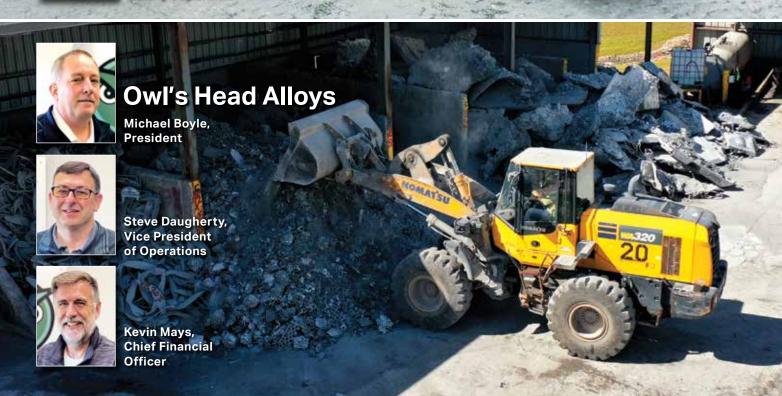


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A Message from Brandeis Machinery & Supply Company



David Coultas

BRANDEIS

Dear Valued Customer:

We could not be more proud of our association with Komatsu, which is celebrating its 100th anniversary. I believe you will find the article about Komatsu's rich history and how it is "creating value together" with distributors like us and customers like you to be an interesting read.

Life seems to be slowly returning to normal. While there are still challenges ahead, the future looks much brighter than it did at this time last year. That's not only due to the pandemic starting to subside, but also to the overall improved outlook for the construction industry, including the prospects for a new surface transportation bill and a boost to overall infrastructure funding.

New legislation often includes funds set aside to study modern technologies and the potential positive effects they could have on efficiency and productivity. If you are in the construction industry, you already know that technology is making a significant difference in how site work will be done. For instance, GPS grading is helping contractors get to grade faster than ever with reduced owning and operating costs.

In this issue, learn more about Komatsu's latest addition to its intelligent Machine Control 2.0 lineup: D39i-24 dozers with integrated GPS. They can push a sizable load and finish grade like no other, in a package that can be easily transported between job sites on a small trailer.

GPS systems have come a long way since their introductions and have continued to gain popularity because they were proven to work. The last few years have seen the genesis of value-added technology, such as telematics, that not only helps with your earthwork practices, but also tracks machinery so you can see trends, production and more, which can improve your management skills.

Today, companies like Komatsu are taking these systems to the next level by giving you the ability to see how your machines are running and their overall health, view manuals, order parts, and much more from a computer, tablet or your smartphone. Inside, learn about My Komatsu and how it combines several legacy systems into one easy-to-navigate application that puts fleet management at your fingertips.

The last century saw Komatsu lead the way in equipment and technology innovation. We are looking forward to what it has in store for the future.

As always, if there is anything we can do for you, please call one of our branch locations.

Sincerely,

Brandeis Machinery & Supply Company

David Coulter

David Coultas, President

Join us in celebrating Komatsu's 100th anniversary



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Buzzi Unicem USA takes mined rock from quarry to cement at its Greencastle, Ind., branch



Jerry Manion, Quarry Supervisor

Buzzi Unicem USA operates seven cement production and limestone mining plants across multiple states, including Pennsylvania, Missouri, Indiana, Tennessee, Oklahoma and Texas. The company specializes in the integrated production, sales and marketing of Portland, Masonry and CSA cement products.

Its manufactured cement production within ASTM C150 guidelines includes Type I, Type IA, Type II and Type III. The firm produces oil-well cement to the standards of the American Petroleum Institute. Type M, Type S and Type N Masonry cements are manufactured per ASTM C91 standards. Type N and Type S Portland Lime produced per ASTM C270 are also available for residential and industrial construction purposes.

At Buzzi Unicem USA's Greencastle, Ind., plant, 175-plus employees are involved with the production of Type I, Type IA, Type III and Masonry cements. Annually, the firm mines approximately 1.5 million tons of production material, excluding unusable rock.

"After the rock is initially mined, we run it through a gyratory crusher," explained

Quarry Supervisor Jerry Manion. "The rock is reduced to 6 inch minus and placed into a surge pile with a month of resource available. Underneath the pile are three apron feeders that carry the rock into a secondary crushing system. The rock then goes into a raw mill where it's blended with shale, bottom ash and sand at a rate of 300 tons per hour. The process creates a fine blend of raw material, which is injected into a crusher dryer. There, the materials are pulled through the system at temperatures between 2,500 to 3,000 degrees before going in a kiln for the final cooking process. The mixture then passes through the kiln and clinker cooler and arrives at a silo where it will eventually be used in a finished grinding mill to produce one of our cement products. At that point, the product is ready to be crushed and pulverized for distribution across the United States."

Production increase

Currently, the plant is stripping high-magnesium rock in the St. Louis seam at its quarry. "We're removing 70 feet from that seam in our pit," stated Manion. "We're also getting some material from the low-magnesium Salem seam. The high wall for our production rock is 95 feet, and we're crushing roughly 1,100 tons an hour."

To move rock around the plant, the firm relies on Komatsu equipment from Brandeis Machinery & Supply Company. It operates several wheel loaders, including three WA800s, a WA600, four WA500s and a WA470, in addition to a D155AX dozer, a PC360LC excavator, a PC138USLC excavator, two HD605 rigid frame trucks, an HD785 rigid frame haul truck and an HM400 articulated truck.

Buzzi Unicem USA's Greencastle, Ind., plant recently added the Komatsu WA800-8 wheel loader and noticed an immediate, positive impact on production.

"The machine has a lot of power and breakout force," noted Manion. "We were loading roughly 90 tons in four passes, but right now we're doing 125 tons in four passes. Throughout the course of a year, that improvement in production plays a significant role in our success."

An operator hauls rock in a Komatsu HD785 rigid frame haul truck from the quarry to be crushed and turned into cement at the Buzzi Unicem USA Greencastle, Ind., branch.





Operator Robert Stallcop uses a Komatsu WA800-8 wheel loader to load rock into the bed of a Komatsu HD785 rigid frame haul truck at the Buzzi Unicem USA Greencastle, Ind., branch. "You can set the bucket height when dumping, which is very useful because all of our trucks are the same height, and it eliminates guessing where you need to put your bucket on every pass," noted Stallcop.

Operator Robert Stallcop added, "The WA800-8 is user-friendly. The bucket levers are less obstructive inside the cab and are easier to use. The joysticks are smooth and don't bother your wrist after a couple days of use. The seat is comfortable to operate from all day. Everything inside the cab is intuitive and ergonomic."

The WA800-8 wheel loader includes multiple features that help keep the operator and everyone else on the job site safe, which is a priority for Buzzi Unicem USA.

"Visibility out of the machine is excellent," noted Stallcop. "The backup cameras are helpful to see what's happening near the ground behind you and to avoid backing into rock piles. The lighting package allows us to continue working in inclement conditions, and the defroster keeps the windshield clear when it's cold. As a shorter person, I also appreciate that the steps are spaced closer together, so I don't have to stretch to get onto the machine."

