise to do a pilot study and do it well. You should also look at today's modern solutions and see how they can flex to match desired business goals."

Best practices also include managing expectations, according to Haber. "Not everything needs to integrate or be perfect. There must be a clear vision for what success looks like."

A more competitive future

Staying flexible and open to the latest advancements will remain vital to construction companies' competitiveness and, ultimately, their survival. The future will continue to bring innovations that make jobsites more productive and efficient, if implemented with sound practices.

"We are on the cusp of major changes right now," Haber stated. "5G for mobile is right around the corner, and it will be 100 times faster than 4G. Everything cellular will be affected, and we will be able to do things that were not possible before.

"I also believe artificial intelligence, including machine learning, will gain more prominence, as will augmented reality," he added. "Companies should not be afraid of or intimidated by technology. They should view it as a means to enhance and improve their practices and increase competitiveness."

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Marv Selge (with Noah & Justin) / Selge Construction, Inc. / Niles, MI



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PRODUCT FOCUS

NEW INTELLIGENT EXCAVATOR

PC290LCi-11 uses 3D design data to deliver first-to-last pass accuracy

KOMAT'SU

Komatsu augmented its *intelligent*Machine Control lineup with the addition
of the new PC290LCi-11 that provides
first-to-last-pass accuracy. Like its predecessors,
the excavator features Komatsu's unique
sensor package – stroke-sensing hydraulic
cylinders, an inertial measurement unit sensor
and global navigation satellite system antennas –
that utilizes 3D design data to accurately check
its position against the target elevation and
semi-automatically limit overexcavation.

"The PC290LCi-11 is perfect for applications where customers are looking for good stability

Komatsu's new PC290LCi-11 offers

good stability and working range

with a 30-ton-class undercarriage

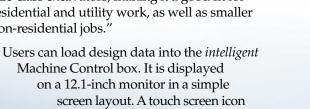
and the upper structure of the

standard PC240LC model

as well as an arm that

reaches past 10 feet.

and working range. It has a 30-ton-class undercarriage and an upper structure similar to our standard PC240LC model. This excavator also includes a 3.2-meter (10.49-foot) arm," said Andrew Earing, Senior Product Manager, Tracked Equipment, noting that a 3.5-meter arm option will be available soon. "Its size helps to avoid most transportation limits associated with larger size-class excavators, making it a good fit for residential and utility work, as well as smaller non-residential jobs."



interface, instead of a multi-step

menu, simplifies operation.

Continued . . .



Andrew Earing, Senior Product Manager, Tracked Equipment

Brief Specs on Komatsu's PC290LCi-11 Excavator

> Model PC290LCi-11

Net Horsepower 196 hp

Operating Weight 70,702-72,091 lb

Bucket Capacity .76-2.13 cu yd

Display shows realistic design surface

continue

The machine and design surface are shown in a realistic 3D format. The angle and magnification of the views can be changed, allowing the operator to select the best option, depending on working conditions.

Easily switch modes, offset functions

Operators can choose between manual and semi-automatic modes, as well as design offset functions using switches on the joysticks. The semi-automatic mode features Auto Grade Assist. As the operator moves the arm, the boom adjusts the bucket height to trace the target surface and minimize the chance of digging too deep.

Additionally, the PC290LCi has Auto Stop Control that halts the working equipment when the bucket edge reaches the design surface, which reduces design surface damage. Minimum Distance Control regulates the bucket by automatically selecting the point on the bucket closest to the target surface. Finally, the Facing Angle Compass shows

edge to be accurately positioned square to the target surface.

"Komatsu introduced *intelligent* Machine Control excavators four years ago with the PC210LCi, which is now in its second generation with the Dash-11 model," said Earing. "As we continued to expand our intelligent product line, we heard customers asking for a PC290LCi. With the introduction of this model, we are pleased to demonstrate our commitment to our customers."

