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**See how WPI puts
technology to work
for faster service**



A Message from the Vice President



Bruce Truesdale



Dear Valued Customer:

This has certainly been an interesting year. While it would be easy to dwell on the negative, we choose to look forward with great optimism.

What will normal look like in the construction industry going forward? We learned during the past few months that technology can play a big role in maintaining productivity. Remote meetings helped us realize we can get things done even when we are not physically together. That means owners, contractors, subcontractors and other project stakeholders can review plans and share progress updates from their own locations without gathering on site.

That's just one more way that technology is playing an ever-increasing role in construction. During the past decade, equipment has become more advanced with integrated GPS systems and remote monitoring of systems and production that help owners and operators manage their machinery.

Komatsu has been at the forefront of this movement and is upping the ante with Smart Construction that goes beyond the machine and digitally transforms your job site. It delivers solutions for everything from pre-bid to project completion and from 3D designs of plans to cost-effective project management that includes cost tracking.

A Smart Construction job site is currently underway at Komatsu's future global mining headquarters. In this issue of your WPI Update magazine, learn how the contractors moving dirt and digging trenches on the project are using technology to save time as well as material and labor costs.

There are also interesting articles on topics such as protecting yourself on future contracts and more. I believe you will find them informative when planning for the next evolution in your business. Here's to 2021!

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

Sincerely,



Bruce Truesdale
Vice President of CMD Operations

**Technology
takes center
stage**



UPDATE

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Technology leads to more efficient tracking, equipment servicing so you are more productive with less downtime



Josh Nash,
Service Manager,
Austin

Josh Nash understands the importance of quality dealer service. That's not only because he's the Service Manager at WPI's Austin branch, but also because he's been in the customer's shoes.

"I have been around equipment my entire life – operating and working on it," said Nash. "If it's not running, it's not making money, so it's critical to minimize downtime. Experience and ongoing training for technicians are still at the forefront of the ability to do that. The addition of new technology, however, is increasing their efficiency and making them more productive."

Nash emphasized that technology is playing an ever-increasing role in helping WPI and its technicians track, maintain and repair equipment. Telematics systems like Komatsu's Komtrax, which provides users with data such as hours and error codes, is a prime example, explained Nash.

"We see where the machine is and how close it is to a service interval. If it's still

covered under Komatsu Care, we can get it scheduled at a convenient time and take care of it," said Nash. "Komtrax can also help us remotely diagnose a code or issue so that the technician is prepared before getting to the site."

Most of today's new equipment comes standard with a telematics system, explained Nash.

"Real-time machine information is more readily available than ever," said Nash. "You can access it from nearly anywhere with a smartphone or tablet. These are great fleet-management tools that many customers rely on already. If they need help getting started with how to use it, we are happy to do so. Customers should also know that we are here keeping an eye on their machines in an effort to track trends and deliver better service."

Service Pro app offers better communication

During the past two years, WPI worked closely with Komatsu on a new complimentary application tool known as Service Pro. Jackie Haney, WPI Director of Operations & Technical Support, said the idea behind the technology is to get away from the old days of whiteboards and steno pads and create a world with a virtual dispatch schedule.

"Jobs can be assigned to field technicians the night before, and they can pull it up on any device with email to see where they need to start their day," said Haney. "They won't need to come into their branch, unless they have to pick up parts. Instead, they go directly to the first location. That allows faster response and hopefully the ability to get more service calls done each day, which reduces customer downtime."

With Service Pro, technicians can see much of the same information as they receive from telematics systems. When they show up to a machine's location, they have a firm idea of where to start in fixing an issue or beginning a routine service.

"If you're in the field truck headed to the customer's site, you can develop a plan of



Jackie Haney,
Director of Operations
& Technical Support

WPI technicians document service calls with the Service Pro app on their phones. "It can be a great training tool in guiding new techs on the proper steps to take as they begin a service call because it prompts them to the troubleshooting procedures and the items to record as they go," said WPI Director of Operations & Technical Support Jackie Haney. "We're seeing greater attention to detail."

