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APRIL 2019

# ROAD SIGNS

A PUBLICATION FOR AND ABOUT ROAD MACHINERY & SUPPLIES COMPANY CUSTOMERS

## NORTHERN CLEARING, INC.

Read how performing in the harshest of elements is a calling card for this family firm



Daniel Vernon,  
Vice President  
of Projects



**KOMATSU**<sup>®</sup>

# A MESSAGE FROM THE CEO



Mike Sill II

**Komatsu  
leads the tech  
revolution**



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 Road Signs magazine, then contact us to see how our SMARTCONSTRUCTION team members can be of service to you.

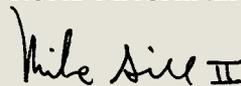
Rear cameras are now a staple in the construction industry, allowing operators to use an in-cab monitor to see what's behind them. Komatsu has taken the concept a step further with KomVision, which places multiple video cameras around a machine to give operators an all-around view. Check out the article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



Mike Sill II  
CEO



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# NORTHERN CLEARING, INC.

## Performing in the harshest of elements is a calling card for this family firm



Daniel Vernon,  
Vice President of  
Projects

For more than six decades Northern Clearing, Inc., has done exactly what its name states: clear the land. It's a safe bet however, that if not for a devastating fire; the Vernon family would have carried on as farmers in Ashland, Wisc.

"After the farm burned down, my grandpa George Vernon, and my two great uncles, Wayne Vernon and Sonny Guski, caught on with a clearing company for a summer to put food on the table," explained Vice President of Projects Daniel Vernon, who is part of the third generation of Vernons to work in the company. "After that, they decided there was a future in the industry, and Northern Clearing was born."

That hunch has proven correct. With as many as 1,000 employees at busy times, the company has completed jobs across the country and built a solid reputation in the process.

"There was steady growth for the business from the start, but when my dad, Richard, and

his brothers, Craig and Todd, took over in the 1990s, the company really started to expand," said Vernon. "At that point, the amount of work we were doing basically doubled. We've always gone where the work was, but that's when there started to be a lot more of it."

While Northern Clearing's project area and customer list is expansive, it remains committed to environmental stewardship.

"We specialize in virgin right-of-way clearing," detailed Vernon. "Most of our jobs involve creating access roads and paths for power line and pipeline projects. We make tough conditions traversable and safe. When a project is complete, we come back and perform re-seeding and other restorative maintenance. We are environmentally conscious, which sets us apart in this industry."

### Developing a culture

As Northern Clearing has expanded throughout its history, it remains successful by sticking to its roots.

"As we've grown, we've kept the concept of a family-run business," stated Vernon. "Every company says they treat their employees like family, but for us, it's more than lip service. It would be easy for our owners to sit in an office and just be a name to the people in the field, but they get out to the sites. They travel across the country and put faces with names. It makes a difference.

"Those values start with ownership, but our employees are the ones who really have made it part of our culture," he continued. "Most of our supervisors started out in the field with us and worked their way up. We have three generations of families who have worked at

(L-R) Colten, Todd, Richard, Daniel, Craig, Tyler and Cole Vernon make up the second and third generations involved in Northern Clearing, Inc., which is in its sixth decade of operation. "As we've grown, we've kept the concept of a family-run business," said Vice President of Projects Daniel Vernon.





▶ VIDEO

Northern Clearing Operator Jim Ericsson uses a Komatsu D61PX dozer to compact frost to create a frozen access road north of Roseau, Minn. "We operate on rugged terrain, but the ride of the Komatsu D61 and D65 is very comfortable, the visibility is great and the controls are operator-friendly," said Erickson.



Northern Clearing. That speaks volumes to the way we do things. People like it here and know they have a future with us."

Another company value is a staunch adherence to safety protocols.

"We stress safety every day," stated Field Safety Representative Bruce Bennett. "Making sure that our employees are paying attention and thinking about safety is extremely important. We operate in some cold, wet and slippery conditions with very serious equipment. Making sure that everyone gets home safely is our top priority."

### Taming the terrain

Northern Clearing has performed in its fair share of rugged conditions, but the Great Northern Transmission Line (GNTL) project has proven to be one of the most challenging in the company's history. The GNTL will deliver clean electricity to more than 144,000 Minnesota Power customers via a power line that will run from the Manitoba Hydro in Winnipeg, Canada, to the Blackberry 500 kV Substation near Grand Rapids, Minn. Before that can happen, however, Northern Clearing was tasked with carving out a 225-mile path from the Canadian border near Pinecreek, Minn., to Grand Rapids.

In addition to trees, ponds and other unforgiving terrain along the route, Northern Clearing crews also had to account for the

varying ground surfaces. From peat bogs to swamp land to farmland, the most consistent answer to the problems was to create frost roads.