Covered by Komatsu CARE

The PC290LCi-11 has Komatsu's KOMTRAX Level 5 technology that provides machine data such as fuel and diesel exhaust fluid (DEF) levels, Komatsu Diesel Particulate Filter (KDPF) regeneration status, machine location, cautions and maintenance alert information.

Whether rented, leased or purchased, the PC290LCi-11 is covered by Komatsu CARE, complimentary for the first three years or 2,000 hours. It includes scheduled factory maintenance, a 50-point inspection at each service interval and up to two complimentary KDPF exchanges and two DEF tank flushes in the first five years.





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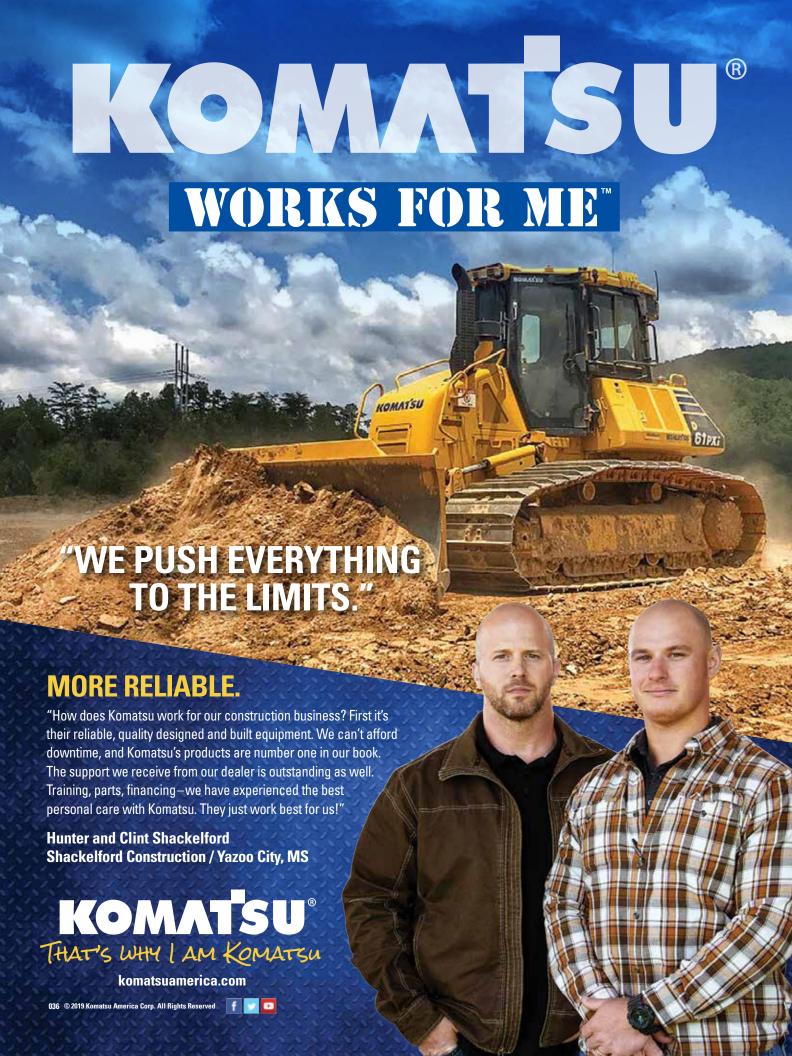
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COMPLETING MORE JOBS FASTER

R.A. Alexander & Sons saves time, money with intelligent Machine Control equipment

Three years ago, Bill Jagoe, Owner of Jagoe Excavating, approached Mark Ballard, President of R.A. Alexander & Sons, about expanding the existing relationship between the two companies. The new collaboration helped both firms immediately by filling gaps for each. Together, the two businesses can now handle nearly any earthwork-related project.

Benefits for R.A. Alexander & Sons included the ability to offer utility-installation services and the opportunity to upgrade its equipment fleet. For the latter, Ballard contacted his local Komatsu distributor to discuss adding additional *intelligent* Machine Control equipment to complement the D51PXi dozer he purchased in 2015. Ultimately, Ballard acquired a second D51PXi in addition to a D61PXi dozer and a PC210LCi excavator. All feature factory-integrated grade control technology that makes operators even more effective from start to finish.