▶ VIDEO





With the Service Pro app, technicians can see ahead of time where machines are located, any codes, manuals and more. “If you’re in the field truck headed to the customer’s site, you can develop a plan of attack for when you get there,” said Service Technician Jake Brown, shown here. “It lets me do some pre-troubleshooting in my head. When you get on site, the app gives specifics about the machine, the issue and what data to collect.”

attack for when you get there,” said Service Technician Jake Brown. “Service Pro lets me do some pre-troubleshooting in my head. When you get on site, the app gives specifics about the machine, the issue and what data to collect.”

Haney shared that Service Pro provides additional benefits for customers.

“It can be a great training tool in guiding new techs on the proper steps to take as they begin a service call because it prompts them to the troubleshooting procedures and the items to record as they go,” said Haney. “We’re seeing an increased attention to detail, which, in turn, gives customers greater insight into the service call.

“Customers are notified when the tech is on the way, has arrived and when he leaves,” she added. “As the tech is capturing information, it’s stored and sent to the customer. They know what the issue was, how long it took to diagnose and fix it and if

there are notes about items that may need to be addressed soon. When the customer gets an invoice, they know exactly how and why it was billed or if it was covered under warranty.”

Ready to use to fullest advantage

Haney said that WPI retains records of the service calls and she would like customers to do the same. “We hope that they keep their information current with us, as well as how to be alerted for notifications, whether by text or email.”

“There is no substitute for quality technicians, and we believe we have the best in the business at all WPI locations,” Nash stated. “Technology is just another tool in the box, and, if used wisely, provides significant benefits to us and our customers. We are committed to utilizing it to its fullest potential because we know it can improve our efficiency, increase uptime and potentially provide cost savings.” ■



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We must make changes to become digitally resilient, starting by moving civil infrastructure projects to the cloud



Orla Pease,
Vice President of
Digital Innovation,
AECOM

More than 5.2 million Americans filed for unemployment in early April, bringing the total number of jobless claims to around 22 million during the early days of the COVID-19 pandemic.

One way we can soften the impact of a pandemic is to enable people to continue working and contributing to their families and the economy – all while adhering to social distancing directives. Moving civil infrastructure projects to the cloud is a simple step that companies and agencies can take to keep projects running, people working and the economy moving during this unprecedented crisis.

As one of the oldest industries in the world, the civil engineering and construction (E&C) sector has a reputation for lagging other industries when it comes to digitization and virtual design. Companies that embrace digital technologies to improve how they do business, rather than to ride the wave of digital transformation and keep pace with the competition, often fare much better with these initiatives.

I have firsthand experience of the power of digital transformation born out of the need to collaborate across a global organization, and the results have not only brought us closer to our colleagues but also to our clients.

All about the cloud

The coronavirus pandemic has accelerated the need to adopt digital ways of working and has made it clear that E&C cannot afford

to rest on the laurels of traditional ways of working to be satisfied with the occasional digital innovation. We must make changes quickly to become digitally resilient – and that starts with transitioning civil infrastructure projects from local servers to the cloud.

This simple step can keep civil infrastructure projects moving so they will be shovel-ready when recovery begins, helping to keep America working now and when the crisis subsides. E&C companies that are solidly on the path to digital transformation are uniquely positioned to bring their clients along on the journey, and it all starts with a cornerstone of digital resilience: the cloud.

It's time the industry stops perceiving the digital transformation as an experiment in competitiveness, and instead sees it as a necessity of resilience. The term "digital transformation" itself can have the impact of analysis paralysis – seeming to mean that everything in an organization must transform. Rather than trying to go digital all at once or in fragmented efforts, focus first on enabling virtual collaboration and digitizing civil infrastructure projects so we can keep working and keep the economy moving during the coronavirus pandemic. ■

Editor's note: Orla Pease is Vice President of Digital Innovation at AECOM, a fully integrated global infrastructure firm. This article is excerpted from a piece that originally appeared on SmartCitiesDive.com.

The coronavirus pandemic accelerated the need to adopt digital ways of working, according to Orla Pease, Vice President of Digital Innovation at AECOM. "We must make changes quickly to become digitally resilient – and that starts with transitioning civil infrastructure projects from local servers to the cloud," she wrote. "This simple step can keep civil infrastructure projects moving so they will be shovel-ready when recovery begins, helping to keep America working now and when the crisis subsides."