"There is a tower roughly every 2,000 feet of the project to carry the power line," detailed Superintendent Rod Grubisic. "So, we needed to find a way to get the drill rigs and other equipment to those sites to build pads. Most of the land near the border was a peat bog, which is similar to mud. The only way to access the pad sites was to freeze the land and make a road."

In 2017, Northern Clearing began the initial phases of the construction as it removed trees and other debris to form the right-of-way. Then, a year later, it began constructing ditches and bridges and, once the temperatures were low enough, the process of "freezing" the roads took place.

"Our main goal is to enable 70,000 to 80,000-pound loaded trucks to access the roads," said Grubisic. "To accomplish that, we need about 18 inches of frost. We continuously run equipment along the path to break up the frost in the ground so it will come to the surface and freeze. The deeper the frost goes, the bigger machine we run until we get the right depth."

### Komatsu, RMS deliver

To complete the entirety of the GNTL project in an efficient manner, Northern Clearing broke up the job into four sections. Each works simultaneously and is supplied with its own equipment yard and crews. For the



Bruce Bennett,  
Field Safety  
Representative



Rob Grubisic,  
Superintendent

Continued . . .

# 'I love running the Komatsu dozers'

... continued

northern-most quadrant of the GNTL, Northern Clearing turned to Komatsu equipment from Road Machinery & Supplies Co.

From a temporary 10-acre equipment yard in Salol, Minn., that doubles as the section's centralized headquarters, Grubisic and his crews are responsible for creating access to the GNTL's first 262 structures between the border and Baudette, Minn., – a nearly 100-mile stretch. The machines of choice for the job are Komatsu D61PX and D65PXi dozers and a WA470 wheel loader.

"We're working on the coldest and nastiest elements on the project, and we need equipment that we can trust," noted Grubisic.

"Komatsu has proven itself over and over again. We know that our dozers in the field and the WA470 in the yard are going to start and perform all day long and not experience any DEF issues. We've had other brands up here, and they couldn't cut it."

"I love running the Komatsu dozers," said Operator Jim Erickson. "We operate on rugged terrain, but the ride of the Komatsu D61 and D65 is very comfortable, the visibility is great and the controls are operator-friendly."

Komatsu's performance made it an obvious choice for the segment, but coupling it with service from RMS made the decision a clear winner.

"The level of commitment we have received from RMS has been above and beyond," shared Grubisic. "Mike Stephani, an RMS Technician, is here full-time. We're his only responsibility. That is a game-changer for us. If anything does happen, we know he is here to take care of it right away, instead of waiting for someone to come from a few hours away. RMS also has a dedicated parts warehouse on the yard. We're pretty isolated, and RMS has worked really hard to ensure that we have parts and service available.

"Plus, our Sales Rep, Wade Stromgren, is great to work with," he added. "We have a short window to operate weather-wise. To have people like Wade and Mike – and everyone we've worked with at RMS – understand that and work to keep us up and running is amazing." ■



Using a Komatsu D65PXi dozer, a Northern Clearing operator packs frost and maintains a satellite equipment yard in Roseau, Minn.

At Northern Clearing's equipment yard in Salol, Minn., an operator uses a Komatsu WA470 with forks to load and unload helicals. "We're working on the coldest and nastiest elements on the project, and we need equipment we can trust," said Superintendent Rob Grubisic. "Komatsu has proven itself over and over again."



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

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**Hunter and Clint Shackelford**  
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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.

“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,

*Continued . . .*



Jake Geisler, Ice Dam Steam Team (left), and Tom Major, Road Machinery & Supplies Co.



Gary Disch, Magney Construction (left), and Phil Major, Road Machinery & Supplies Co.

Online  
Exclusive



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

▶ VIDEO



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) Brad Joki and Greg Geers, Tiller Corporation; and Phil Major, Road Machinery & Supplies Co.

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.” ■



Phil Major, Road Machinery & Supplies Co. (left), and Jason Lauritsen, Pete’s Water & Sewer

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.



Jim Semple, Semple Excavating & Trucking (left), and Derek Gustafson, Gustafson Excavating, Inc.



(L-R) Kraig Hanson, Crow River Construction; Mike Buchanan, Road Machinery & Supplies Co.; and Justin Sailer, Komatsu America

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# VERSATILITY ON DEMAND

## Addition of Gradall products provides specialized options for RMS customers

Road Machinery & Supplies Co., (RMS) is now an exclusive dealer for Gradall Industries' mine scaling, metal mill maintenance, contractor and municipal products.

"We're excited about our recent agreement with Gradall because they complement our existing products and the core strengths of Road Machinery & Supplies," said Andy Schwandt, RMS Vice President – Sales & Marketing. "The addition of Gradall products will help us better serve our existing customers while earning new ones throughout Iowa and Minnesota."

Gradall is an industry leader in specialty excavators and attachments suited for the industries they serve. Featuring triangular, telescoping booms that provide 360-degree continuous-tilt capabilities, Gradall excavators deliver versatility to jobsites.