Advantages immediately apparent

"Augmenting our fleet with *intelligent* Machine Control pieces made us 40 to 50 percent faster, and we're achieving accuracy within two-tenths of an inch," stated Ballard. "Having a model that we can plug in and follow, speeds us up significantly. We save the most time on minor details associated with parking lots and streets. It's also phenomenal on earthmoving projects with major grade changes. There's no lost time with operators stopping to read plans or ask questions. Everything is on the in-cab monitor."

Jagoe said the results were noticeable right away. "I was surprised there weren't any stakes at the jobsite. However, I noticed that

the machines never stopped moving, and they were finishing jobs sooner. The *intelligent* Machine Control products save us money on things like surveying and material costs. Plus, we are able to do more projects because we can work so much faster."



An *intelligent* Machine Control D61PXi dozer and a PC210LCi excavator enable R.A. Alexander & Sons to finish jobs sooner, allowing it to take on more projects. "Augmenting our fleet with *intelligent* Machine Control pieces made us 40 to 50 percent faster, and we're achieving accuracy within two-tenths of an inch," stated President Mark Ballard.



Mark Ballard, President, R.A. Alexander & Sons



Bill Jagoe, Owner, Jagoe Excavating



(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



THAT'S WHY I AM KOMATSU

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EQUIPPED FOR SUCCESS

Excavator fleet outfitted with waste packages helps recycling firm meet production goals

Lakeshore Recycling Systems (LRS) is one of the largest waste and recycling companies in the Chicago area. In order to process the massive amount of waste material that comes through its seven locations, LRS requires equipment that is dependable, versatile and durable. It found a solution with a fleet of 15 Komatsu PC210LC excavators outfitted with Komatsu waste packages.

"Our PC210s run up to 20 hours a day – sometimes as many as 11 hours straight – which is vital to keeping us on schedule," explained LRS Managing Partner Rich Golf. "We know that they are going to run every day."

The company uses its PC210LC fleet to sort through piles of waste material, removing pieces that can hinder the performance of its production line.

"It is an instrumental tool," shared Golf.
"Operators can identify items that might be harmful to machines downstream like hoses, electrical cords, plastics or bulky items."

Golf touts the versatility of the PC210LC for its ability to feed the operation, a task typically reserved for a large wheel loader.

"It takes up less space, uses less fuel and eliminates tire costs," said Golf. "It does the job of a WA500 wheel loader, just more efficiently."

Enhanced performance

To help the PC210s perform 20-hour work days in unforgiving conditions, LRS equips its excavators with Komatsu waste packages.

"Overheating can be a serious problem," stated Golf. "However, the Komatsu package includes an enhanced cooling feature with

wider fins and radiators that swing out. It improves access to the area and allows us to blow them out quicker to keep everything cool."

The waste package also includes an enhanced boom arm and stick as well as extra safety guarding around the cab. Golf credits the Komatsu waste package as one reason why LRS excavators work past the 15,000-hour mark – with some already at 25,000 hours. They also play a role in ensuring that those hours are completed safely.

"Komatsu has done a great job of creating waste packages that meet our needs," noted Golf. "This helps make the machines more durable as well as safer for the operator. Safety has been our top priority from day one, and that has been important in our relationship with Komatsu."



Rich Golf, Managing Partner, Lakeshore Recycling Systems

A Lakeshore Recycling Systems operator uses a Komatsu PC210LC excavator equipped with a Komatsu waste package to manage a pile of material. "Komatsu has done a great job of creating waste packages that meet our needs," noted Managing Partner Rich Golf. "This helps make the machines more durable as well as safer for the operator."



