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Murphy Excavating LLC

Kentucky company utilizes
technology to increase efficiency
on sitework projects



US Aggregates Inc.

Firm offers a full-service
quarry in Indiana

A Message from Brandeis Machinery & Supply Company



David Coultas

**Fuel savings,
reduced
emissions**



Dear Valued Customer:

While prices at the pump have dropped for gasoline, diesel remains stubbornly high. There are many ways to reduce fuel usage such as idling less and shutting machines down when they will be out of service for extended periods of time.

Choosing the right equipment for the job can also help ensure maximum productivity and fuel efficiency. On traditional dirt jobs that involve digging, swinging and loading, a solid option is Komatsu's innovative Hybrid HB365LC-3 excavator that converts swing braking into electric energy that is stored and used to provide swing power. Compared to standard machines, the hybrid can also cut emissions significantly, which helps reduce your carbon footprint and improve sustainability measures.

Speaking of innovation, no one does it quite like Komatsu with its suite of Smart Construction solutions. Check out the articles on how Drone, Dashboard and Remote are helping customers save time and reduce costs with the increased efficiencies these solutions provide.

Remember: If you don't take care of your machines, they won't take care of you. We offer some tips on battery maintenance and remanufactured NOx sensors that can be useful to your operation.

That has always been our mission — to provide you with helpful information, the best equipment and world-class service. We will continue to do so in 2023 and beyond.

As always, if there is anything we can do for you, please feel free to contact us.

Sincerely,
Brandeis Machinery & Supply Company

David Coultas,
President

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US Aggregates Inc. offers a full-service quarry in Indiana, adds a Komatsu wheel loader to increase efficiency



Brian Morrison,
Plant Manager



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US Aggregates Inc.'s Thorntown, Ind., location provides a comprehensive quarry service for its customers with an offering of sand and gravel. US Aggregates primarily stocks its material from on-site mining.

"This location uses a dredge to extract material from a lake," explained Plant Manager Brian Morrison. "Our deposit will run 140 feet, so the clamshell on the dredge goes down and gets material. We then have a screen plant that's out on the water and conveys it to land. That's our secondary source of material right now."

The facility has a large conveyor system that moves material across the property. From there, material is stored in piles and is loaded into trucks.

"We have a large, spread-out site," said Morrison. "We're producing around 3,000 tons of material a day. Sometimes, we also ship out

what we produce to other US Aggregates locations across Indiana."

The Thorntown location supplies INDOT (Indiana Department of Transportation), private, county and municipal entities with material for concrete and asphalt projects, fill projects and road construction in Boone County, Ind.

"It is a great time to be in the aggregates industry," declared Morrison. "With all the growth this area has been experiencing, we are constantly moving material and restocking. Sometimes, material ends up in a truck before we have finished restocking our piles."

A reliable addition

Maximizing efficiency is the top priority for Morrison, so US Aggregates recently acquired a Komatsu WA480 wheel loader.

"It does a great job loading trucks," said Morrison. "It is a smaller loader, but it loads the trucks that are coming in quickly. That allows us to keep our operation moving. We have had strong reliability out of it. With the amount of material we move in a day, we need a machine that we can depend on day in and day out."

Morrison added, "With the demand we have, we can't slack behind. My job overseeing this whole facility is to not only make sure everything is running smoothly, but also to make sure we continue to hit production goals. That keeps us and our customers happy. Aside from delivering quality materials, that is a major thing we can do as an operation to keep our customers coming back."

With a shortage of operators across the industry, keeping employees comfortable and satisfied is also of utmost importance.

"I've heard a lot of great things about the Komatsu wheel loader in terms of comfort," commented Morrison. "The cab is pretty spacious and comfortable for our guys, which is really important when they are going to be in there for long shifts. The loaders also ride well. Moving across the yard, they move quickly, but they also don't cause discomfort



US Aggregates appreciates that the Komatsu WA480 wheel loader is comfortable for its operators. "The cab is pretty spacious and comfortable for our guys, which is really important when they are going to be in there for long shifts," said US Aggregates Plant Manager Brian Morrison.



► VIDEO

Lifting the bucket, an operator moves across the yard in a Komatsu WA480 wheel loader. "We have had strong reliability out of it," commented US Aggregates Plant Manager Brian Morrison. "With the amount of material we move in a day, we need a machine that we can depend on day in and day out."

for the operator. We want to keep our current operators here, and that starts with making sure they are happy in the cab."

US Aggregates appreciates the wheel loader's visibility as well.

"The visibility is such a great part of those machines," noted Morrison. "We want to run a safe facility, and in the wheel loader, our operator can properly see around him to make sure he's always in a safe position. He also can see his bucket well, so he can make sure he is maximizing how much material is in each load."

The WA480 has a scale in the bucket to make sure trucks are being properly loaded.

"Right now, we are loading trucks in two and a half buckets, which has been efficient for us," mentioned Morrison. "The scale has been a real gamechanger. We can make sure we are getting the trucks loaded with just the right



An operator transports a full load of material with a Komatsu WA480 wheel loader.

amount of material each time. We don't have to worry about being over- or under-loaded because that scale is so exact. We are really getting great output from that loader."

Continued...