Stallcop also pointed out several key pieces of technology that improve operational

efficiency. "You can set the bucket to auto level when you place it on the ground. You could place the machine in an auto-dig mode that would be useful for different applications. You can also set the bucket height when dumping, which is very useful because all of our trucks are the same height, and it eliminates guessing where you need to put your bucket on every pass. The machine also includes variable traction control capabilities. If you're working in loose material, you can turn it down and the machine won't spin out. That also helps prevent tearing up the tires. There are a lot of features that go into making this the most productive and comfortable wheel loader I've operated."

Relationship with Brandeis Machinery

Quality service and minimal downtime on job sites is essential, which is why Buzzi Unicem USA switched its Greencastle, Ind., plant from a competitive brand of equipment to Komatsu in 2006. The plant works closely with Brandeis Machinery and sales representative



Robert Stallcop, Operator



Discover more at BrandeisSolutions.com

Continued . . .

'2021 has been a solid year for production'

... continued



(L-R) Brandeis Machinery sales representative Jason Smith works with Buzzi Unicem USA Greencastle, Ind., plant Quarry Supervisor Jerry Manion to find the right Komatsu machines for the facility.

Jason Smith to service its equipment and add new machines to its fleet.

"Price point was the initial push for our transition to Komatsu equipment," explained Manion. "We can't afford downtime. It's nice to be able to pick up the phone and know that any situation will be resolved quickly. Some of our machines have 30,000-plus hours on them. The quality of the machines and service we receive from Brandeis Machinery and Jason has been excellent. That's been key to our success."

Future outlook

2020 was an above-average production year for Buzzi Unicem USA's Greencastle, Ind., branch — a trend it hopes to sustain in 2021.

"We want to continue our higher levels of production and are shooting for a heavy trash ratio of 2-to-1," said Manion. "We plan to continue working with Brandeis Machinery based on the support and quality of equipment we've received. 2021 has been a solid year for production, and with the addition of the WA800-8, we want to capitalize on our increased production capabilities."

An operator loads rock into a truck bed using a Komatsu WA800-8 wheel loader at the Buzzi Unicem USA Greencastle, Ind., plant. "The machine has a lot of power and breakout force," noted Quarry Supervisor Jerry Manion. "We were loading roughly 90 tons in four passes, but right now we're doing 125 tons in four passes."





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Owl's Head Alloys' recycling process gives infinite life to aluminum



Michael Boyle, President



Steve Daugherty, Vice President of Operations



Kevin Mays, Chief Financial Officer

Owl's Head Alloys operates a four-furnace, aluminum-recycling facility in Bowling Green, Ky. It was founded in 2002 by Chairman David Bradford as a secondary-capacity, aluminum-recycling option for the region. Year after year, the facility has steadily increased its operational capacity.

"We began melting in October 2002 with a single furnace," noted Chief Financial Officer Kevin Mays. "In 2018, we added our fourth furnace, which increased our aluminum production by about 30%. As a secondary smelter, we take in anything that contains aluminum. We then melt it down and return it to the customer as either 2,000-pound sows; 1,400-pound sows; 30-pound ingot blocks or molten aluminum. It is 90% more efficient to produce recycled aluminum than it is to produce original aluminum, so the product is environmentally friendly. The product also has an infinite life and can be continuously recycled."

President Michael Boyle stated, "We separate ourselves from other aluminum recyclers through our central location and our efficiency. Our mindset is to provide customers with the highest recovered content possible, and we've experienced consistent growth due to their satisfaction with our product. However, none of that

is possible without having the right team members in place."

"Over 100 employees keep the facility running 24/7," added Vice President of Operations Steve Daugherty. "They're operating equipment, taking inventory and fixing machines on Christmas morning. We are all very proud of what we do, the products we put out and the diversity of people working here. We're able to draw from a broad spectrum of ideas to help make improvements and find the best solution for any problem."

Since opening, Owl's Head Alloys has transitioned from purchasing, smelting and reselling aluminum on the open market to a mostly tolling operation for its customers in the automotive, construction, aerospace and canned goods industries, among others. During the COVID-19 pandemic, this varied customer base helped the company stay profitable.

"The pandemic presented a major challenge for a lot of companies during the second quarter," said Boyle. "The food and beverage industry remained strong while the automotive industry closed shop for about 90 days. Our diverse book helped us weather the storm without a significant drop in production."

Efficiently handle material

Most of Owl's Head Alloys' finished goods are shipped within a roughly 500-mile radius of Bowling Green, Ky., but raw material is brought to the facility from across the United States, Mexico, Europe and Canada. The facility takes in roughly 60% wrought alloys and 40% foundry alloys. When aluminum materials arrive at the facility, they are sorted into different parts of the yard. To help unload trucks and move material, the firm recently added a Komatsu WA320-8 wheel loader.

"The WA320 mostly loads material from dump trailers into bins," stated Boyle. "We needed something heavier that would be able to handle the wide range of products. The WA320 was an excellent solution for us."

The firm also runs four Komatsu WA270-8 wheel loaders. "We use the 270s to move material from the piles into the furnace," noted Boyle. "The machine is nimble and can work

Komatsu wheel loader operators for Owl's Head Alloys gather for a group photo at their facility in Bowling Green, Ky. "Over 100 employees keep the facility running 24/7," said Vice President of Operations Steve Daugherty. "We are all very proud of what we do, the products we put out and the diversity of people working here."





An operator sorts material using a Komatsu WA320-8 wheel loader at the Owl's Head Alloys aluminum-recycling facility. "The WA320 mostly loads material from dump trailers into bins," stated President Michael Boyle. "We needed something heavier that would be able to handle the wide range of products. The WA320 was an excellent solution for us."

in tight areas. They're outfitted with forks or longer, thinner buckets that fit inside the furnace openings. Because we're a 24/7 operation, the loaders are always running to keep the furnaces active. In a typical year, we'll put over 7,000 hours on a WA270."

Handling the scrap aluminum and other materials is strenuous on the loaders, so they are outfitted with a protective cage and solid rubber tires to minimize wear and tear and maximize uptime.

"It can be challenging to maintain the loaders because of the consistent forward and reverse motion of loading the furnaces, as well as the combination of corrosive materials and heat to melt the aluminum," noted Maintenance Supervisor Joel Davis. "Previously, we used a different brand of loader and would tear the couplings out between the motor and gearboxes every three months. Komatsu's hydrostatic drive train has removed that problem. We hardly ever experience any mechanical issues with the Komatsu machines."

Relationship with Brandeis Machinery

Owl's Head Alloys partners with Brandeis Machinery & Supply Company and sales



An operator loads aluminum into the furnace with a Komatsu WA270-8 wheel loader.

representative Gene Snowden to purchase and service its Komatsu wheel loaders.

"Brandeis Machinery's support has been excellent," stated Daugherty. "The machines are low maintenance, and Brandeis supports us with three technicians who answer the phone if



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Continued . . .

'The future is bright for our operation'

... continued

something comes up. We've worked with their team on new ways to cover cylinders, wiring, lighting and filters. They also offer a one-year, unlimited-hour warranty. All of those factors are huge for a 24/7 operation like ours."

In January, the firm added its fourth WA270-8 to the fleet.