PRODUCT IMPROVEMENT



INTUITIVE TECHNOLOGY

Proactive Dozing Control logic interprets data, makes decisions to mirror seasoned operators



Derek Morris, Komatsu Product Marketing Manager

When Komatsu unveiled its revolutionary intelligent Machine Control system in 2013, the integrated, mast- and cable-free, semi-automated GPS program promised increased production and precision grading. It delivered, and now Komatsu is taking the technology to another level with Proactive Dozing Control logic.

"The first iteration of *intelligent* Machine Control was a starting point," explained Komatsu Product Marketing Manager Derek Morris. "Once that was accepted in the market and became a viable part of a construction site, we focused on how to make it better."

To do that, Komatsu designed its Proactive Dozing Control system to more closely resemble

Available on new Komatsu D51i-24 and D61i-24 dozers, the latest version of *intelligent* Machine Control improves automation during rough-cut applications by more closely operating like an end-user. "Proactive Dozing Control logic tracks, collects and interprets terrain data, then makes decisions based on that information," said Komatsu Product Marketing Manager Derek Morris.



an experienced operator during initial rough-cut applications – a point when operators were not utilizing *intelligent* Machine Control.

"Traditionally, end-users were only using automation to perform final grade," noted Morris. "That happened because the system would work to get the blade to grade as soon as possible, creating aggressive cuts that could stall a machine. During that phase, experienced operators would typically cut and carry large but manageable loads, so they could move the material to other parts of a jobsite. We added this logic and practice."

The result is an intuitive technology that delivers productivity gains of within 6 percent of an experienced operator.

"Proactive Dozing Control logic tracks, collects and interprets terrain data, then makes decisions based on that information," said Morris. "It can now calculate when to cut and when to carry material, while also allowing the operator to provide input on where the blade should be based on existing ground. The new system enables the operator to use automatics in applications such as stripping topsoil or spreading fill."

'Grass to grade'

With Proactive Dozing Control logic, operators are able to use the technology at all times, boosting efficiency and productivity.

"Using machine control exclusively for fine grading meant it was utilized only 10 to 20 percent of the time," said Morris. "Proactive Dozing Control logic gives Komatsu *intelligent* Machine Control dozers grass-to-grade automatics, which delivers greater return on investment."

INDUSTRY EXTRAVAGANZA



WPIUpdate.com

HANDS-ON EXPERIENCE

Komatsu revamps Demo Days to provide ultimate customer event

This spring, more than 300 customers, distributor representatives and industry professionals attended Komatsu's Demo Days at the Cartersville Customer Center in Georgia where they experienced a newly tailored schedule for the event.

"We've been using this site for more individualized customer demonstrations, and we learned a lot from them," said Komatsu Instructor and Developer Isaac Rollor. "We applied a good deal of the feedback we received from those interactions to enhance this group event. As a company, Komatsu is always looking to improve in all aspects, and that includes Demo Days."

The new format significantly increased attendees' time at the demo site. The morning session featured walk-arounds for 30 machines, including the full family of intelligent Machine Control dozers and excavators, with Komatsu experts on-hand to answer questions.

"After registration and a short safety meeting, we got customers up on the hill," said Rollor, referring to the demo site location. "In the past, we held the morning session in our auditorium, but we want Demo Days to be as interactive as possible. We felt it was important to increase the amount of individualized time customers spent with our people and on the machines to achieve that goal."

Food trucks, raffles and competitions

The morning ended with an intelligent Machine Control dozing demo and then Atlanta-area food trucks provided lunch. The afternoon was reserved for machine operation.

"By the time customers go home, we want them to feel as confident with the Komatsu product as we are," noted Rollor. "This new setup provides more time for them to talk with Komatsu personnel, operate equipment and have all of their questions answered."