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

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Before signing a contract, confirm language covers specific unforeseen events, such as pandemics, say legal experts

Force majeure: unforeseen circumstances that prevent someone from fulfilling a contract

After weeks or months of reviewing plans, estimating, bidding and negotiating with an owner, general contractor and or subcontractor, you have reached agreement on the scope of work and price. The next step – sign the contract. Before you do, legal experts recommend ensuring the contract contains language that protects you from a force majeure, which is an unforeseen circumstance that prevents you from fulfilling it. Experts point to the coronavirus pandemic as a specific example of such a situation.

“Those entering into new construction contracts should include custom language addressing the parties’ respective rights and responsibilities related to COVID-19,” advised David Blake, a partner with Seyfarth Shaw, in an article (COVID-19 Language for New Construction Contracts) appearing on GlobeSt.com. “Many articles and webinars have focused on how traditional contract clauses in existing contracts may respond to COVID-19 issues. The fit is not always clear.”

Questions to ask before signing on the dotted line

Protection clauses in construction contracts will change post-coronavirus, wrote Larry

Cook in a piece (Construction Contract Clauses Post-Pandemic) for TheLienZone.com, a website for Florida Construction Law Advisers. He indicated that contractors, owners and their legal advisers will closely review legal terms, like force majeure, once buried in fine print. Cook added that contractors must be specific and clear in their contract language when defining scope and effect of a force majeure clause to protect themselves from unexpected liabilities.

“Before signing that new contract, consider several questions,” Cook advised. “What events are considered force majeure? Who is responsible for suspending performance? Who can invoke the clause? Which contractual obligations are covered by the clause? How should the parties determine whether the event creates an inability to perform? What happens if the force majeure event continues for more than a specified period?”

“An effective force majeure clause should specifically include any delay, disruption or suspension of work due to illness, quarantines, closures, government stay-at-home orders and other restrictions, including both owner and contractor directives as well as municipal and government orders,” said Cook. “And the result should not only be an extension of time but also an equitable adjustment to the contract price. Finally, such measures should preclude or forgive the assessment of damages, including liquidated damages.”

Satisfying three specific criteria to pass the ‘test’

The law firm of Shearman & Sterling noted in an informational piece (COVID-19: Force Majeure Event?) on the Perspectives page of its website, “As with all matters dependent upon the terms of the contract, each force majeure provision must necessarily be considered on its precise terms and its specific context. There are some features common to most force majeure provisions ...”

Shearman & Sterling noted that the “test” for force majeure usually requires the satisfaction of three distinct criteria: the event must be beyond the reasonable control of the affected party; the affected party’s ability to perform its obligations under the contract must have

Legal experts recommend a careful examination of force majeure clauses in construction contracts to ensure you’re covered for unforeseen circumstances, such as a pandemic, that may delay your ability to perform work.





Just as you study plans extensively to ensure you have included everything when estimating and bidding, carefully consider contracts for language that protects you in the event of a force majeure, or unforeseen circumstance, that prevents you from fulfilling obligations.

been prevented, impeded or hindered by the event; and the affected party must have taken all reasonable steps to seek to avoid or mitigate the event or its consequences.

In a Bloomberg Law article (INSIGHT: Coronavirus Advice for Construction Contractor Clients), Judah Lifschitz and Laura C. Fraher with the firm Shapiro, Lifschitz and Schram, said many construction contracts include provisions that allow for the suspension of work and/or termination of a project by the owner and/or the contractor.

“It is also critical that contractors analyze the contract to determine what rights they will have in the event a project is suspended for any length of time,” according to Lifschitz and Fraher. “There is always the possibility that a project could be suspended either by the owner or as mandated by the government, and the contractor will want to know what its rights and obligations are if a project is suspended indefinitely.”

Contract tips

There are some general considerations and best practices when drafting force majeure notices, according to a piece (Best Practice

with Notices for Force Majeure Events), published on jdsupra.com by Troutman Pepper of the firm Pepper Hamilton LLP. General considerations include objectives, contract terms, understanding the impacts that caused the force majeure event, the business relationship and potential for litigation.