"We did not hesitate when considering which loader to add," stated Boyle. "The Komatsu



(L-R) Gene Snowden, a sales representative for Brandeis Machinery, works with Owl's Head Alloys Maintenance and Engineer Manager Neal Booker and Maintenance Supervisor Joel Davis.

machines and support from Brandeis Machinery made us confident the WA270 would increase our production and allow us to charge furnaces more quickly. Brandeis also anticipates when we will need to replace a unit and has inventory available for us to expedite the process. They've been an excellent partner for our company."

Bright future

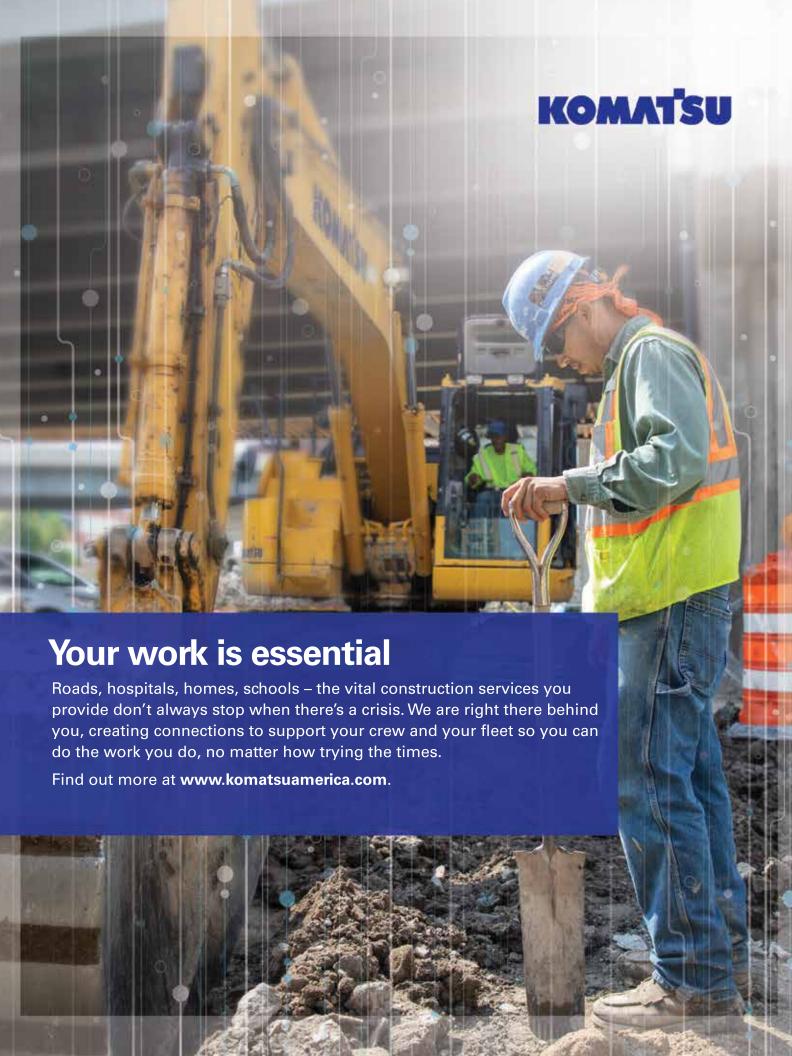
The global trend towards environmentally responsible manufacturing plays well into Owl's Head Alloys' hands.

"The future is bright for our operation," said Boyle. "The sustainability challenges for manufacturers and the recycling capabilities we offer projects us to be a part of a growing market. There's been a steady decline in primary aluminum smelting operations over the last three decades, which has further contributed to our positive outlook.

"One of the products our aluminum is used to create is a recyclable cup," continued Boyle. "The cups were used to serve beer at the Super Bowl this year. It's great to see something that we helped create make one of America's major sporting events more environmentally friendly."

An operator uses a Komatsu WA270-8 wheel loader to gather aluminum for smelting. "The machine is nimble and can work in tight areas," said President Michael Boyle. "They're outfitted with forks or longer, thinner buckets that fit inside the furnace openings. Because we're a 24/7 operation, the loaders are always running to keep the furnaces active."





Address cost overruns, material shortages as quickly as possible and seek equitable solutions



Alex Barthet, Attorney

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peers for inclusion
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within the specialty of
construction law.

Editor's Note: This article originally appeared at TheLienZone.com. We've all noticed that the price of just about everything has gone up in the last year. If that isn't bad enough, obtaining many of the materials needed in construction has gotten very difficult. This combination of price escalation and material shortages is significantly disrupting a contractor's ability to properly price and timely build any project.

However, contractors are not without some remedy. They can attempt to address these issues either during the negotiation and bid process or once construction has commenced.

It is obviously easier to attend to such matters before a contract is actually signed. Look to strike any proposed language that has you absorbing the risk and exposure of any price escalation. Rather, seek to incorporate the right to adjust the pricing on the job, passing on any unexpected increases, maybe through a change order. Alert your suppliers, advising them you need guaranteed pricing for some extended period, and you need written notice significantly in advance of any anticipated increase in pricing or any delay in delivery. You might want to add a provision similar to the following:

"Where the delivery of materials is delayed or quantities are limited as a result of shortages, rationing or unavailability, subcontractor shall not be liable or responsible for any delays or damages caused thereby. When this occurs, subcontractor shall propose substitute or alternate means of acquiring said materials and contractor and subcontractor shall negotiate an equitable price adjustment to their contract. When the costs of any material exceed 25% more than the documentable price originally quoted by the subcontractor, then subcontractor shall notice contractor in writing of such change and the parties shall come to a mutual agreement on a new price. This provision shall control over all other terms and conditions in this agreement and contract documents."

Existing contracts may be adjusted

If you've already entered a contract, it will surely be more difficult to address these issues. Depending on how the contract is written, an equitable adjustment in both time and price may still be achieved through the exercise of certain contract provisions, such as a Force Majeure clause, noting circumstances beyond your control entitle you to some modicum of relief. Pushed to honor your original pricing, you likely will be unable to complete the work — something neither the contractor nor the owner would want to see happen, as this will undoubtedly delay the progress of the project and cost them both more than the reasonable price increase you would be quoting. A good faith renegotiation should be attempted.

Be proactive — approach each ongoing and new job with these points in mind. ■

Contractors should attempt to address the issues of higher prices and material shortages before contracts are signed and after, if possible, according to attorney Alex Barthet. "Seek to incorporate the right to adjust the pricing on the job, passing on any unexpected increases, maybe through a change order," Barthet said.