In addition to machine demos, the gathering also featured raffle prizes; timed wheel loader and mini excavator challenges; and a factory tour of Komatsu's Chattanooga Manufacturing Operation. Demo Days also included a "Help Build the Machine of the Future" area, which invited customers to share what they want to see from Komatsu in five, 10 and 15 years. ■



Isaac Rollor, Komatsu Instructor and Developer

Komatsu Demo Days attendees had the opportunity to operate 30 machines, including the new GD655-7 grader and the full line of intelligent Machine Control equipment. The event also featured walk-arounds, competitions, a factory tour and other



GOING BEYOND THE SALE

VP – Marketing Communications says Komatsu helps customers gain knowledge to maximize production



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.

Evelyn Maki, Vice President – Marketing Communications

Originally from Brazil, Evelyn Maki went to college with a focus on building a career in tourism. While in school, she interned at a heavy equipment manufacturer, took a position there upon graduation and has been supporting the industry ever since.

"I have been involved with sales, data analysis, forecasting and dealer development," said Maki. "I enjoyed those, but marketing is what I love. I really enjoy today's modern practices and am always thinking about ways we can shape our industry from a marketing perspective."

Maki moved to the United States when she was transferred to Wisconsin by her previous employer in the early 2000s. About eight years ago, she began working for P&H, then part of the Joy Global organization, now owned by Komatsu. Today, she is the Vice President – Marketing Communications for Komatsu. Maki oversees global marketing for Komatsu Mining, as well as for construction, forestry, forklift and industrial presses for North America.

"Komatsu is about more than manufacturing quality, dependable equipment; it's focused on building relationships by taking care of customers from every standpoint: sales, service and support," said Maki. "From a marketing perspective, that's what we want to highlight because, at the end of the day, this is what creates customers for life."

QUESTION: Komatsu is known as a "total solutions provider." What does that entail?

ANSWER: It means we can take care of customers throughout their machinery's life cycle. For instance, if a customer is looking for a machine with GPS-grading capabilities, Komatsu has several options including our integrated *intelligent* Machine Control dozers.

In addition, we, and our distributors, have expert personnel who can provide mapping services, jobsite setup, training, consultation and more. Most of our latest models come with Komatsu CARE, so scheduled maintenance is covered for the first three years or 2,000 hours. Programs are available to extend that, and we have other solutions to take care of maintenance and repairs.

QUESTION: What are the roots of Komatsu's customer-focused approach?

ANSWER: Our approach stems from our origins and from listening to customers. Komatsu was started nearly 100 years ago by Meitaro Takeuchi. He saw that the copper mine in Komatsu City, Japan, was about to exhaust its resources and close. The city's economy centered around that mine, so he started an equipment manufacturing company to provide new jobs and help people in his community develop new skills. That's how Komatsu was created.

For nearly a century, we have expanded globally because we visit jobsites and mines around the world to talk with customers in order to better understand their needs and challenges. Knowledge gained from those conversations helps develop equipment and solutions to meet those needs and alleviates challenges so customers can concentrate on



Komatsu has a long history of dedication to developing solutions for people and their businesses, according to Evelyn Maki, Vice President – Marketing Communications. "Komatsu was started nearly 100 years ago by Meitaro Takeuchi," said Maki. "He saw that the copper mine in Komatsu City, Japan, was about to exhaust its resources and close. The city's economy centered around that mine, so he started an equipment manufacturing company to provide new jobs and help people in his community develop new skills."

getting their jobs done more effectively and efficiently, backed by Komatsu.

QUESTION: How is Komatsu reaching customers to provide information about its equipment and support?

ANSWER: There are several avenues. From a global perspective, information is available on our websites, and that's a good starting point for research. Customers can also gain information from our social media pages and video library on YouTube.

QUESTION: In addition to online resources, how can customers learn more about Komatsu equipment?