The Discovery Series of crossover excavators is one of Gradall's most popular lines. The wheeled excavators are capable of traveling at highway speeds, eliminating the need for a lowboy. Other application-specific offerings include tracked excavators for steel mill maintenance and mine scaling, in addition to its Track Star railway maintenance machines.

"Carrying and servicing Gradall gives us the ability to offer customers more versatile equipment," added Schwandt. "This will be a great benefit to our customers in niche applications as well as all RMS customers."

RMS will stock Gradall parts locally and is in the process of training technicians who require additional Gradall experience. It will be the exclusive dealer for customers in Minnesota and Iowa, not including 13 counties in southwest Iowa. ■



Gradall equipment gives users in all sectors the ability to match specified equipment to unique jobs. "Carrying and servicing Gradall gives us the ability to offer customers more versatile equipment," said Andy Schwandt, RMS Vice President – Sales & Marketing.

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## 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.

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

*Continued . . .*

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.



# Closing in on nine consecutive years of growth

... continued

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 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. ■

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



## NEWS & NOTES

# CONEXPO-CON/AGG named top U.S. exhibition; ICUEE tabbed as third

CONEXPO-CON/AGG was named as the number-one exhibition in any industry in the United States, and ICUEE-The Demo Expo took the number-three spot in the annual Gold 100 list of top U.S. trade shows. Trade Show Executive (TSE) magazine compiles the rankings based on exhibit space size and also presents awards in several exhibition categories.

As owner and producer of the shows, Association of Equipment Manufacturers (AEM) earned three

best-in-class Grand Awards, including Best Use of Data Analysis and Marketing Genius for CONEXPO-CON/AGG and Knowledge is Power for ICUEE. In announcing the awards, TSE cited CONEXPO-CON/AGG's new tech experience for bringing "high-tech construction innovators to the show floor," and ICUEE's "ample opportunities for test drives as well as interactive product demonstrations."

ICUEE returns October 1-3, 2019, to Louisville, Ky.; CONEXPO-CON/AGG is next slated for March 10-14, 2020, in Las Vegas. ■



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# BRING THEM BACK

## In tight labor market, hiring former employees is valid consideration for boosting employee payroll numbers

The largest complaint that I hear from most contractors is their inability to get good workers. That situation hasn't improved with the current low unemployment rate, combined with what is fast becoming a shortage of immigrant personnel.

One source you may not have considered are your former employees, often called "boomerang" workers. This is yet another reason to maintain a cordial relationship with employees when they leave for what they perceive as a better opportunity. Why not ask them if they want to come back, especially when they have shown they are diligent in their jobs?

Each of us makes decisions based on our personal needs at the moment. These may change through time, of course, and a previous work environment may look better with the visibility of hindsight. If you have created a great culture at your organization, this should lend confidence that if circumstances have changed for the employee, then coming back to work for you will appear attractive once again.

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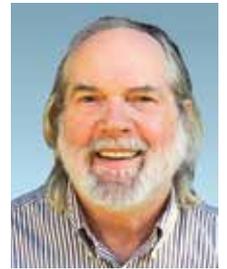
Today, with the advent of social media, it has become possible to stay in touch with former employees via a professional site like LinkedIn. When previous staff members have new accomplishments, be sure to congratulate them. You may learn they have gained new skills that will make them even stronger employees than they were previously.

If you do try to entice former employees back to your firm, be ready to tell them why it will be good for them, not just a plus for

you. There is a natural tendency to feel that returning to a former employer is a step backward in a career. It will be up to you to show them why that is not the case. You may also want to consider if there are any benefits you might be able to provide to confirm that returning to work for you will be positive for them and their families. ■

---

*Ranger Kidwell-Ross is a multi-award-winning author, who has provided advice to contractors in the power sweeping industry for more than 30 years. He is Editor of the largest website for that business sector, WorldSweeper.com, as well as Executive Director of the World Sweeping Association.*



**Ranger Kidwell-Ross,**  
Executive Director,  
World Sweeping  
Association

**In this tight labor market firms should consider rehiring former employees, suggests Ranger Kidwell-Ross, Executive Director, World Sweeping Association. "If you have created a great culture at your organization, this should lend confidence that if circumstances have changed for the employee, then coming back to work for you will appear attractive once again," said Kidwell-Ross.**