Brandeis provides quick service

... continued



Visibility is another excellent feature of the Komatsu WA480 wheel loader. "We want to run a safe facility, and in the wheel loader, our operator can properly see around him to make sure he's always in a safe position," said US Aggregates Plant Manager Brian Morrison. "He also can see his bucket well, so he can make sure he is maximizing how much material is in each load."

Strong support

To get the new wheel loader for its fleet, US Aggregates turned to Brandeis Machinery & Supply Company and sales representative Jason Smith.

"Jason has been great to work with," said Morrison. "Brandeis overall has been quick to answer the phone to meet our needs. It is clear that they want to have a relationship with you and that they want to see you be successful."

If Morrison needs service for the loader, he gets the support he needs from Brandeis.

"I was really surprised at how quickly the Brandeis mechanics not only get out here, but also start and finish their work," noted Morrison. "We don't have a lot of downtime because of how fast they are. That keeps my operation from falling behind."

Continue meeting demands

In the future, US Aggregates wants to continue to maximize its operation.

"Thankfully, the area around here is really busy with work," said Morrison. "We will continue to strive to meet the demands of the industry and our customers." ■



US Aggregates utilizes a Komatsu WA480 wheel loader from Brandeis Machinery. "Right now, we are loading trucks in two and a half buckets, which has been efficient for us," stated Plant Manager Brian Morrison.

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Kentucky-based Murphy Excavating LLC utilizes technology to increase efficiency, reduce costs



Gary Murphy,
Owner



Jamie Murphy,
Project Manager

Gary Murphy knew he wanted to do more than just farm, so about 25 years ago, he founded Murphy Excavating LLC to make his imprint on the Owensboro, Ky., community.

Gary's nephew Jamie Murphy joined him and his wife, Angie, who handled the bookkeeping from their house. Gary and Jamie began with a backhoe, and a large chunk of their early projects included digging ditches and dump trucking.

"We bought a couple pieces of equipment, including an excavator and a new dozer," noted Gary. "We landed a big job about 17 years ago to do sitework for a supermarket, and we ran with it from there."

Now, Murphy Excavating has approximately 30 employees and works in a 35-mile radius around Owensboro.

"We focus on sitework in particular," explained Jamie. "We do 280-lot neighborhoods down to 30-lot neighborhoods. We also do demolition, trucking, and any type of mass dirt-moving such as for restaurants or middle schools."

Approximately 90% of its projects are from repeat customers, so it is important for

Murphy Excavating to develop and maintain its relationships.

"They believe in us," exclaimed Gary. "We have helped them on Easter Sunday. We've done projects like that to get them out of a hole. They know it, and they remember it. Some of my best friends are our customers."

According to Gary, part of expanding and furthering Murphy Excavating's relationships within Owensboro has come from an unlikely source: a new office located just off West 4th Street that the company acquired in 2020.

"We were located 20 miles in the country," recalled Gary. "We weren't sure about getting the new office, but we had no idea how much this would mean to us. It's a big deal we are centrally located because our customers can drop in to speak about projects. Many people see us here, and it means a lot to be a part of Owensboro."

Machinery to maximize efficiency

To meet project deadlines and maximize efficiency, Murphy Excavating utilizes Komatsu machinery.

"We started implementing Komatsu into our fleet five years ago with our first iMC (Intelligent Machine Control) dozer, a D51PXi," said Jamie. "Since then, we've evolved and bought D61PXi and D71PXi dozers."

Prior to purchasing the D51PXi, Jamie demoed the dozer at Komatsu's Training Center in Cartersville, Ga.

"The technology of Komatsu dozers stood out as well as the safety aspects of them," noted Jamie. "I liked being able to see around the dozer. I could see the front of the blade. With the integrated GPS, an operator doesn't have to climb onto the blade and put on globes, and the fine-grading is second to none."

The iMC dozers' grading capabilities have been revolutionary for Murphy Excavating's operation.

"For us, it's almost not even possible to do grading without iMC machines anymore because the days of grading with the eye are over," said Jamie. "We've got guys that can

With a Komatsu D71PXi intelligent Machine Control (iMC) dozer, an operator cuts material to grade.





► VIDEO

An operator uses a Komatsu D71PXi iMC dozer to move material. "The technology of Komatsu dozers stood out as well as the safety aspects of them," noted Project Manager Jamie Murphy. "I liked being able to see around the dozer. I could see the front of the blade."

do that, but they're much more accurate with the iMC technology."

The company also chose to expand its excavator fleet by adding a Komatsu PC210LC and a Komatsu PC290LCi.

"We do a lot of clearing and needed a thumb, so we bought the PC210," said Gary. "That was our first excavator. We do a lot of storm pipe install, so we use the PC290LCi to dig pipe to grade."

Saving time, money

To further increase job site efficiency, Murphy Excavating installed a base station at its office that allows the company to seamlessly send files to any of its Komatsu iMC machines within a 30-mile radius.

"It saves a lot of time," declared Jamie. "In fact, it saves money because every operator doesn't need to have a base station on every project. For the most part, everybody runs off the base here, and we can run four or five jobs with one base."

The next step for Murphy Excavating is pairing its current Komatsu technology with drone surveying.