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Cyberattacks are on the rise, but there are ways to protect your valuable systems and data

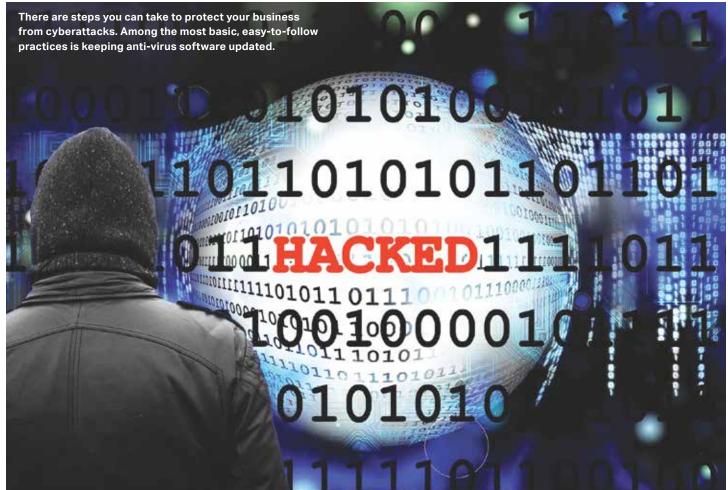
Is your business vulnerable to a cyberattack? If you use the internet, it is.

Cyberattacks are attempts to access or damage a computer system. They come in various forms, but the most common are hacking and malware threats. Hacking can be done in several ways and involves criminals gaining unauthorized access to your systems, which allows them to view and change information. Malware (short for "malicious software") is "designed to cause damage to a single computer, server or computer network," according to Microsoft. It often "infects" a computer when a user clicks on an unknown link in an email that installs a virus, trojan horse or worm.

Once hackers gain access, they can wreak havoc. Currently, a popular method of attacking systems is through the use of ransomware that encrypts hard drives files. Payment is demanded in exchange for the decryption key. The consequences can be significant, as highlighted by the recent \$5 million Colonial Pipeline paid in ransom to the hackers who shut down its pipeline. The ripple effects can spread far beyond the original victim, such as the gas shortages on the East Coast that resulted from the pipeline attack, or the shortage of meat after a similar cyberattack on JBS.

While it could be easy to dismiss these attacks because they happened to large corporations, experts say you shouldn't. Companies of all sizes are potential targets. Recent data shows that hackers attack a computer in the United States every 39 seconds, and one in four businesses face the risk of a security breach. A release by the Small Business Committee of the U.S. House of Representatives showed that 71% of cyberattacks occur at businesses with fewer than 100 employees.

Continued . . .



Easy-to-follow practices can protect your business

... continued

Stay up to date and back up data

The prospects of your business being hit with a data breach or ransomware are real. However, there are steps you can take to protect it from cyberattacks. Most are basic, easy-to-follow practices such as keeping anti-virus software updated.

"It's not clear yet which of Colonial Pipeline's systems were compromised by hackers. But many ransomware attacks in the past have been deployed against outdated operating systems and legacy applications that don't have the latest security patches and software updates in place," according to a CMIT Solutions article titled "Gas Shortages Highlight the Severity of Ransomware Threat." "Working with a trusted IT (information technology) provider, this process can be automated to run behind the scenes, keeping your computers safe without interrupting your employees' day-to-day work."

You need to be proactive, according to Murray Goldstein, vice president of marketing & sales operations at Cox Business, in the article "4 Ways Small Businesses Can Protect Themselves from Cyber Attacks." Doing so will help to protect your company against new threats and make sure your infrastructure is secure. Goldstein stated that precautions should include:

Employees should be trained on how to handle information and on the best practices to prevent cyber risks. They should also know the warning signs of an attack and what to do in the event of one. "Establish rules of behavior describing how to handle and protect customer information and other vital data," said the Federal Communications Commission.



- Using a Firewall for your internet connection.
- Installing, using and regularly updating anti-malware, anti-virus and anti-spyware software on every computer in your business.
- Downloading and installing software updates as they become available.
- Securing your workplace Wi-Fi networks within the office and ensuring employees working outside the office are logged in with secure connections.
- Monitoring your systems continuously to detect potential problems.

In addition to staying up to date, it's essential to have data backed up. A recent article by Mark Rosanes for Insurance Business titled "Ten Ways to Protect Your Business from Cyberattacks" said that data backup is among the most cost-effective ways of making sure information is recovered in an event of a cyber incident or computer issues. Recommendations include using multiple backup methods, such as daily incremental backups to a portable device or cloud storage, as well as end-of-week, quarterly and yearly server backups.

Train your employees

Employees should be trained on how to handle information and on the best practices to prevent cyber risks. They should also know the warning signs of an attack and what to do in the event of one.

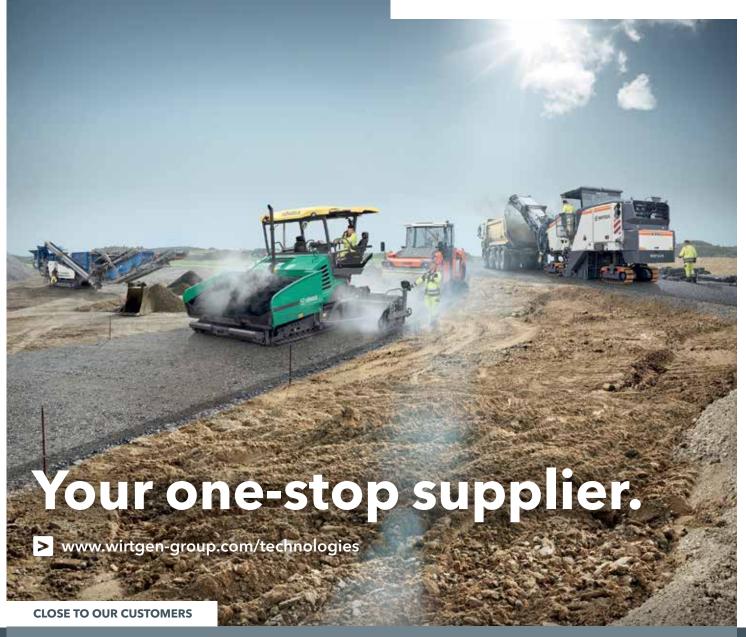
"Establish basic security practices and policies for employees, such as requiring strong passwords, and establish appropriate internet use guidelines that detail penalties for violating company cybersecurity policies," says the Federal Communications Commission (FCC). "Establish rules of behavior describing how to handle and protect customer information and other vital data."

If an attack occurs, you can limit the damage, according to the FCC. It recommends immediately changing passwords; scanning and cleaning devices; turning off the device and possibly taking it to a professional to scan and fix; letting the IT department know immediately; and contacting banks, credit card companies and other financial accounts.

"As cybersecurity threats evolve and the general public becomes more aware of ransomware's impact, businesses across North America can leverage this moment to better protect their information and operations," said CMIT Solutions. "However, that can only happen if we take ransomware more seriously."







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Komatsu continues to shape the future of construction and mining operations as it celebrates its 100th anniversary

One hundred years ago, Komatsu City, Japan, faced a potential crisis with the closure of a nearby copper mine that was a vital source of jobs. Meitaro Takeuchi, an entrepreneur dedicated to advancing educational opportunities and improving mine efficiency, knew there had to be a way to save the livelihoods of the community members who relied on the mine.

In 1917, he established Komatsu Iron Works, a machinery company for maintaining mining equipment. In 1921, Takeuchi and a group of investors founded Komatsu Ltd., which began producing cast steel products, providing new employment to those who had been dependent on the now-depleted mine. The first product, produced in 1924, was a one-cylinder sheet-forming machine.