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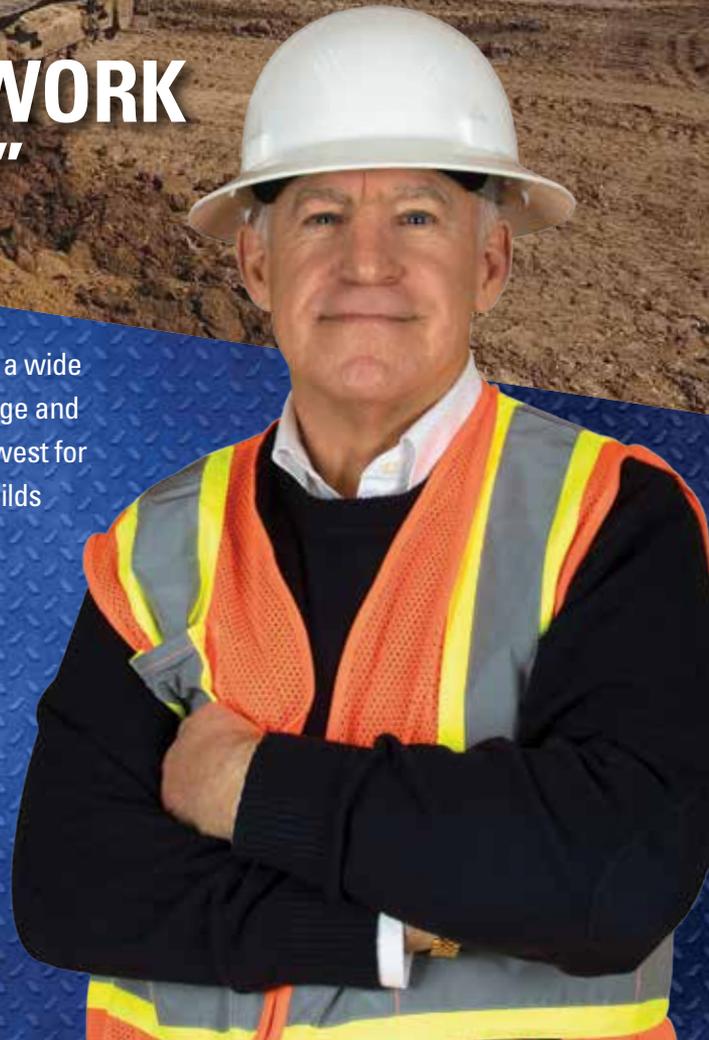
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# MODERN JOBSITE SOLUTIONS

## SMARTCONSTRUCTION provides a full suite of offerings to help implement technology

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.”



Jason Anetsberger, Komatsu Senior Product Manager

### Improved accuracy with aerial mapping

One popular SMARTCONSTRUCTION service is aerial mapping, which gathers topographic

*Continued ...*



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

# Increasing demand for aerial mapping

... continued

data from above. Surveys can be 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.



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.



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.

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 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.” ■

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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. ■

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."



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

*Continued . . .*



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

*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 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.

# 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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# 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-ton 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.

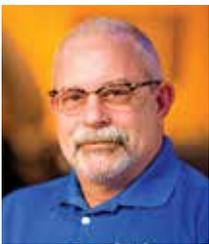




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## BIRD'S-EYE VIEW

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



Kurt Moncini,  
Komatsu Senior  
Product Marketing  
Manager, Tracked  
Products

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.

KomVision uses multiple cameras mounted on the exterior of an excavator to compile video from the machine’s blind spot and then uses software to stitch it all together and display a real-time, bird’s-eye view on the in-cab monitor.



“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.” ■



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## 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.

They offer training at Komatsu's Cartersville 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

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." ■

(L-R) Komatsu Corporate Trainers Kurt Wilson, Todd Bresemann and Jason Gillard assist companies in improving return on investment through hands-on and classroom learning. Training can be arranged through your Komatsu distributor.

▶ VIDEO



# ATTACHMENTS

# NPK

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# 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 to 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. ■

*For more information or to register for MyKomatsu, contact your local authorized Komatsu distributor.*



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.

# NEW WATER LEGISLATION

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

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.

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](http://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." ■