“When issuing either a force majeure notice or more general notice of delay, there are a few practical concepts to keep in mind regarding what form the notice should take,” noted Pepper. He lists tips to ensure your notice is proper and serves its intended purpose. They are: comply with the contract terms; if impossible, then substantially comply; and keep and maintain documentation of all notice of activities.

Pepper added that when invoking force majeure, you should include some specific points that help ensure your “notice will constitute valid notice under your contract.” They include identifying the force majeure event; explaining how it impacts performance; identifying the relief the notice seeks, including adequate assurances; not limiting rights; and supplementing as more information becomes available. ■

Editor's note: This article is for informational purposes about a topic relevant to today's construction industry. It is not meant to be all encompassing or offer specific legal advice. Consult your legal professional if you need information about your specific contract.

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Conversations lead to redesigned wheel loader that lowers owning and operating costs

Any increase in fuel efficiency translates to reduced operating costs and a boost to your company's bottom line. When combined with greater productivity and lower maintenance expenses, the benefits can become even more significant.

"Those savings potentially make equipment users more competitive and more profitable," said Komatsu Senior Product Manager Bruce Boebel. "Feedback we received in the field guided us to improvements that make the new WA475-10 wheel loader up to 30 percent more fuel efficient compared to the WA470-8 model (production/fuel). We've incorporated next-generation technology with considerable benefits to make this machine ideal for quarry, waste, infrastructure, forestry and non-residential applications."

More muscle, simplified control

The WA475-10 has 18 percent more horsepower than the WA470-8 but achieves increased fuel efficiency with its Komatsu Hydraulic Mechanical Transmission (KHMT). Contributing to better economy and productivity is the independent work equipment control that simplifies operation by separating the accelerator pedal from the speed of the work equipment.

"If a few extra RPM are needed, a work equipment lever can be used to spool up the pump," Boebel explained. "That allows

the operator to concentrate on approaching the hopper or truck without the need to push the accelerator to speed up. It's a lot more fluid operation."

KHMT's dynamic braking reduces brake wear, extending component life. The loader's auto hill-holding function enables it to remain stationary on a slope without the brakes, so even if the operator does not apply the brake pedal, the machine won't roll back on uphill applications, such as stockpiling.

To further boost productivity, the boom lift force of the WA475-10 is bolstered by 20 percent and breakout force is increased by 8 percent. A new bucket design improves pile penetration and better retains material in load and carry applications.

"Further conversations with equipment users also led to an improved operating environment that includes an updated cab with floor-to-ceiling glass, ergonomically designed switch layouts and a fully adjustable five-axis console for enhanced operator comfort," Boebel said. "It is a true workhorse engineered from customer input." ■



Bruce Boebel,
Komatsu Senior
Product Manager



Discover more at
WPIUpdate.com

Brief Specs on Komatsu's WA475-10 Wheel Loader

| Model | Operating Weight | Bucket Capacity | Applications |
|----------|------------------|-----------------|--|
| WA475-10 | 56,240-60,400 lb | 5.5-6.0 cu yd | Quarry, waste, infrastructure, forestry, non-residential |

The WA475-10 wheel loader has up to 30 percent greater fuel efficiency compared to the WA470-8. It features increased breakout and boom lift force as well as a new bucket design that improves pile penetration and better retains material in load and carry applications.

► VIDEO



Smart Construction increases efficiencies, production during site prep for Komatsu's new global mining headquarters



Jason Anetsberger,
Komatsu Director,
Customer Solutions



Andie Rodenkirch,
Senior Project
Manager,
Hunzinger Construction
Company

If you want to ensure new ideas and technology work as planned, you need to put theory into practice. Komatsu is doing just that by partnering with three contractors to pilot specific aspects of Smart Construction, its suite of solutions designed to digitally transform job sites.

General contractor Hunzinger Construction Company, and subcontractors CornerStone One, LLC and A.W. Oakes & Son, Inc. are putting Smart Construction Remote and Dashboard solutions to the test during site work for Komatsu's new global mining headquarters in Milwaukee's Harbor District. By all accounts, the pilot has been a success.