"We bought a drone a couple of years back, and we don't utilize it for what it's worth," admitted Jamie. "That's the next big thing I want to see



Murphy Excavating's fleet includes a Komatsu PC290LCi iMC excavator. "We use the PC290LCi to dig pipe to grade," said owner Gary Murphy.

happening in this company: implementing Smart Construction Drone."

Dependable support

Murphy Excavating turns to Brandeis Machinery & Supply Company — especially sales representative Matt Bryan — for new Komatsu equipment and support.



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Continued...

Superb equipment, phenomenal support

... continued

"The main reason we go with Komatsu is Brandeis' sales team," said Gary. "They're just good. They come and see us. On top of that, their equipment is superb."

Gary added, "We were on a pipe job in a subdivision, and one of our machines went down. It was a month or so before we could get the parts, so we called Matt. Brandeis had that

machine sitting here, let us try it, and it never left. Their support has been phenomenal."

To maintain its fleet, Murphy Excavating relies on support from Brandeis Machinery through the Komatsu Care program on all its Komatsu equipment.

"We know that the service is getting done and is getting done right with Komatsu Care," said Gary. "They'll come in at night and service the machines, including oil changes. That helps minimize downtime on the job site and keeps us working."

Matt and Brandeis Machinery provide Murphy Excavating with more than the typical dealer and customer experience.

"They're really our friends too," said Gary. "It's like the people we do business with. They're as good of friends as we could have, and they care about us too."

Gary continued, "We're awfully proud of how we've come really from ground zero to where we are. We started with minimal technology and now we've got several iMC systems. It's the way of the future, and Brandeis helped us do that. It's been a good partnership."

Building a future

As Murphy Excavating sets its eyes on the future, it wants to continue to grow and expand as a company.

"From where we came, and the friends we've made, it's unbelievable and a dream come true," said Gary. "We are so proud of our family at Murphy Excavating." ■



(L-R) Murphy Excavating's Jamie Murphy and Gary Murphy rely on Brandeis Machinery's Matt Bryan for support. "We started with minimal technology and now we've got several iMC systems. It's the way of the future, and Brandeis helped us do that. It's been a good partnership," said Gary.



Members of Murphy Excavating pose for a picture at the company's holiday party. "From where we came, and the friends we've made, it's unbelievable and a dream come true," said owner Gary Murphy. "We are so proud of our family at Murphy Excavating."

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Bipartisan Infrastructure Law positively impacts transportation, overall forecast is mainly flat due to inflation concerns

In late 2021, President Joe Biden signed the \$1.2 trillion Infrastructure and Investment Jobs Act (IIJA) into law, which was a historic investment in the nation's infrastructure and transportation funding. The Bipartisan Infrastructure Law has had a positive effect and will continue to do so in 2023, according to several construction industry professionals as they forecast this year's outlook.

During testimony before the Environment & Public Works (EPW) Committee in late 2022, American Road & Transportation Builders Association (ARTBA) President and CEO Dave Bauer told senators that 29,000 transportation improvement projects are moving forward thanks to the Bipartisan Infrastructure Law. Bauer highlighted ARTBA's economic analysis, showing that highway formula funds supported 2,500 more safety, mobility and maintenance improvements in 2022 than in 2021, while the number of \$100 million projects increased from 18 in 11 states to 24 in 14 states.

"Though each project has a unique story of need and solution, they are all tangible illustrations of the impacts underway from the leadership of this committee in delivering generational investments through

a multiyear surface transportation program reauthorization," said Bauer.

The Bipartisan Infrastructure Law reauthorized surface transportation programs for five years, investing \$110 billion in America's aging roads and bridges.

ARTBA estimated that highway and bridge construction spending will increase 13.4% this year to a total of \$119 billion, according to the article "2023 Forecast: Markets are Mixed for Year Ahead" published by Engineering News-Record (ENR). Dodge Data & Analytics Inc. is even more optimistic, predicting new starts will be as high as 20%, thanks to infrastructure funding. That would be an increase beyond the 23% rise Dodge forecast for the end of 2022. Dodge Chief Economist Richard Branch pointed out that only 19% of funding from the Bipartisan Infrastructure Law had been allocated by late last year.

"There's a lot of money still on the table waiting to be spent," said Branch in the Equipment World article "Dodge Economist: Prepare for a Rocky First Half of 2023." "We continue to think 2023 and 2024 are the best years for infrastructure construction. But, I could foresee, again, if we have appropriation delays, that maybe 2024 and 2025 are the best years."

Modest downturn, quick recovery

Infrastructure projects are bright spots in the overall construction industry, which has been slowed by several factors during the past year. Dodge sees it as relatively flat in 2023, with a slight decline. Fails Management Institute (FMI) forecasts a 1.3% decline.

"I don't think this is another great recession," said Jay Bowman, Principal of Industry Management Consultant for FMI in the ENR article. "I'll take flat over down any day of the week."

Branch noted that inflation will be a big factor going forward, along with other causes for concern such as the war in Ukraine and oil production cuts by the Organization of the Petroleum Exporting Countries (OPEC). Branch's forecast assumes that core inflation will improve, and there will not be any major shocks. If his predictions are correct and everything remains stable, Branch believes a "technical

Multifamily housing appears to be a bright spot in the residential sector. Dodge predicts a 1.4% rise in starts, while FMI sees a nearly 6% jump.