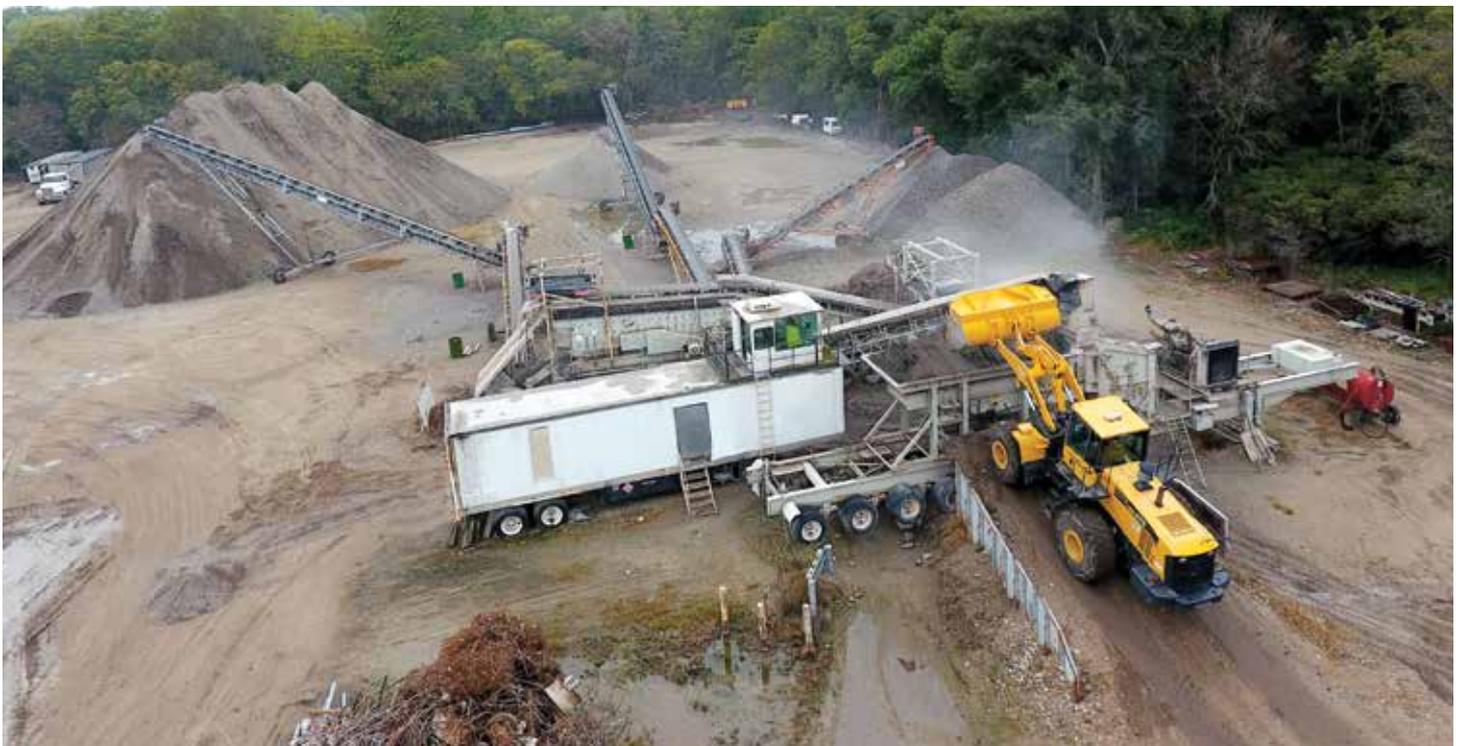
# SIDE TRACKS



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.



# CURT GILES

## New Sales Manager brings fresh perspective to strong department

Beginning a new job can feel a bit overwhelming – especially when it’s in a different industry. For Sales Manager Curt Giles, the culture at Road Machinery & Supplies Co. has made the transition a smooth one. He had a feeling that this would be the case.

“I knew a few people here before I took the position, but I also did as much research on RMS as I could,” admitted Giles. “Those employees told me great things; that’s why I wanted this opportunity. The Sill family has created a place where people want to work. Andy Schwandt (who was in Giles’ role before being promoted to Vice President of Sales & Marketing in late 2018) has been a great mentor and did a fantastic job setting me up to succeed.”

That strong culture was useful for Giles early on as he learned product lines and the

nuances of the equipment in addition to focusing on department goals.

“It can be somewhat daunting at first with all of the information to take in, but everything must continue on schedule, despite being new,” said Giles. “Our customers are still working and need us, so having such a great support staff here at RMS has been a huge bonus for me.”

When he arrived at the Savage, Minn., branch he inherited a talented sales group with solid numbers. Finding a way to build on that success has been one of Giles’ main goals.

### Teamwork is key

“We have some of the best sales reps in the business, so I see no reason to reinvent the wheel,” said Giles. “My goal is to learn what they are doing, see if that knowledge can assist someone else and then get out of their way. We’re all in it together, so figuring out a way to help everyone succeed is our top priority.”

He hopes his experience outside of the heavy equipment industry can help take the group to an even higher level. Giles was with a tech company for three years before joining RMS and served as a general manager for a material handling firm for more than a decade before that.

“I think coming from outside of the heavy equipment world gives me fresh eyes to some situations, and hopefully that translates to positive approaches and results,” he shared.

Giles has a great team outside of the office as well. He and his wife, Mary Pat, enjoy spending time with their two children, Michael and Ashley, and two grandkids who live nearby. ■

New RMS Sales Manager Curt Giles is acclimating quickly to his new role, thanks to a seasoned group of sales reps. “My goal is to learn what they are doing, see if that can assist someone else and then get out of their way,” said Giles.



# TIM STROM

## Virginia, Minn., Service Manager strives for streamlined processes to assist customers

Tim Strom joined the Virginia, Minn., branch of Road Machinery & Supplies Co. as Service Manager a little more than a year ago, and since then he has focused on meeting customers' needs.

"There is always room for improvement, especially when it comes to addressing customers' concerns," said Strom. "My main goal is to continuously evaluate our service processes and see if we can adjust them for greater efficiency."

Strom's philosophy was developed throughout his nearly 30-year career in the heavy equipment service industry. He knows that meeting customer needs in a timely manner means that all the procedures in the garage must be streamlined as well.