"Smart Construction is a mix of hardware and digital solutions as well as human-derived services," explained Jason Anetsberger, Komatsu Director, Customer Solutions. "The latter involves Komatsu's personnel out in the field collecting feedback and knowledge from job sites. Our goal is to redeploy that information to our customers, who can use it to positively affect practices."

Hunzinger Construction Company Senior Project Manager Andie Rodenkirch said that's already happened at the Milwaukee

headquarters' site. With Smart Construction Dashboard, Hunzinger utilizes drone flyovers to map the site and track progress. The construction firm used data from those flights to adjust original cut/fill plans.

"We compared what we saw as existing grade to planned subgrades and found that there was a severe overage of fill not accounted for that would have to be hauled off site at a great expense," said Rodenkirch. "Using information from the drone flyovers, we were able to have the design team adjust the grading plan to balance out the site. Completing this adjustment will save time and labor by eliminating any rework, ultimately keeping us on schedule and on budget. Dashboard is a great tool to collect the information we need throughout all phases of the project, from design to practice to coordination with the owner – Komatsu in this case – and our subcontractors."

Bringing it all together

CornerStone One, is digging the building foundations and installing site utilities, and A.W. Oakes & Son, Inc. is providing footing and mass excavation in addition to site grading. Along with Hunzinger, they are utilizing Smart Construction Dashboard and Remote. Both contractors are also moving materials with Komatsu PC360LCi-11 intelligent Machine Control (iMC) excavators, as well as iMC dozers, including D61PXi-24 models with factory-integrated GPS.

Digital 3D plans are utilized throughout the site by all three contractors. With Smart Construction Remote, changes can be sent directly to the excavators and dozers in near real time.

"I can log in from anywhere I have internet access and see where we are at the moment in relation to target elevations, and updates can be done in minutes as opposed to hours or days, which is a huge savings in downtime," said Scott Christman, CornerStone One's Earthwork Division Manager. "Smart Construction increases our flexibility and agility because we're able to switch tasks or start on a change quickly, without waiting for a third-party surveyor to come lay it out."

"The amount of information (with Smart Construction) is a great advantage," stated Kevin Hokanson, Vice President - Operations for A.W. Oakes & Son, Inc. "You can take the data and transfer it to the machine, get data from the machines and bring it all together to utilize it across the board for estimating, bidding, project management, documentation, billing and more."





► VIDEO

Earthmoving operations are handled with a mix of Komatsu intelligent Machine Control and standard equipment. "I can log in from anywhere I have internet access and see where we are at the moment in relation to target elevations, and updates can be done in minutes as opposed to hours or days, which is a huge savings in downtime," said Scott Christman, Earthwork Division Manager, CornerStone One, LLC.

SMARTCONSTRUCTION

This suite of solutions is designed to digitally transform your job site, including planning, management, schedule, costs and optimize processes remotely and in near real time.

Featured solutions:

Smart Construction Design – Go from rolled up paper plans to robust 3D designs and more with 3D data generation.

Smart Construction Remote – Send new design data to machines in the field or remotely support operators, without traveling to the job site.

Smart Construction Dashboard – Graphically visualize design, drone and machine data to measure cut/fills, quantities and productivity.

A.W. Oakes & Son, Inc. has long been a proponent of technology, including implementing GPS grading when it was first introduced in the construction industry. It adopted iMC equipment several years ago. A.W. Oakes & Son, Inc. Vice President - Operations Kevin Hokanson said Smart Construction takes the job site to another level.

"The amount of information is a great advantage," he said. "With Dashboard, we monitor progress, production and quantities almost constantly. Drone flyovers give an accurate picture of where we are in relation to the original design and the finished surfaces. You can take the data and transfer it to the machine; get data from the machines; and bring it all together to utilize it across the board for

estimating, bidding, project management, documentation, billing and more."

More solutions coming soon

Anetsberger added that during the next year, Komatsu will roll out additional Smart Construction solutions designed to optimize fleets, track productivity and progress across multiple projects and much more.

"The technology really highlights the connection between Komatsu as the owner, Hunzinger as the GC and CornerStone and A.W. Oakes & Son, Inc. as the subs," said Anetsberger. "Work done by CornerStone and Oakes is measured digitally and fed



Scott Christman,
Earthwork
Division Manager,
CornerStone One, LLC



Kevin Hokanson,
Vice President -
Operations,
A.W. Oakes & Son, Inc.