While Komatsu continues to manufacture industrial presses, over the past 100 years it has expanded its portfolio of products to include forklifts as well as construction and mining equipment. The first machine Komatsu shipped outside of Japan was in 1955, when it sent a motor grader to Argentina. A Komatsu dozer

arrived in North America in 1964, marking the company's presence in that market.

Komatsu celebrated its official 100th anniversary on May 13, 2021. Throughout the next year, there will be a series of activities focused on the company's commitment to its new brand promise of "creating value together." That value will be created "through manufacturing and technology innovation to empower a sustainable future where people, businesses and our planet thrive together," according to Komatsu.

The company added that its core values include:

- Ambition: With a 'challenging spirit' and without fear of failure, we innovate and always aspire to do more.
- Perseverance: Even when the work is difficult, we remain committed to our promises and reliably carry them through to completion.
- Collaboration: Creating value comes from teamwork, inclusion, respect, diversity and a win-win approach to all relationships.
- Authenticity: To earn and maintain trust, we always act with sincerity, integrity and honesty, and communicate transparently.

Continual innovation

Back in 1902, prior to founding Komatsu Ltd., Takeuchi was already helping the community and mine employees by taking over operations at the copper mine. He funded projects to mechanize processes and teach new skills to the people. Takeuchi established schools, sent staff overseas to learn the latest techniques, and purchased machines to improve efficiency. He funded and supported a science and engineering department at a university in Tokyo, as well as a local industrial school to significantly advance educational opportunities and options in the rural areas near Komatsu City.

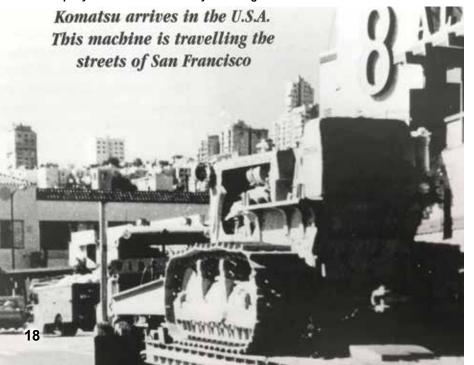
As Takeuchi and his team worked to grow operations, he remained true to his principles: quality first, technology innovation, globalization and the development of people.

"As we expanded around the world, we leveraged the strengths of global production while nurturing local leadership and creating



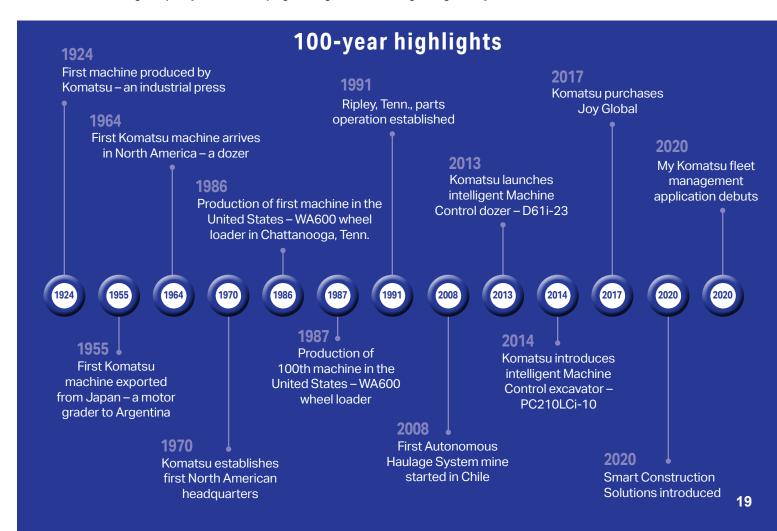
Discover mor

In 1970, the first Komatsu headquarters in North America was established in San Francisco. Subsequent headquarters were in Atlanta and the Chicago suburbs. The company is now based in the city of Chicago.





Komatsu Ltd. was founded in 1921 by Meitaro Takeuchi and a group of investors. Takeuchi was an entrepreneur with a humanitarian vision committed to enhancing the quality of life, developing future generations and growing society's needs.



Takeuchi's innovative spirit

... continued

value for the customers we serve, investing in every community and supporting society where we worked. With each challenge faced, Komatsu teams pushed forward together, working to innovate, diversify into new markets and expand globally," Komatsu's origin story states.

Takeuchi's innovative spirit can still be seen today. Komatsu pioneered autonomous technology and has had driverless trucks in mines around the world since 2008, and by July 2020, over 3 billion metric tons had been hauled autonomously. It brought integrated GPS to dozers and excavators with intelligent Machine Control to help operators get to grade faster with less staking and without masts or cables. It introduced complimentary, scheduled maintenance and tools such as My Komatsu to provide more efficient fleet management. To help customers manage projects from preconstruction to project closeout, increase productivity and efficiency, and digitize the job site, Komatsu is rolling out its suite of Smart Construction solutions.

"In our next 100 years, Komatsu will focus on supporting the mining, construction, forestry, industrial machinery and agriculture industries in their transformations to the digital workplace of the future: equipment and people, connected through smart technologies on an open platform, driving towards zero harm, zero waste and zero emissions. By helping to digitize job sites worldwide, our customers can optimize on-site operations towards a carbon-neutral environment," the company stated.

Long-term sustainability efforts

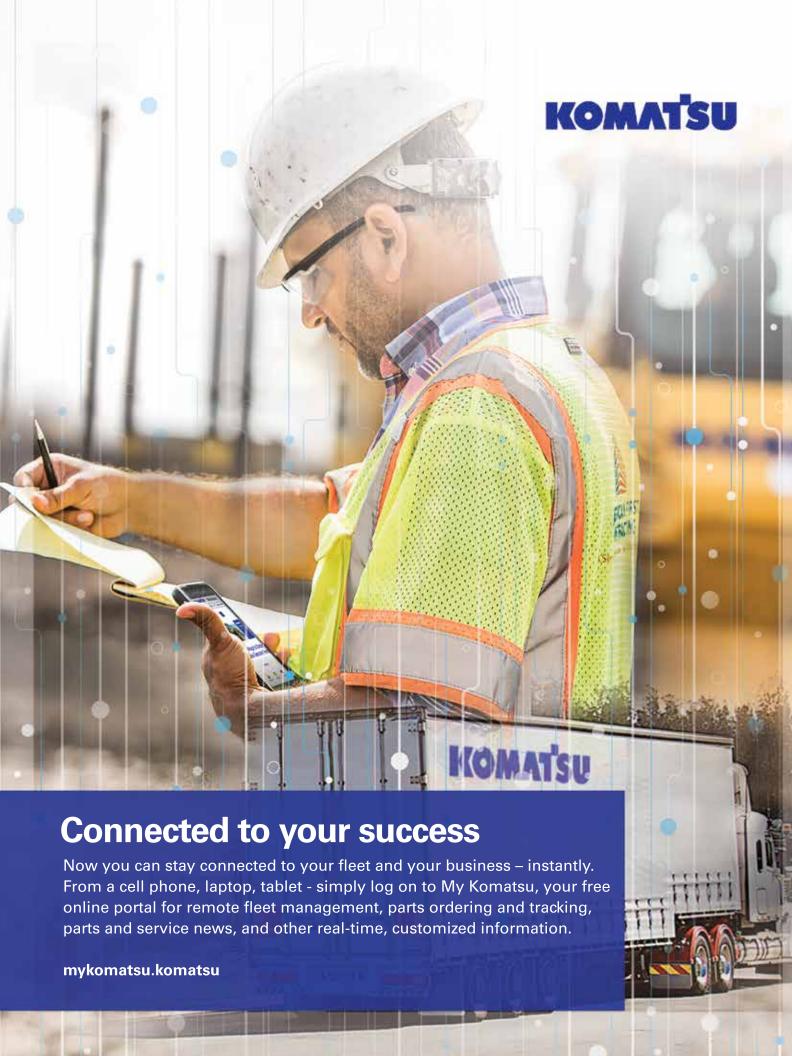
Takeuchi's vision and strong guiding principles stood the test of time. Through the years, Komatsu's continued investment in core capabilities and strategic acquisitions have connected smart, diverse people and cutting-edge technologies with a shared belief that partnerships are the best way to solve challenges and meet society's needs.