"Being fast is good, but if the job isn't done correctly, it doesn't matter," Strom stated. "To accomplish our goals, we need to make sure that we have the right people, training and practices established."

### Technology training

For Strom, providing the necessary training for technicians is the foundation for success.

"Technology is changing so rapidly in our industry that without ongoing training, knowledge becomes obsolete quickly," said Strom. "Today, a computer is just as essential as a wrench. Komatsu does a fantastic job of offering continuous training that our technicians can access easily."

Getting the right people on his staff – which currently includes eight field and 10 shop technicians – is also vital. To accomplish that, Strom is involved in recruitment efforts with

local high schools and technical colleges to coordinate apprenticeships.

"I take a proactive approach to get young people in here, so they can see for themselves," said Strom. "It's a great career opportunity, and RMS can do a lot to help them succeed."

Adhering to processes is important for reaching goals, and Strom knows that improvement is a continuous cycle.

"I'm always evaluating how the work is getting done," stated Strom. "There won't ever be a day when we can sit back and think we have it figured out. Unless we are actively working to get better, we're getting worse."

Away from the garage, Tim indulges his need for speed with his wife, Nancy, and their two children, Stefani and Jeremy.

"We're on motorcycles in the summer and snowmobiles in the winter," he laughed. "We like the wind in our hair." ■

Virginia, Minn., Service Manager Tim Strom believes that meeting customers' needs begins with building a strong staff. "To accomplish our goals, we need to make sure we have the right people, training and practices established," said Strom.



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**\$269,000**

2014 LIPPMANN 62X24, S/N 2014-1184



**\$199,000**

2017 KOMATSU D51PXi-22, S/N B14423, 2,499 hrs.



**\$225,000**

2016 KOMATSU PC360LC-11, S/N A35594, 2,560 hrs.

Year Mfgr./Model/Descr. S/N Hours Price Year Mfgr./Model/Descr. S/N Hours Price

**HYDRAULIC EXCAVATORS**



2006 KOMATSU PC300LC-7E0	A88200	7,099	\$59,000
2012 KOMATSU PC228USLC-8	50495	6,327	\$89,750
2013 KOMATSU PC228USLC-8	51307	5,484	\$84,959
2013 KOMATSU PC360LC-10	A32685	8,295	\$124,500
2012 KOMATSU PC490LC-10	A40095	7,407	\$159,900
2013 KOMATSU PC210LC-10	450246	2,593	\$127,500
2008 KOMATSU PC138US-8	21999	5,526	\$62,000
2012 KOMATSU PC78US-8	18871	1,602	\$56,000
2014 KOMATSU PC290LC-10	A25458	4,735	\$137,500
2012 KOMATSU PC490LC-10	A40116	6,611	\$175,000
2016 KOMATSU PC360LC-11	A35594	2,560	\$225,000
2016 KOMATSU PC240LC-11	A22129	1,523	\$189,000
2016 KOMATSU PC360LC-10	70269	2,682	\$200,000
2016 KOMATSU PC360LC-11	A35594	2,560	\$225,000
2012 KOMATSU PC228USLC-8	50809	5,809	\$90,000
2015 KOMATSU PC290LC-10	A25867	3,273	\$165,000
2014 KOMATSU PC290LC-10	A25292	4,662	\$160,000
2011 KOMATSU PC55MR-3 Compact Excavator	16550	4,865	\$32,750
2006 KOMATSU PC35MR-2 Compact Excavator	8453		\$17,500
2012 HYUNDAI ROBEX 210LC-9	HQ601CB0001058	3,155	\$79,500
2011 HYUNDAI ROBEX 320LC-9	HQ901LB0000045	3,145	\$105,000
2012 TAKEUCHI TB285	185000283	2,708	\$49,000
2011 HYUNDAI ROBEX 160LC-9	HHHQ501CB0000110	1,453	\$99,500
2001 CATERPILLAR 315BL	3AW00458	9,451	\$34,500