The Bipartisan Infrastructure Law will give a boost to projects such as roads, bridges, canals, broadband, utility upgrades and more in 2023, according to industry forecasters. ARTBA estimated that highway and bridge construction spending will increase 13.4% this year to a total of \$119 billion. Dodge is even more optimistic, predicting new starts to be as high as 20%, thanks to infrastructure funding.



recession" could be avoided with economic stabilization and recovery starting in the latter half of 2023. He added that a strong banking system and undersupplied housing market are favorable for the construction industry.

"We're sitting at 14- to 15-year highs in the Dodge Momentum Index, so it should provide some semblance of confidence and reassurance that developers and owners are continuing to put projects into the queue despite the fact that we're concerned about what might happen when interest rates keep rising and the economy slows down in 2023," said Branch.

In its most recent outlook, the Portland Cement Association (PCA) projected a near-term demand decline of about 3.5% for 2023, the first decline in 13 years. It expects the slowdown to be short, with growth returning in 2024.

"Due to inflation and rising interest rates, economic growth is expected to remain sluggish through mid-2023 with unemployment

reaching 4.7%," said Edward J. Sullivan, PCA Chief Economist and Senior Vice President. "Inflation is expected to remain high, leading to further monetary policy tightening through this year and into early next."

Sector gains

While both Dodge and FMI predict overall construction starts to be down in 2023, both foresee increases within several sectors. Dodge predicts a slight increase in total residential construction, including 1.4% in the multifamily category. FMI anticipates a nearly 6% jump in multifamily, despite overall residential starts being lower.

Dodge and FMI have opposing outlooks on total non-residential as well. FMI is optimistic of a 4.4% rise, led by the manufacturing sector with a jump of 15.4%. It sees lodging, amusements and recreation, education, health care, commercial and public safety all getting boosts. Dodge predicts increases for hotels and motels, stores and shopping centers, and education. ■



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Subcontractors, don't waive your right to a lien

In the course of reviewing construction subcontracts, I've recently seen provisions similar to the following (simplified for convenience and confidentiality):

- "The subcontractor shall reimburse the [contractor and/or owner] for any costs and expenses for any claim, obligation, or lien that arises from the performance of the work."
- "The subcontractor shall remove and discharge any lien, claim, security interest, or other encumbrance related to the subcontractor's performance of the work."

The provisions are often followed with boilerplate requirements for paying the third-party claimant, bonding, reimbursement of attorneys' fees, indemnification responsibilities, or other ways of providing security to the owner or general contractor.

The purpose of these types of provisions is clear: Owners want their projects completed free of liens, and they want the person responsible for the work to make sure that happens. This is an understandable position, and it is reasonable for any construction contract to require lien waivers. The problem is that these provisions do not require payment prior to the waiver.

Yes, if a subcontractor is paid, it should agree to keep the project clear of liens and remove any

liens filed by its respective subcontractors or suppliers. But, until payment has occurred, retaining the powerful lien right is essential for any prudent subcontractor. Whether intentional by the drafting party or not, these provisions suggest the subcontractor is agreeing to waive its lien rights even when the owner or contractor fails to pay.

Simple solution

With these specific provisions, I find the solution is simple and relatively unobjectionable; I like to add "provided subcontractor has been paid for the work" at the beginning of the phrase.

Subcontractors should be on the lookout for these and other potential pitfalls, and make sure they do not unwittingly leave themselves unprotected by accepting provisions that are inherently unfair. ■

About the Author: Sam DeBaltzo has a wide variety of experience representing clients in real estate transactions and the purchase, sale and leasing of real property. He additionally provides counsel in several related industries, working routinely with construction, architect and engineering contracts. His business law experience includes general corporate matters and representation of both for-profit and non-profit businesses in mergers, acquisitions and dispositions. For more information, visit tonkon.com.



Sam DeBaltzo,
Associate Attorney,
Tonkon Torp LLP



Until payment has occurred, retaining the powerful lien right is essential for any prudent subcontractor.

Smart Construction solutions, iMC help Castle's Renewable Energy Division move earth faster with decreased costs



Chris Scheve,
Vice President,
Renewable Energy



Joel Brewton,
Vice President of
Asset Management &
Centralized Services

The company known today simply as Castle was originally founded as Progressive Pipeline in 1999 by Mike Castle Sr. His business focused on providing service to the oil and gas industry with jobs done with integrity, on time and on budget. That strategy proved highly successful, and within three years, the company landed its first multimillion-dollar contract, which led to the creation of more divisions within the firm.

In addition to Pipeline, Castle's divisions now include an Integrity Group, a Facility Group, Directional Drilling, Environmental Reclamation, and its latest undertaking: Renewable Energy, which focuses on sitework and other services for wind and solar projects.

"Castle saw the transition to renewables and wanted to be a part of that," said Vice President Chris Scheve, who joined the company about a year ago and has helped spearhead the formation and expansion of the Renewable Energy Division. "With our skilled workforce and our equipment, it's a nice fit to move over and do the renewables effort."