"Komatsu's philosophy is passed down from generation to generation through our principles, strategies, The Komatsu Way and the belief that Corporate Social Responsibility is part of our core business and the value we create," the company said. "In regions across the globe, Komatsu continues to provide products and solutions which address social needs and give back to communities where we do business by leveraging the skills and the passion of our people. We seek to play an active role in supporting the long-term success of society through sustainable efforts that reach far beyond Komatsu.

"From our founding city to the global community in which we operate today, we know we are stronger when we are creating value together."

Komatsu's collaboration with customers has led to innovative solutions, such as intelligent Machine Control and Smart Construction, that leverage the latest technology to digitize and optimize the job site.





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Project Points

Are you looking for an excavator that provides high production when working in tight quarters?

High production in confined spaces can be hard to achieve. An excavator with a large counterweight that could swing into an obstruction or a lane of traffic is not practical, nor is shoveling, which could potentially put you behind schedule.

"There are situations where hand digging is the only option, but in most instances, there is a tight tail swing or compact excavator that fits on the job site and allows you to get the production you need to stay on schedule and remain profitable," said Jonathan Tolomeo, product manager, Komatsu. "For that reason, they have become increasingly popular on sites where space is at a premium."

Tolomeo added that there are a large number of tight tail swing and compact excavators in the marketplace. Careful consideration should be given when choosing one.

"The right tool makes all the difference, because if you purchase or rent a machine that's too big, too small, doesn't dig deep enough or in any other way misses the mark, production suffers, and you will be more than disappointed," Tolomeo emphasized. "You should factor in what types of jobs you are doing the most, how often you will use the machine and what the transportation needs are, among other things. Demonstrations can be very helpful in ensuring you have the right fit."

Increased productivity and availability

For landscaping and small utility jobs — especially where lower ground pressure is a consideration — Tolomeo suggests a mid-sized compact excavator, such as Komatsu's new PC78US-11. It is an ultra short (US) tail excavator with a rounded cab design that allows it to swing within the same swing radius as the counterweight.

According to Tolomeo, the PC78US-11 features a new high-output engine that boosts production, improves efficiency and reduces noise, compared to the previous model it replaced. Leveling work speed, hoist swing, lift rate and hydraulic flow to attachments all increased. Hydraulic pressure and flow can be set from the cab, further increasing productivity.

Tolomeo added that you can also expand versatility with attachments such as hammers

and grapples. "The PC78US-11 has the standard two-way auxiliary hydraulic control and a dual-stage relief valve; simply add the optional thumb mounting bracket and you are ready to run practically any tool in the industry. That increases availability with additional applications, as well as potentially better profitability and return on investment."

Supplementary upgrades include an improved blade design that better rolls material for more efficient dozing and backfill work. Larger service doors and centralized ground-level access to filters located within a common area reduces service downtime.

"The PC78US-11 has a long list of enhancements, improvements and upgrades. You can haul it behind a dump truck or large pickup with a tag trailer for easy transport," Tolomeo pointed out. "We encourage anyone who is looking for a productive compact excavator that increases versatility to contact their distributor for a demonstration."

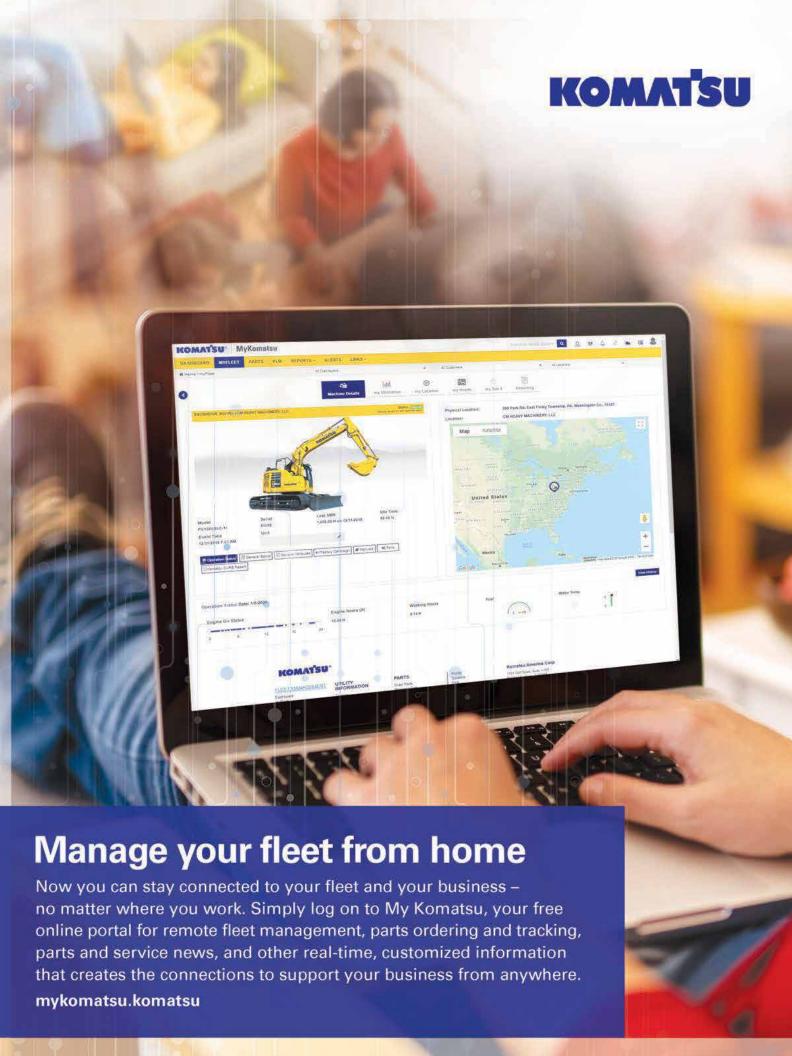


Jonathan Tolomeo, Product Manager, Komatsu

Quick Specs						
Model	Net horsepower 67.9 hp	Operating Weight	Bucket Capacity			
PC78US-11		17,439-17,813 lb	.1126 cu yd			

The new PC78US-11 has a rounded cab design that allows it to swing within the same swing radius as the counterweight. It features a new high-output engine that boosts production, improves efficiency and reduces noise, compared to the previous model.