**COMPACTORS/PAVERS**



2012 BLAW-KNOX RW35A Paver	88330	334	\$49,500
2013 LEEBOY 8616 Paver	91825	959	\$99,500
2012 LEEBOY 8510B Paver	87252	1,972	\$79,500
2012 LEEBOY 8515B Paver	8515T-87882	1,856	\$84,500
2013 LEEBOY 8515B Paver	8515T-95412	1,249	\$94,500
2014 LEEBOY 8616B Paver	9616-113516	561	\$166,500
2006 ROADTEC RP195 Paver	139	7,700	\$25,000
BLAW-KNOX PF4410 Paver	441001-11	6,519	\$25,000
2017 WACKER NEUSON CT24-4A Paver	24263016		\$3,785
2018 WACKER NEUSON P35A Paver	24425173		\$1,710
2004 LEEBOY 8515 Paver	8515R-42046	4,490	\$39,500
2013 LEEBOY 8515C Paver	8515T-98987	2,000	\$79,500
2015 LEEBOY 8510C Paver	8510-130494	1,333	\$84,500
2015 LEEBOY 8616B Paver	9616-120444	13	\$198,000
2018 LEEBOY 8520 Paver	8520-1748439	189	\$172,500
2012 INGERSOLL-RAND PF6170 Paver	375136	4,752	\$65,000
2005 INGERSOLL-RAND SD45FB Compactor	181481	486	\$34,500
2015 DYNAPAC CA1300PD Compactor	10000159LFA015997	73	\$59,500
BOMAG BW20R Compactor	101530000244	11,355	\$4,950
2016 DYNAPAC CC6200 Compactor	10000349TGA017706	1,916	\$89,500
2016 DYNAPAC CC6200 Compactor	10000349CGA018367	592	\$119,500
2014 DYNAPAC CC4200 Compactor	10000345COA013088	566	\$69,750
2015 DYNAPAC CC1200 PLUS Compactor	10000333CFA015559	268	\$39,500
2016 DYNAPAC CC6200 Compactor	017124	1,216	\$99,500
2016 VOLVO SD45D Compactor	229244	385	\$59,000
2015 VOLVO DD25B Compactor	660120	710	\$24,500
2005 BOMAG BW135AD Compactor	101650-121656	1,898	\$11,000
2015 WACKER NEUSON RD27-120 Compactor	24259208	234	\$38,500
2017 WACKER NEUSON BS50-2i Compactor	24240333		\$2,195
2017 WACKER NEUSON BS50-4 Compactor	24365629		\$2,395
2007 WACKER NEUSON AS50 Compactor	1563834		\$4,750
2006 WACKER NEUSON RT82SC Compactor	5685525	731	
2016 WACKER NEUSON RTKXSC-3 Compactor	24233442	165	\$39,904
2016 WACKER NEUSON RTKXSC-3 Compactor	24261473		
2017 WACKER NEUSON RTKXSC-3 Compactor	24369833		\$28,450
2013 WACKER NEUSON VP1135A Compactor	30037180		\$995
2017 WACKER NEUSON VP1550AW Compactor	10686102		\$1,540
2017 WACKER NEUSON VP1550A Compactor	10677484		\$1,495

**WHEEL LOADERS**



2015 KOMATSU WA500-7	70038	3,112	\$299,000
2017 KOMATSU WA270-8	A28003	713	\$134,500
2004 KOMATSU WA380-5L	A52220	15,541	\$42,000
2016 KOMATSU WA380-8	A74153	3,359	\$155,000
2014 HYUNDAI HL760-9A	HLL04TE0000241	3,119	\$129,500
2014 HYUNDAI HL740-9A	HLN05KE0000182	1,355	\$116,000
2014 TAKEUCHI TW65	2041110E	353	\$55,700

**FORESTRY EQUIPMENT**

2012 TIMBERPRO TL725B Track Feller Buncher	TL725B-0137-032612	5,127	\$269,000
1993 TIMBCO T425 Track Feller Buncher	AT4C-217-032593	11,655	\$66,000
2005 TIMBERJACK 1110 Forwarder	WJ1110D001603	8,682	\$169,500
2006 ROTTNE SMV RAPID Forwarder	S35704	13,046	\$149,000
2005 TIMBCO 425EXL Track Harvester	AT4C2737122805	11,195	\$152,500
2013 DEERE 1270E Wheeled Harvester	1WJ1270EHD002571	5,975	\$318,200

**SKID STEER**

2014 TAKEUCHI TL8	200800369	1,070	\$36,500
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**TRUCK**

2012 KOMATSU HM400-3	3001	7,330	\$178,750
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**\$189,000**

2016 KOMATSU PC240LC-11, S/N A22129, 1,523 hrs.



**\$127,500**

2013 KOMATSU PC210LC-10, S/N 450246, 2,593 hrs.



**\$134,500**

2017 KOMATSU WA270-8, S/N A28003, 713 hrs.

Year Mfgr./Model/Descr. S/N Hours Price

**CRAWLER CARRIERS**

2014 MOROOKA MST1500VD	A150131	2,110	\$129,500
2014 MOROOKA MST1500VD	A150134	2,019	\$129,500
2014 MOROOKA MST800VD	80184	1,222	\$94,500
2014 MOROOKA MST2200VD	A220203	1,569	\$183,870

**CRAWLER DOZERS**



2016 KOMATSU D39PX-24	95133	1,397	\$119,900
2011 KOMATSU D51PX-22	B12304	4,475	\$99,500
2002 KOMATSU D37PX-21	5007	3,926	\$29,875
2017 KOMATSU D61PXi-24	B60210	2,334	\$245,000
2017 KOMATSU D51PXi-22	B14423	2,499	\$199,000
2015 KOMATSU D51PXi-22	B13824	1,235	\$225,000
2009 KOMATSU D37PX-22	60338	2,700	\$79,000
2008 KOMATSU D51PX-22	B10712	5,252	\$69,000
2018 KOMATSU D37EX-24	85128	1,608	\$103,000