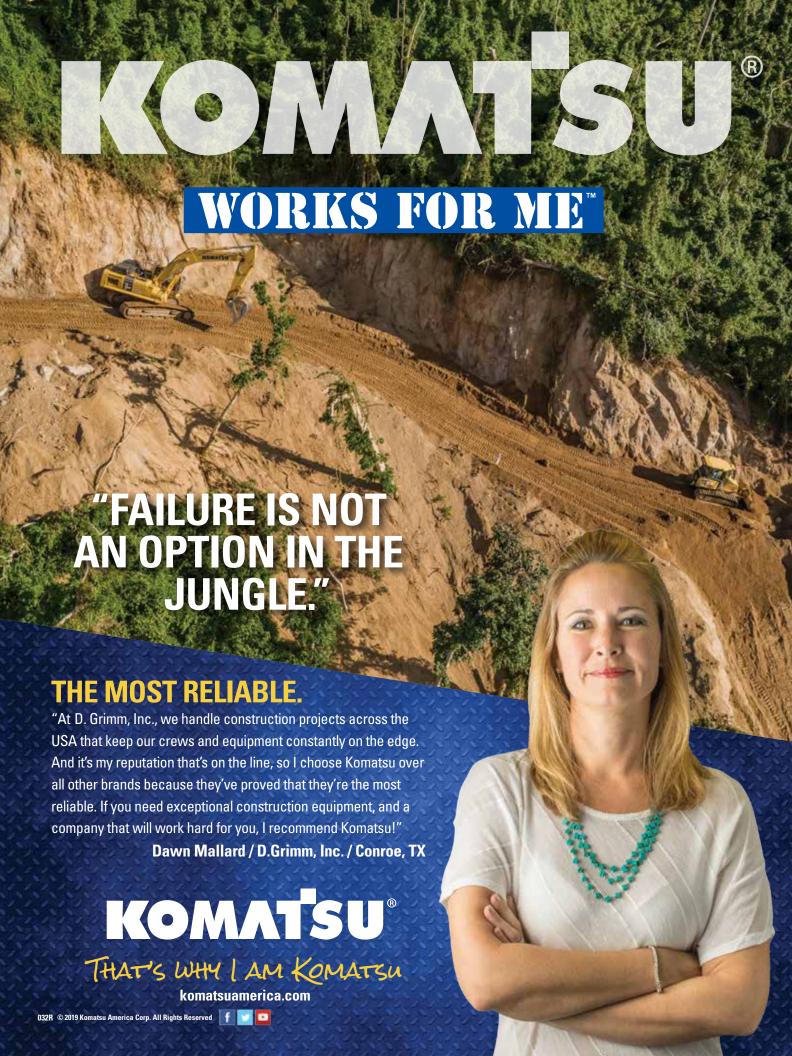
ANSWER: We encourage them to contact their distributor personnel. From a manufacturer marketing standpoint, we develop content that helps distributors and their representatives provide the most accurate, detailed information possible so that customers can make highly informed decisions. We serve as a support tool.

One way we do that is with events, such as Demo Days, where distributors can bring customers to our Cartersville Customer Center to operate machinery, and our experts provide insight into maximizing machine usage as well as other valuable content.



During Demo Days at the Cartersville Customer Center, Komatsu experts provide valuable insights about maximizing machine production and more.

Our distributors are excellent resources and can directly help customers with details about equipment and the programs to maintain it, such as Komatsu CARE for Tier 4 construction equipment. We encourage anyone seeking information to contact their distributor and/or sales representatives who have the knowledge to put them in the right machine for maximum production and efficiency.



DESIGN INNOVATION



Discover more at WPIUpdate.com

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



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.

Customer Center in Georgia or at a customer's 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

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." ■



Discover more at WPIUpdate.com

WASTE EXPO DRAWS CROWDS

Solutions and support for rugged landfill operations showcased in Las Vegas

Companies from across the country gathered in Las Vegas for the 2019 Waste Expo to see the latest innovations for the waste management industry. Educational sessions and networking opportunities supported the exhibit area where customers met with manufacturers and inspected machines.

At the Komatsu America booth, attendees could visit with company representatives to learn about new solutions for the industry.

"We're building strong relationships with our waste-market customers and developing the machines that meet their applications," said Komatsu America Chairman and CEO Rod Schrader. "Then, in partnership with our dealers, we support them very effectively with local service and parts departments."