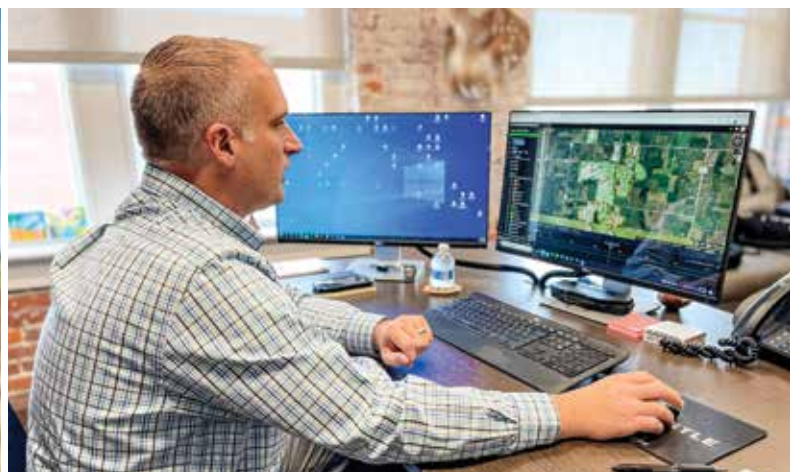
Joel Brewton, Vice President of Asset Management & Centralized Services, added, "Outstanding service is our hallmark, and that's really built around doing things safely and efficiently. We believe that goes hand in hand with delivering solid production. We are

always seeking ways to improve our practices. Technology — such as the Komatsu Smart Construction machinery and solutions we now use — is playing an increasingly bigger role for us because we see the benefits it is delivering in terms of cost and time savings."

Brewton and Scheve emphasized that the two large solar projects that Castle's Renewable Energy Division recently took on in Wisconsin are prime examples. About a year ago, Castle began site preparation, including putting the sites to grade, building basins, and handling erosion control. Between the two, Castle team members moved about 700,000 yards of dirt.

"Our Onion River project, which is the bigger of the two, involved about 18 different sites, so it was pretty spread out," explained Superintendent Rocky Hartwick. "We started in July and had the mass grading done by the end of the year. Our Crawfish River project began earlier, and the grading was basically done within a relatively short timeframe."

Hartwick continued, "These projects were our first ones using Komatsu's intelligent machines, and we were very impressed with the ability to use the integrated GPS from grass to grade. Using traditional methods, we cut approximately two acres to grade each day. Komatsu's intelligent machines allowed us to



Komatsu's Jason Anetsberger (left) uploads data from the Smart Construction Drone flights to Smart Construction Dashboard. Castle's Joel Brewton (right) uses Komatsu's Smart Construction Dashboard in his office in Meridian, Miss., to check the progress of Castle's job sites in Wisconsin.



► VIDEO



An operator cuts grade with a Komatsu D71PXi-24 intelligent Machine Control (iMC) dozer on Castle's Onion River project near Adell, Wis. "We were very impressed with the ability to use the integrated GPS from grass to grade," said Superintendent Rocky Hartwick. "The accuracy and efficiency are spot on."

do 10 to 12 acres without the need for a grade checker because the machines always know where they are in relation to final grade. The accuracy and efficiency are spot on."

Using Smart Construction solutions

Throughout the projects, Castle has used Komatsu intelligent Machine Control (iMC) dozers and excavators, as well as Smart Construction Drone, Smart Construction Dashboard and Smart Construction Remote. Castle also purchased its own drone, and staff members received training from Komatsu, so they could conduct flights independently.

"Komatsu corporate has been a big part of helping us learn the intelligent system as well as incorporating drone flights to verify that what the machines are seeing is exactly what we're seeing," Scheve explained. "We've made drone flights a standard, so before we ever move a speck of dirt, we do an initial flight of the sites to make sure we have accurate models to work from. CAD (computer-aided design) files are developed from those, and those models are uploaded to the intelligent machines. We do subsequent flights about a month apart to check progress and verify how much dirt was moved, and that gets uploaded to Dashboard. That information helps us put together as-built models we can show to the customer and keep accurate records."

Brewton said that level of accuracy has been impressive to Castle and its customers.

"We are a very schedule-driven contractor," Brewton stated. "When we make a schedule, we want to stay on it. Drone flights let you verify a site within a matter of hours rather than days with the old methods of walking the site and staking it. Instead of taking maybe 20 shots with a rover and a stick within a 10-foot section, the drone is shooting thousands of points in that same area, so it's delivering a more accurate picture. Billing is another advantage we see. We don't want to overcharge our customer or be underpaid. With the drone, you can verify exact quantities, and you get paid for exactly the work you've done, and that's what we want."

Additional adoption

Increased productivity and efficiency with Komatsu iMC machines and Smart Construction solutions on the Renewable Energy Division's Wisconsin projects have encouraged the Castle team to expand their usage of technology.

"Recent legislation is only going to put additional significant dollars into renewables, and we have customers asking us for commitments for several years out; making the investment makes sense," said Scheve. "We see the applications for the machines and solutions in our other divisions too, such as Pipeline, so we are looking into how to adopt it for those going forward." ■

***The opinions expressed here are from the end users who are quoted.*



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Hybrid HB365LC-3 excavator offers significant fuel savings and helps reduce your carbon footprint with lower emissions

Looking for ways to increase production while reducing costs? In today's economy with diesel prices higher than ever, using a hybrid excavator such as Komatsu's Hybrid HB365LC-3 is a solid solution, according to Kurt Moncini, Senior Product Manager, Komatsu.