**AGGREGATE EQUIPMENT**

2014 LIPPMANN 62X24 Conveyor/Feeder/Stacker	2014-1184		\$269,000
EL JAY RC45 Crusher	60287	7,972	\$175,000
2015 WACKER NEUSON SB8F	NA		\$375
2008 WACKER NEUSON SB14F	NA		\$495

**MOTOR GRADERS**

2014 LIPPMANN 62X24 Conveyor/Feeder/Stacker	2014-1184		\$269,000
EL JAY RC45 Crusher	60287	7,972	\$175,000
2015 WACKER NEUSON SB8F	NA		\$375
2008 WACKER NEUSON SB14F	NA		\$495

**ATTACHMENTS**

2002 KOMATSU PC400 Arm	A/A85208		\$3,000
2005 KOMATSU KOAPC220 Arm	A/A88045		\$1,000
2008 KOMATSU A/PC300LC-8 Arm			\$4,700
2008 KOMATSU Arm	A/A88943		\$3,400
KOMATSU A/PC300 Arm	A/O19345		\$3,300
2005 KOMATSU Bucket	F-Y0250		\$500
KOMATSU PC200LC-8 Bucket	N/A		\$3,300
2018 KOMATSU Counterweight	NA		\$6,200
2015 ADCO R210-7 Bucket			\$7,693
2012 ALLU DH31225	DH31212010		\$49,000
2003 ATCP24 Bucket	19743		\$1,150
2008 ATLAS COPCO Mounts (2)	KAL02324		\$14,675
2014 DYNAPAC Shell Kit, Padfoot	A/O28332		\$10,750
2015 DYNAPAC Shell Kit, Padfoot	NA		\$9,750

Year Mfgr./Model/Descr. S/N Hours Price

**ATTACHMENTS continued...**

DYNAPAC Shell Kit, Padfoot	NA		\$4,500
2003 EMPIRE PC200 Bucket	E6117		\$3,400
2011 EMPIRE Bucket	E702-11		\$26,500
2013 EMPIRE L220 Bucket	E726-8.9		\$7,500
2015 EMPIRE Bucket	E8460		\$6,800
2003 EMPIRE Thumb	298		\$6,500
ESCO PC360 Bucket	RH112819		\$3,800
ESCO PC490 Bucket	RH102249		\$7,400
ESCO R160 Bucket	RH101366		\$3,000
2006 FELCO Bucket	26782-360		\$4,500
2014 FELCO PC360 Grapple	49961		\$9,500
2016 GEM Quick Coupler 0116-8127-2/1	035836		\$5,900
2012 GENESIS LXP300 Cracker & Shear Jaw Set	320CP187-1		\$167,500
2016 GENESIS GDR300 Demolition Recycler	310149		\$89,500
2017 GENESIS GDR400 Demolition Recycler	430120		\$127,420
2017 GENESIS GDT290 Demolition Tool	290113		\$92,000
2017 GENESIS GDT390 Demolition Tool	390105		\$109,750
2018 GENESIS GHG 125 Grapple	1301007		\$59,120
2016 GENESIS GXT555R Jaw	5551061		\$149,750
2011 GENSCO PR01/5-60 Grapple	13283		\$13,900
2005 HENSLEY Bucket	47388		\$2,900
2013 HENSLEY A/PC240 Bucket	70200		\$4,600
2014 HENSLEY Bucket	73198		\$27,500
2016 HENSLEY A/PC490 Bucket	77488		\$7,000
2017 HENSLEY PC210 Bucket	84520		\$5,900
2018 HENSLEY PC210 Bucket	86847		\$5,150
2007 HENSLEY R250 Bucket	37984A		\$2,100
2008 JLG G5-19A Grapple Bucket	1160002401		\$2,995
JOHN DEERE Bucket	1904609		\$4,500
2014 JRB WA380 Forks	J000050492-1		\$8,000
2016 JRB PC490 Hydraulic Kit for Coupler	A/AKRPLR9T530075		\$1,200
JRB PC160 Quick Coupler			\$2,550
2014 KENCO Bucket	523888		\$6,140
LABOUNTY MSD100 Shear	100509		\$50,000
2007 LEMAC Bucket	K0737		\$13,700
2008 LEMAC Bucket	D08036BU		\$5,540
2015 LEMAC Bucket	176913-2		\$5,460
2016 LEMAC R210 Bucket			\$5,847
2017 MST-800 Attachment			\$9,500
2012 NPK GH6 Hammer	104915		\$22,400
2013 PEMBERTON Bucket	GPB-5107-6.0-0413		\$16,000
2008 QUEST HD2524 Bucket	D08035BU		\$4,800
2010 RAVELING FT4250 Hopper Assembly	NA		\$27,000

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