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Hunter and Clint Shackelford
Shackelford Construction / Yazoo City, MS

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Technology facilitates teamwork

... continued

into the Smart Construction ecosystem, so Hunzinger always has an accurate picture of current production to plan overall site operations accordingly. As an owner, the benefit is knowing where the project stands in terms of schedule and budget at any time. It's paying huge dividends for all involved."

Hokanson concurred. "We are more productive with gathering information and being able to share it. When Komatsu or Hunzinger calls us about how long it's going to take to move dirt in a particular area, we can give them an accurate forecast in a relatively short time. Topographical photos

Continued...



With Smart Construction Remote, contractors can see the site and where their intelligent Machine Control dozers and excavators are working in near real time. Updated design data can be sent directly to the machines from off-site locations via GPS.

Yoetzin Diaz finds satisfaction in helping customers transform job sites with Smart Construction solutions

As a project manager for a general contractor, Yoetzin Diaz focused on improving job site efficiency and production. During her four years in the position, she took a keen interest in how technology could play a vital role.

"I really wanted to explore what it could do, and I knew Komatsu was leading the way," recalled Diaz. "Fortunately, they hired me as a Smart Construction Solutions Manager. I love that it allows me to help customers optimize their job sites with proven technology."

From pre-bid through completion, Smart Construction provides solutions to your operations with digital technology. It is designed to help contractors most effectively use equipment and technology in planning, management, scheduling, tracking and more.

Komatsu is currently piloting its Smart Construction Dashboard, Remote and other coming solutions with three contractors at the site of its new global mining headquarters. Diaz has flown a drone over the site numerous times to collect updated cut/fill data as well as information about overall progress and production.

"We're able to verify material quantities to ensure accuracy and work together to make any necessary changes very quickly as opposed to the old days of relying on load counts and change orders that may take days to get answers to," said Diaz. "It's improving productivity and saving customers time, labor and costs. As an example, if there is a plan change, they can send the file directly to one of their intelligent Machine Control dozers or excavators without leaving the office and driving to the job site. The update is made almost instantaneously, so the operator can keep moving and not have to wait on a surveyor to come do a new layout and restake."

Diaz and other members of the Smart Construction team collaborated to set up the Komatsu global mining headquarters site and provide training to ensure the contractors understood the full benefits of the technology.

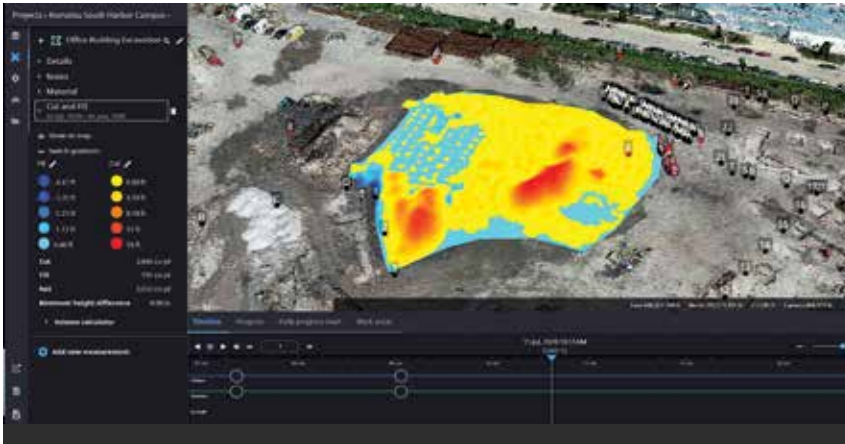
"There was a lot of planning and discussion, and we all agreed on what the pain points were and how Smart Construction technology could alleviate them," said Diaz. "That's what it's all about. We are not only utilizing technology, but also leveraging the knowledge of experts across different industries to make Smart Construction the industry standard for job site solutions." ■



Komatsu Smart Construction Solutions Manager Yoetzin Diaz prepares to fly a drone over the site of the company's new global mining headquarters. "We're able to verify material quantities to ensure accuracy and work together to make any necessary changes very quickly as opposed to the old days of relying on load counts and change orders that may take days to get answers to," said Diaz.