"Hybrid technology continues to grow and be adopted in the automotive world, and the construction industry is coming around to the benefits such as lower fuel costs and emissions," said Moncini. "The HB365LC-3 offers increased fuel efficiency without sacrificing power, so the overall performance is outstanding. A topper on the cake is the added benefit of reduced emissions that lowers your carbon footprint and promotes sustainability."

Moncini continued, "Based on EPA's (Environmental Protection Agency) CO2 formula, the Hybrid potentially offers an up to 20% reduction in CO2 emissions compared to the standard PC360LC-11. It's a big win all around."

Komatsu introduced the 36-ton Hybrid HB365LC-3 — the industry's first true hybrid in that class size — in 2017. Since then, thousands have been used around the world for all types of excavation, loading trucks and to perform other tasks. The HB365LC-3 followed the introduction of Komatsu's first hybrid excavator, which was launched in 2008.

"The Hybrid HB365LC-3 has equal or better performance than our standard PC360LC excavator, but with fuel savings that could be as high as 20%, depending on application," said Moncini. "It's a great fit for construction companies that use excavators in high-swing applications, as well as for feeding crushers in quarry, recycling and demolition applications where swing is a constant."

An electric swing motor captures and regenerates energy as the upper structure slows down and converts it to electric energy.

Moncini explained, "It's using energy that would normally be wasted and makes it available to do work, contributing to increased efficiency and decreased diesel usage."

Highly responsive

The energy captured during each swing braking cycle is stored in the Hybrid HB365LC-3's ultracapacitor. Each time the excavator swings, the capacitor discharges electric power to the electric swing motor.

"A traditional battery requires time for the chemical process that releases electricity to occur," stated Moncini. "The heavy work nature of construction equipment places a much faster demand on power transfer. The ultracapacitor's ability to store and discharge energy quickly makes it ideal."

Continued...



Kurt Moncini,
Senior Product
Manager,
Komatsu



Learn more

Komatsu recently improved the warranty on the HB365LC-3's hybrid components to seven years or 15,000 hours. The warranty covers the electric swing motor, motor-generator, capacitor and inverter.



'Users are raving about their productivity and cost savings'

... continued

He added, "When it comes to the boom arm and bucket, the capacitor drives the swing, and all available engine horsepower can go into the hydraulic system. This creates faster cycle time and a very quick, responsive swing. It's snappy."

In addition to powering the swing motor, the ultracapacitor sends electric energy to the engine via the motor-generator. This energy is used to accelerate the engine from an ultra-low idle speed of 700 revolutions per minute (rpm) and improve hydraulic response.

Tier 4 and more

Komatsu recently improved the warranty on the HB365LC-3's hybrid components. The special hybrid component warranty term is now up to seven years or 15,000 hours and covers the electric swing motor, motor-generator, capacitor and inverter. If you sell the excavator, the warranty is transferrable.

The Hybrid HB365LC-3's 269-horsepower engine is a six-cylinder with a Komatsu aftertreatment system that meets U.S. EPA Tier 4 Final emissions regulations. A Komatsu Diesel Particulate Filter (KDPF) and Selective Catalytic Reduction (SCR) work together to inject Diesel Exhaust Fluid (DEF) and decompose nitrous oxide into non-toxic water and nitrogen.

Komatsu Care comes standard, including two complimentary KDPF exchanges and two SCR services during the first five years with unlimited hours. It also covers scheduled maintenance for the first three years or 2,000 hours. All work is done by factory-trained distributor technicians.

Hours and key performance data can be tracked remotely with Komtrax. Operators can see the information first-hand on the 7-inch, color LCD monitor, including a capacitor charge gauge, DEF levels and a rear-view camera. Komtrax has an Operator Identification System that records machine-operation and application data for up to 100 individual ID codes.

Operators will also appreciate lower noise levels in the spacious ROPS (roll-over protective structure)-certified cab. Features include vibration-dampening mountings and a fully adjustable, air-suspension seat and arm rests. A Bluetooth AM/FM radio is now standard on new machines.

"Users are raving about their productivity and cost savings," said Moncini. "It's not the right machine for every application or job site, but on those swing intensive jobs where it fits, it really stands out. We encourage anyone who uses excavators in the 36-ton class to contact their distributor for more information and to set up a demonstration." ■

"The Hybrid HB365LC-3 has equal or better performance than our standard PC360LC excavator, but with fuel savings that could be as high as 20%, depending on application," said Kurt Moncini, Senior Product Manager, Komatsu. "It's a great fit for construction companies that use excavators in high-swing applications, as well as for feeding crushers in quarry, recycling and demolition applications where swing is a constant."

Quick Specs	
Model	Hybrid HB365LC-3
Horsepower	269 hp
Operating Weight	81,791-85,495 lbs.
Bucket Capacity	0.89-2.56 cu. yd.





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Emery Sapp & Sons Inc. reduces costs by utilizing Smart Construction Remote to transfer files from the office to the field

Valuing hard work, investing in its employees, adapting to the markets, and taking chances on new opportunities has made Emery Sapp & Sons Inc. (ESS) successful. For the past 50 years, that formula has propelled the Columbia-based firm into one of Missouri's largest full-service civil contractors with about 1,800 employees.