Small dozers with integrated technology give you the ability to run automatics from grass to grade

Small dozers have generally been considered finish grading machines. They are usually put on job sites to clean up or place the topsoil.

"House pads and sites where space is at a premium have mostly been the applications where you find dozers under 22,000 pounds," said Jon Jennings, product marketing manager, Komatsu. "They normally have not been viewed as 'grass to grade' or high production machines where you are doing everything from stripping to finishing."

Jennings said that view is evolving with today's technology.

"If you have a site that involves a large amount of dirt where thousands of yards have to be moved each day, larger dozers are still your best bet," explained Jennings. "However, smaller dozers equipped with GPS are gaining popularity on medium-sized projects. As the needs for staking and surveying are reduced, there is less need to stop and check grade, so operators can continue to push dirt and be more productive. The ability to do that with a smaller dozer that uses less fuel is a significant advantage."

It's even better when the technology is integrated because it further reduces owning and operating costs, according to Jennings.

"Not having to take down and put up masts and cables gives you more production time, and there is a reduced risk of injury," stated Jennings. "You also don't have those items getting damaged, so the expense of replacing them is eliminated."

Learns as it works

Komatsu introduced factory-integrated intelligent Machine Control (iMC) GPS on dozers nearly a decade ago. It recently brought iMC 2.0 to market with added technology that enables operators at all skill levels to be even more effective at moving dirt productively and efficiently, according to Jennings.

Among Komatsu's iMC 2.0 dozers is the 105-horsepower D39i-24, the smallest in the lineup. Like its larger counterparts, it has the same new features, including Proactive Dozing Control that enables operators to cut/strip from

existing terrain, regardless of their experience level. The dozer measures the terrain as it tracks over it and uses the data to plan the next pass — improving productivity by up to 60%, compared to previous models.

"The ability to use automatics from first pass to last, instead of just during finish grading, significantly reduces the time it takes to reach target elevation," said Jennings. "Proactive Dozing Control decides on the action — such as whether to cut and carry material, spread or fill that material, or whether it should finish grade."



Jon Jennings, Product Marketing Manager, Komatsu

Continued . . .

Quick Specs						
Model	Net Horsepower	Operating Weight	Blade Capacity			
D39EXi-24	105 hp	21,848 lb	2.89 cu yd			
D39PXi-24	105 hp	22,774 lb	2.89 cu yd			

New technology, such as Proactive Dozing Control, combined with integrated intelligent Machine Control allows automatic grade control from rough cut to finish grade on a wide range of job sites. "The ability to use automatics from first pass



'D39i-24 offers greater versatility'

... continued

Additional new technology features include:

- Lift layer control, which optimizes earthwork productivity with the press of a button.
 Time savings are realized because each layer is precise, reducing or eliminating the need for rework for over or under compaction.
- Tilt steering control that automatically tilts the blade to maintain straight travel during rough dozing and reduces operator steering input by up to 80%.
- Quick surface creation that lets operators create a temporary design surface with the press of a button. Combined with other iMC 2.0 functions, crews can begin stripping or spreading using automated input, while waiting for the finish grade model.
- iMC 2.0 models with dual antennas and added satellite systems to improve satellite coverage, which gives operators the ability to work in more challenging areas, such as near woods or on urban job sites.

"The D39i-24 offers greater versatility, and the new technology opens up a lot of possibilities for all types of businesses," said Jennings. "It can be the biggest machine a contractor needs, or it can be a scalpel on a larger job site. For instance, a small homebuilder could use it to level house pads, or a landscaper can build a pond or create a unique surface. A large site work company may backfill curbs or build a drainage ditch with it, while it utilizes a bigger dozer for mass cut/fill operations.

"The possibilities are extensive, and as an added bonus, its size allows for transport on a tag trailer behind a dump truck, so it would be a great tool for those just starting their own business, who want to be highly competitive and productive right away," Jennings added. "There are some additional upgrades as well, such as LED lights and Bluetooth. We encourage anyone looking for a small dozer with the ability to be more than a finish grading machine to contact their distributor for a demonstration or more information."

New technology features combined with iMC 2.0 give operators of small dozers the ability to do more with one machine.

"The D39i-24 offers greater versatility," said Jon Jennings, product marketing manager, Komatsu. "It can be the biggest machine a contractor needs, or it can be a scalpel on a larger job site. The possibilities are extensive."



On the light side



"HE'S WORKING FROM HOME TODAY,"



"YOUR FATHER HAD A BAD DAY, HE DOESN'T WANT TO BE DISTURBED."

Brain Teasers

Unscramble the letters to reveal some common construction-related words. Answers can be found in the online edition of the magazine at BrandeisSolutions.com

1. LEPI ______

2. RIDT _____

3. KRCUT _____

4. ULEF _____



Discover more at BrandeisSolutions.com

5. DROLAE _____



"I CAN'T BELIEVE IT PASSED THE BUILDING CODE."

Did you know?

- If you sampled Earth's crust, you'd find that 47% of it is oxygen.
- It's illegal to own just one guinea pig in Switzerland because they are social animals that prefer the companionship of another guinea pig.
- "Strengths" is the longest word in the English language with one vowel.
- Bubble wrap was originally invented as wallpaper.
- The top speed of the winning car in the first U.S. race in 1895 was 7 mph.
- Antarctica is covered in a sheet of ice that's 7,000 feet thick.
- The average U.S. household has 300,000 things in it.
- Beyoncé is the most awarded female artist in Grammys history with 28 awards.
- The 1939 novel Gadsby is the longest book ever published that doesn't contain the letter 'e.'
- The deepest canyon in the world is not the Grand Canyon. Tibet's Yarlung Tsangpo is more than 2 miles deeper and drops 17,567 feet.

Dozer with intelligent Machine Control allows James Julian Grading LLC to 'get on the machine and go straight to cut'



James Julian, Owner



Discover more at BrandeisSolutions.com

James Julian has nearly five decades of experience in the heavy equipment industry. He spent his early career as a truck driver before starting his own contracting business. His love of working with soil initially drew him to the industry and keeps him involved to this day.

"My dad and I were farmers, and I grew up loving the smell of dirt," recalled Julian. "I bought my first tractor while working for a trucking company, just to play with it. It was an old machine at the time, but I enjoyed being in the open air."

After starting a clearing business with his brother in the early 1970s, and another trucking company about a decade later, he founded James Julian Grading LLC. The small company primarily focuses on residential projects but has completed a wide range of work. The firm provides turnkey operations and will partner with other contractors to complete jobs.

'Completely changed the way I grade'

"Historically, we always moved soil with scrapers, which were ideal for large, flat job sites," said Julian. "We recently transitioned to using GPS dozers, which have exceeded my expectations. The GPS technology has changed how we move dirt and improved our efficiency."

Included among James Julian Grading's fleet is a Komatsu D61PXi-24 intelligent Machine Control (iMC) dozer with factory-integrated GPS. "With the D61i, I know exactly where I'm at as I go," said Julian. "It allows me to work as I see fit. It's completely changed the way I grade a project.