Customer success

Waste industry professionals who utilize Komatsu products note the positive impact the equipment has made on their operations.

"We recently switched to Komatsu and, in the past year, have added more than a dozen machines, including excavators and wheel loaders," said DTG Recycling Group COO Tom Vaughn. "The maintenance support has been fantastic."

Andrew Springer with Sun Recycling in Beltsville, Md., relies on Komatsu equipment for the company's roll-off dumpster hauling and C&D recycling operations.

"We run Komatsu wheel loaders and excavators exclusively," noted Springer. "Our environment is very rough on machines, and they stand up to the test. The most critical piece has been the dealer support in getting the parts we need, when we need them."

Komatsu featured two industry-specific machines, the D85-18 dozer outfitted with a waste package and the WA380-8 wheel loader with waste-handling capabilities. Both offer solutions for landfill operations.

"The D85PX-18 dozer is fully-equipped and ready to push trash," noted Komatsu America Marketing Engineer Scott Ruderman. "It features an 18.4 cubic-yard blade with a trash rack to handle the lighter material and 30-inch track pads with clean-out holes for easier maintenance. The engine compartment is sealed, and the exterior hoses have been removed to prevent debris from contacting or damaging critical components."

Komatsu designed the WA380-8 wheel loader to be ready for harsh applications as well.

"We fully protect the bottom of the machine using a front frame underground, powertrain guard, fuel tank guard and axle seal guards," noted Ruderman. "Due to market demand, we've developed a guard that protects the fan cooling unit and rear grill from contact as well. The machine also has a corrugated screen outside of the intake system to prevent debris from entering the engine system."



Rod Schrader, Chairman and CEO, Komatsu America

The 2019 Waste Expo featured the latest innovations in the waste management industry, including a fully guarded Komatsu WA380-8 wheel loader and D85-18 dozer outfitted with a waste package.



SERVICE NEWS

HIGH-HEAT PROTECTION

Specially formulated HO56-HE hydraulic oil helps solve oil degradation in hot environments



Bruce Gosen, Senior Product Manager, Komatsu Parts Marketing

Using the proper fluids delivers bottom-line benefits, potentially increasing productivity and lowering operating costs. "Fluids designed to match the conditions you face offer the best protection, resulting in less downtime and extended equipment life," said Bruce Gosen, Senior Product Manager, Komatsu Parts Marketing.

Gosen pointed out that Komatsu's HO56-HE hydraulic oil is a good example. It is a zinc-based, anti-wear oil made from synthetic fluid, as opposed to traditional hydraulic fluids created from mineral oil. "This product is specially formulated to help solve oil degradation issues in hot environments," explained Gosen. "It's an ideal choice for equipment operating in desert regions or in high-temperature industrial facilities."

Specific benefits of HO56-HE:

 It has outstanding cold-start performance and excellent resistance to oxidation at high temperatures.

- It is specially formulated to maintain viscosity range throughout the full life of the fluid.
- The fluid performs with greater efficiency to reduce fuel consumption and extend oil drain intervals.
- It prevents valves from sticking, resulting in less "reactive maintenance" downtime.

"HO56-HE is more energy-efficient, so it can reduce overall fuel costs compared to conventional anti-wear hydraulic fluids," said Gosen. "HO56-HE has the potential to last longer too, reducing downtime for routine oil drains.

"It's compatible with most machines, so many companies can consolidate multiple hydraulic oils across their fleets, simplifying ongoing maintenance, which can lead to greater savings," Gosen added. "We encourage anyone needing a high-performance hydraulic oil to contact their distributor for HO56-HE."



SIDE TRACKS



Scan to reveal answers

Can you spot what is different?

There are 10 differences between these two pictures. Test your power of observation, then scan the QR code to check your answers.