"Our capabilities include everything from full site development to bridge installation to every aspect of paving," said Tyler Grotewiel, Surveying and Construction Technology Manager. "We have over 200 projects in the works at any one time. In addition to core values, ESS has always been very forward-looking when it comes to adopting technology that increases efficiency on every site."

One of the company's earliest technology adoptions was adding aftermarket GPS grade control systems into its earthmoving operations, which improved its productivity. More recently, ESS began utilizing Komatsu's intelligent Machine Control (IMC) dozers.

"When I started here 17 years ago, we had a few machines with GPS, and now we have more than 100," said Grotewiel, noting that ESS has also adopted GPS in its paving operations. "Knowing where you are in relation to final elevation and only having to move dirt once really increased our efficiency. It also cut costs because there is no rework, less wasted material, and no need for a grade checker. Every site we do now has a GPS model, whether it's a small parking lot or a large highway job."

"Solution we needed"

Grotewiel manages a group of about 30 people at ESS who focus on construction layout and prepare data files for machine control. About one-third of them are building 3D GPS models from the data as well as from CAD (computer-aided design) drawings from engineers and transportation departments.

"Our staff is outstanding at building accurate models that can be uploaded directly into the machines, but as anyone in the construction industry knows, plan changes are inevitable," said Grotewiel. "In the past, that meant we had to physically drive to a project with a thumb drive to update files. Our projects are spread

out across a large territory that covers multiple states, so it's time-consuming and a major expense in fuel to do that. We were looking for a way to reduce or eliminate the hassle, and our research determined that Komatsu's Smart Construction Remote was the solution we needed. The fact that it's compatible with both Topcon and Trimble systems is a huge benefit. We have used it with both our Komatsu and competitive machines."

Grotewiel added, "We compared it to other solutions in the market and found Smart Construction Remote to be more user-friendly, too. The process is simple. All you have to do is log into the website, find the machine or machines that you want to send the file to, and drag and drop the file to them. It's nearly instantaneous, and the operator doesn't have to do anything. We have four offices, and I estimate that we use Smart Construction Remote about 15 times per week at each one. I don't have to



Tyler Grotewiel,
Surveying and
Construction
Technology
Manager



Watch the video

Continued...



▶ VIDEO

Tyler Grotewiel, Surveying and Construction Technology Manager at ESS, updates plans on machines in the field from his office with Komatsu's Smart Construction Remote. "The process is simple," said Grotewiel. "All you have to do is log into the website, find the machine or machines that you want to send the file to, and drag and drop the file to them. It's nearly instantaneous, and the operator doesn't have to do anything."

'Operators get the information faster'

... continued



**Gage Snider,
Operator**

pay someone to drive the file to the job site, and the operators get the information faster."

See what the operator does

If an operator has a question or an issue, Grotewiel and his team can assist them from the office because Smart Construction Remote allows direct remote access to a machine.

"Instead of having to drive to the site, we can see what the operator sees on the screen in the machine," said Grotewiel. "If necessary, I can actually take control remotely to directly address the issue."

Operator Gage Snider says Smart Construction Remote has also notably increased the company's production.

"If there is an update, it's just done," stated Snider. "You don't have to wait on somebody to show up. It comes to the machine and is done automatically, so I keep moving dirt without having to worry about the plan being outdated. Because it's done remotely, most of the time I don't even know it's been done."

Initial setup, ongoing support

ESS worked with its local Komatsu distributor to access Smart Construction Remote. Distributor representatives helped ESS with the setup, including the installation of cellular modems that are used for communication to load and update plans.

"They remain an invaluable resource because they guided us through the initial setup, helped us through the learning curve, and provide ongoing support," said Grotewiel. "As we were adding Smart Construction Remote, our modems had to be upgraded to 4G, which was a big undertaking, and they were there every step of the way. They have ensured our successful use of Smart Construction Remote. Because of that — and the savings we are seeing — our plans include working with them to add it to more machines. We highly recommend Smart Construction Remote." ■

***The opinions expressed here are from the end users who are quoted.*

With Komatsu's Smart Construction Remote, ESS can send plans and updates to its machines without driving to the job site. "Our projects are spread out across a large territory that covers multiple states, so it's time-consuming and a major expense in fuel to do that," said Tyler Grotewiel, Surveying and Construction Technology Manager. "Komatsu's Smart Construction Remote was the solution we needed."





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Reman NOx sensors deliver optimal performance while lowering costs, controlling emissions and promoting sustainability

Equipment users often think of remanufacturing when it comes to engines and large components because the cost savings are significant, and they are getting “like-new” with a warranty. However, you could also save resources with smaller remanufactured items you may not have considered.

“NOx (nitrogen oxides) sensors are a great example of a high-quality, low-cost replacement option that help avoid breakdowns and reduce owning and operating expenses,” said Komatsu’s Goran Zeravica, Senior Product Manager, Reman. “A Reman NOx sensor protects your diesel engine’s aftertreatment system and promotes optimal performance with the added benefit of lowering emissions and promoting sustainability.”

Komatsu genuine Reman NOx sensors meet original equipment specifications, assembly processes and test procedures to match the performance of a new part. They help equipment users stay in compliance with regulations while maintaining productivity.