"At first, I didn't believe it was possible to grade without stakes," Julian added. "By the second day of running the D61i dozer, I was comfortable with the GPS technology and really saw the difference it could make. I'm able to get on the machine and go straight to cut instead of worrying about stakes. When I'm moving dirt, I can push it where it needs to go instead of piling it up and then transferring it back. Our productivity and efficiency have greatly improved since adding the dozer."

The D61PXi-24 is the initial iMC machine for James Julian Grading, but not its first piece of Komatsu equipment. The company has run Komatsu since the early 1990s.

"I enjoy Komatsu equipment because it has stood up over time and is backed by great support," stated Julian.

Owner James Julian utilizes a Komatsu D61PXi-24 dozer with intelligent Machine Control technology to cut to grade without using stakes. "I really saw the difference it could make," said Julian. "When I'm moving dirt, I can push it where it needs to go instead of piling it up and then transferring it back. Our productivity and efficiency have greatly improved since adding the dozer."





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Construction teams can visualize the status of their job sites in one snapshot with Smart Construction Dashboard

To better manage their businesses, construction operations teams need a go-to solution to visualize the status of their job sites. With Komatsu's Smart Construction Dashboard, they can.

Built to support the digital transformation of customers' work sites, Komatsu's suite of Smart Construction solutions leverages the power of the Internet of Things (IoT) to help customers orchestrate construction planning, with the aim to better handle management and scheduling, streamline costs, and optimize processes remotely — in near real time.

Smart Construction Dashboard is designed to be used daily and combines data from multiple sources into one comprehensive picture. It provides contractors with 3D graphic visualization of all design, drone and machine data to measure cuts/fills, quantities and productivity. Site progress can be viewed with timeline functions (including playback) in terms of whole-site visuals, cross-sections and individual measurements.

With Smart Construction Dashboard you can:

 Confirm a pre-bid topographical map is correct.

- Track job site progress in near real time.
- Document site conditions as evidence for change orders.
- Quickly and easily measure stockpile quantities.

"What is really cool is that the flight surface data from our drone is loaded to the Smart Construction Dashboard, and we can very quickly see changes — the actual progress," said Andie Rodenkirch, project manager for Hunzinger Construction Company. The firm is using the Smart Construction Dashboard as it builds Komatsu Mining Corp.'s new headquarters in Milwaukee. "Technologies that let operators do the job one time — and do it correctly — increase efficiency, so it's been a great tool for us."

Smart Construction Dashboard is powered by the 3D visualization power and geospatial accuracy of Cesium, a leading platform to visualize, analyze and share 3D data. Cesium's 3D visualization engine combines video game computer graphics technology with accuracy that ties data to its precise location on the globe.

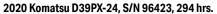
Komatsu's new Smart Construction Dashboard is designed to be used daily and combines data from multiple sources into one comprehensive picture. It provides contractors with 3D graphic visualization of all design, drone and machine data to measure cuts/fills, quantities and productivity. Site progress can be viewed with timeline functions (including playback) in terms of whole-site visuals, cross-sections and individual measurements.

You can learn more about Komatsu's suite of Smart Construction solutions at https://www. komatsuamerica.com/ smart-construction/ solutions.



RANDEIS Used Equipment







2020 Komatsu WA200-8, S/N 86320, 540 hrs.



2016 LeeBoy 8515D, S/N 144214, 890 hrs.

Year/Make/Model	S/N	Description	Hours
Articulated Trucks			
2017 Komatsu HM400-5	10490		5,442
Asshalt Davers			2,
Asphalt Pavers 2016 LeeBoy 8515D	144214	8' to 15' Legend 815HD electric screed	890
2015 LeeBoy 8515C	130766	8' to 15' electric screed, new screed plate and heaters	2,882
•	100700	o to 10 diodino ociocaj non ocioca plato ana noatoro	2,002
Compaction 2019 Hamm HD12VV	H2301814	Folding ROPS	287
20 19 Hallilli HD 12 V	П230 16 14	roluling KOPS	201
Dozers			
2021 Komatsu D37EX-24	85612	Cab, AC, 18" SG tracks, 107" PAT blade, hitch	206
2020 Komatsu D39PX-24	96423	Cab, AC, 25" SG tracks, front sweeps, rear screen	294
2020 Komatsu D65PX-18 2019 Komatsu D155AX-8	92320 100320	Cab, AC, 30" SG tracks, PAT blade, d+F18 draw bar Cab, AC, 28" grousers, sigma blade, LF cw with draw bar	2,218 2,752
20 19 KUIIIdISU D 100AA-6	100320	Cab, AC, 28 grousers, signia biade, LF CW with draw bar	2,752
Excavators			
2017 Komatsu PC210LCi-10	452694	Cab, AC, 31.5" TG, 9'7" arm, UHF, JRB power latch coupler, no bucket	2,162
2019 Komatsu PC240LC-11	K73077	Cab, AC, 10' ARM, 31.5" TG tracks, 42" bucket	1,771
2018 Komatsu PC290LC-11	A27902	Cab, AC, 10'6" arm, 31.5" TG shoes, coupler, 60" bucket	3,619
2018 Komatsu PC290LC-11	A27749	Cab, AC, 10'6" arm, 33.5" TG shoes, coupler, bucket	2,351
2019 Komatsu PC290LC-11	K73078	Cab, AC, 31.5 TG shoes, 10'6" stick, aux hydraulics, coupler, 33" bucket	1,176
2019 Komatsu PC360LC-11	A36769	Cab, AC, 33.5 TG shoes, 10'6" stick, V46SHD breaker, Cab guard screen	2,316
2020 Komatsu PC360LC-11	A37641	Cab, AC, aux hydrualics (hammer) 10'5" stick, 42" bucket	735
2019 Komatsu PC360LC-11	A37423	Cab, AC, aux hydraulics, 10'5" stick, JRB coupler, 48" bucket	1,466
2020 Komatsu PC360LC-11	A37902	Cab, AC, 33.5" TG shoes, aux hydraulics, 10'5" stick, 48" bucket	1,373
2016 Komatsu PC390LC-11	A30453	Cab, AC, 35.5" TG, 21'3" boom, 13'2" stick, 48" bucket	6,750
2014 Komatsu PC490LC-10	A40529	Cab, AC, heat, 11'3" arm	4,816
Skid Steer Loaders			
2018 Takeuchi TL8CRWH	200807391	Cab, AC, wide tracks, hi flow, bucket, forks	1,606
2020 Takeuchi TL8R2-CR	408000395		188
2020 Bobcat T870	B47C15272	Cab, AC, high flow, 86" gp bucket, root grapple bucket, 17.7" tracks	95
Wheel Loaders			
2018 Komatsu WA200-8	85058	Cab, AC, coupler, bucket, third-spool, LSD, full fenders	825
2019 Komatsu WA270-8	83870	Cab, AC, bucket, scales with printer	2,660
2016 Komatsu WA500-7	A94355	Cab, AC, 8.2 yard loose material bucket, 29.5R25 tires	9,067
2020 Komatsu WA200-8	86320	Cab, AC, quick coupler, forks, bucket	540

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