INDUSTRY NEWS

OVERWHELMINGLY POSITIVE

Drone use report: Most companies say benefits of the technology far outweigh the cost

Ninety-two percent of companies that use drones say the benefits of this innovation exceed the costs, according to the "State of Commercial Drone Use" report recently released by Blue Research, which contacted more than 1,700 medium and large businesses for its study. The findings noted that 10 percent of surveyed companies with revenues of more than \$50 million currently use drones.

For 88 percent of respondents that utilize the technology, return on investment was

achieved in a year or less. About half said that taking drones away would negatively affect their bottom lines.

Construction is one of the prominent industries using drones, with a 35-percent adoption rate. Nine out of ten firms with drones reported that the devices allow them to capture more information, save time and increase efficiency. Seventy-five percent said drones increase worker safety, and 71 percent cited a competitive advantage as a benefit.

"One of the things we really struggled with was figuring out how companies are using drones. Much of the research focused on hobbyists, the military, etc.," explained Mariah Scott, President of Skyward, which commissioned the study and prepared a subsequent webinar titled, "Drones in Big Business: The State of Drones at \$50M+."

Majority handle it in-house

The report also found that less than 40 percent of companies hire outside help for their drone programs, including flights, data processing and data analysis. "Sixty-three percent are not outsourcing any of these activities," shared Scott. "This number was much higher than expected. It's very encouraging news about the ability of large companies to incorporate new technology."

Challenges to adopting a drone program included staying up to date on laws and regulations. Access to controlled airspace was another obstacle.

Two percent of respondents plan to start a drone program within a few months. Another 7 percent said they will begin using drones at some time in the future. ■



Large companies that use drones are overwhelmingly positive about the technology, citing the ability to capture more information, save time and increase efficiency among the primary benefits, according to a recent study. Almost 90 percent of companies that use drones said they saw a return on investment within a year.

MORE INDUSTRY NEWS

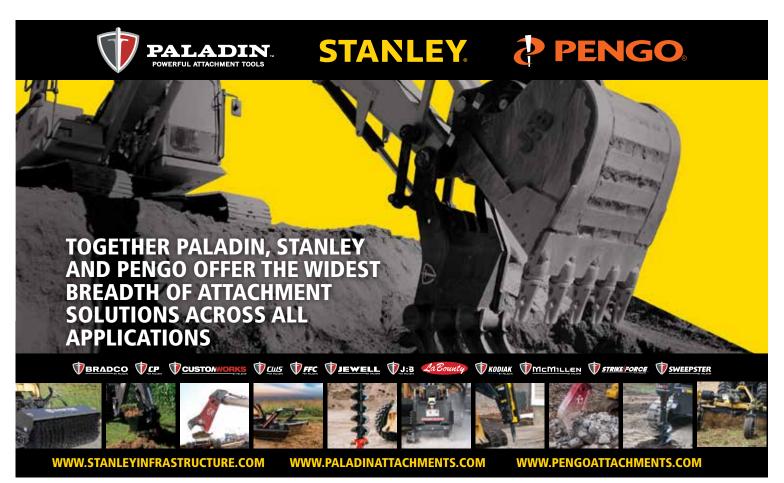
Largest autonomous truck now operating in Canadian oil sands

Komatsu's biggest autonomous ultra-class haul truck is now in operation, moving materials at an oil sands operation in Canada. With a 400-ton capacity, the new 980E-4AT builds on Komatsu's 930E Series and is one of the world's largest autonomous haulers.

The 980E-4AT has a 3,500-horsepower, 18-cylinder engine with a reliable hydraulic design. It also features a two-stage turbocharging system to maximize fuel efficiency.

Komatsu introduced its Autonomous Haulage System (AHS) more than a decade ago; then, in late 2018, it reached two billion tons hauled with its autonomous trucks. There are more than 130 AHS Komatsu trucks in operation worldwide.

"The introduction of these 980Es into the AHS environment was possible thanks to our customers and distribution partners," said Dan Funcannon, Vice President/General Manager, Large Mining Truck Division. "They're a big reason why Komatsu has the most autonomous systems, in the most mines, hauling the widest variety of material in the world."



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