Komatsu genuine Reman NOx sensors can also help you:

- Avoid maintenance issues with new/upgraded probe tips fitted with an anti-seize lubricant that is pre-applied to the sensor threads

- Reduce wear with watertight inline connectors that verify electronic continuity between the probe and the control module
- Operate predictably with limited data from the control panel, including temperature, mileage and hours
- Reduce waste and save natural resources by reusing and salvaging components

Get the credit you deserve

Zeravica noted that sensor probes are a common failure, so remanufactured NOx sensors are fitted with new probe tips. Once the sensor probe is replaced, Komatsu Reman NOx sensors are calibrated and bench tested. Reman components are backed by a one-year, unlimited-hour warranty.

“We highly encourage that you return your used NOx sensor, so you get full core credit, even if the probe has been cut,” said Zeravica. “Contact your Komatsu distributor for additional details and work with them to acquire the right sensor and for proper installation.” ■

To learn more about Komatsu Reman, visit <https://www.komatsu.com/services-and-support/equipment-reman-assembly/>.



Goran Zeravica,
Senior Product
Manager,
Reman,
Komatsu



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A Komatsu genuine Reman NOx sensor protects your diesel engine’s aftertreatment system and promotes optimal performance. The low-cost, like-new replacement can help you avoid breakdowns and reduce expenses.



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Proper storage and handling of your equipment's batteries ensure safety, help maintain peak performance

Batteries are crucial to your equipment's productivity, and properly caring for them can ensure their performance and longevity. Here are some tips to prepare batteries for storage, so they are ready to work when you are.

"Safety is of utmost importance because batteries generate explosive hydrogen gas," emphasized Komatsu's Veronica Vargas, Product Manager, Parts. "Always wear safety glasses, a face shield and proper gloves when working on or near them. Batteries also contain corrosive sulfuric acid that can destroy clothing and burn the skin. Neutralize acid spills with a paste made of baking soda and water or large quantities of water."

To stay safe when handling batteries, remember these tips:

- Keep sparks, flames and cigarettes away from batteries
- Do not connect or disconnect "live" circuits
- Always turn charging and testing equipment off before attaching or removing clamps to avoid creating sparks
- Perform work in a ventilated area
- Never lean directly over a battery while boosting, testing or charging it

Always store batteries in a cool, dry place, and do not store batteries outside or high on racks. Add demineralized water to non-maintenance-free batteries as required.

Test, inspect

When it's time to use the batteries again, testing should be done prior to installation. Use load testers to simulate starting, and test for conductance and voltage. Charge batteries, if necessary.

"Just as you do with batteries, it's important to maintain testing and charging equipment," said Vargas. "Clean the terminals and cable ends. Check for correct output, check leads for corrosion, and change leads annually. As you prepare to test the batteries, check them for any signs of damage, and if there is any, or if there is any doubt about their safe usage, replace them immediately as usage may lead to severe consequences."

Vargas concluded, "If you take care of batteries, they will take care of you. We recommend that when it's time to replace them, you use genuine Komatsu products from your Komatsu distributor." ■



**Veronica Vargas,
Product Manager,
Parts,
Komatsu**



Proper battery care ensures your equipment's productivity and long battery life. If you are storing batteries, it's essential to follow safety guidelines.





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2018 Komatsu D39PX-24, S/N 95203, 4,509 hrs.



2013 Komatsu D61EX-23, S/N 30028, 6,505 hrs.



2017 Komatsu PC210LCi-10, S/N 452580, 5,117 hrs.

Year/Make/Model	S/N	Equipment Number	Location	Hours
Dozers				
2018 Komatsu D39PX-24	95203	BPE22D15	Evansville, IN	4,509
2022 Komatsu D51PX-24	B25177	J00721	Lexington, KY	540
2020 Komatsu D51PX-24	10840	J00722	Memphis, TN	2,190
2018 Komatsu D51PXi-24	10502	J00701	Louisville, KY	4,454
2017 Komatsu D61PXi-24	B60248	J00696	Evansville, IN	6,198
2019 Komatsu D61PXi-24	B60727	J00709	Louisville, KY	2,892
2022 Komatsu D61PXi-24	B65512	J00695	Knoxville, TN	429
2013 Komatsu D61EX-23	30028	BTE22D18	Evansville, IN	6,505
Excavators				
2022 Komatsu PC170LC-11	36188	J00705	Knoxville, TN	920
2022 Komatsu PC170LC-11	36136	J00721	Lexington, KY	1,113
2020 Komatsu PC210LCi-11	502650	J00708	Tupelo, MS	1,971
2017 Komatsu PC210LCi-10	452580	BTE22820	Evansville, IN	5,117
2019 Komatsu PC490LCi-11	A45148	J00704	Louisville, KY	4,993
Trucks (Articulated)				
2018 Komatsu HM300-5	10717	J00707	Nashville, TN	4,450
2016 Komatsu HM400-5	10266	J00680	Nashville, TN	8,611
Trucks (Rigid Frame)				
2017 Komatsu HD325-8	50027	J00699	Louisville, KY	2,925
2017 Komatsu HD325-8	50028	J00700	Louisville, KY	7,839



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