'We are more productive with gathering information'

... continued



Smart Construction Dashboard lets users graphically visualize data with relation to cut/fill, quantities and productivity. "As a general contractor, the detailed information is extremely valuable as we make decisions and coordinate with subs during construction. It's more efficient and increases productivity," said Andie Rodenkirch, Senior Project Manager for Hunzinger Construction Company.

taken during drone flights help in providing detailed progress data as we go."

Hunzinger Construction Company's Rodenkirch said that information helps in making faster decisions, which saves time and cost.

"In most cases, I would send a question and wait for a response," explained Rodenkirch. "With everyone using Smart Construction, we get answers faster, almost immediately in some instances, which saves valuable time."

Christman said he sees the benefits now, as well as for upcoming projects. "In the future, CornerStone will use Smart Construction wherever possible. It's proven to give us advantages in production and efficiency, and I envision being able to utilize it on large underground projects across multiple divisions in our company." ■

Contractors save time, material costs with intelligent Machine Control

Contractors handling site work at Komatsu's future global mining headquarters in Milwaukee, Wis., are using Komatsu intelligent Machine Control (iMC) equipment with factory-integrated GPS machine control technology that requires no masts or cables. Plans are uploaded to the machines, and changes can be sent directly from the office via GPS.

"You just turn the machine control on and let the equipment do the work," said CornerStone One, LLC Earthwork Division Manager Scott Christman. The company is subcontracting footing excavation and utility installation. "We are using PC360LCi-11 excavators to perform trench digs. With iMC, you can put them right to grade, and once you reach target elevation, it prevents you from overexcavating. You save time on trucking, material, backfill, you name it."

CornerStone One uses a D51PXi-24 to backfill and spread material. "Whether they are cutting grade or pushing backfill, there is no confusion about where the dozer is in relation to final grade at any time," said Christman. "Operators have much better control over placing consistent lifts."

A.W. Oakes & Son, Inc. has used iMC equipment for several years and knew it would be the right choice for this project. It is utilizing a PC360LCi-11 for mass excavation and D61PXi-24 dozers for grading.

"These machines allow us to train new operators and make them proficient sooner. They love the technology," said Kevin Hokanson, Vice President - Operations at A.W. Oakes & Son, Inc. "It saves staking and restaking time and costs. For example, we did a project with an iMC excavator where we put in about 1,200 feet of storm sewer and laterals without a plan in-hand. In addition to not allowing the operator to overdig once reaching the target elevation at the bottom of a trench, it's great for putting bedding materials down. You can put it right to the elevation you want, so all you need to do is put the pipe in place." ■



A CornerStone One, LLC operator digs with a Komatsu intelligent Machine Control (iMC) PC360LCi-11 excavator at Komatsu's future global mining headquarters. "With iMC, you can put them right to grade, and once you reach target elevation, it prevents you from overexcavating," said CornerStone One Earthwork Division Manager Scott Christman.

Water and sewer firm trims costs with iMC excavator that reaches target depths faster, with less labor

As an owner in his family's multi-generational business, it would appear to most that Lee Meyer's future was already set. That was until he purchased a specialty water and sewer company and set off on his own path.

"We partnered with the company on some jobs, and I knew they did good work," recalled Meyer. "When I heard there was an opportunity to buy it, I jumped on it."

Meyer bought the business in 2014, changed its name to PWS and began expanding. While specialized water and sewer projects remain the primary focus, the operation introduced other services, such as excavation and demolition that Meyer carried over from his previous work.

As he began to secure contracts, Meyer knew that finding more efficient methods would improve PWS' competitiveness and profitability. Upgrading his fleet to include additional GPS-equipped machines became part of the plan. PWS demoed a Komatsu intelligent Machine Control (iMC) PC360LCi-11 excavator with factory integrated GPS and acquired it immediately.

"We dug footings with it," detailed Meyer. "We had a number we wanted to hit, and we crushed it, digging 2,000 feet in one day with an operator who didn't have a ton of experience. We were going so fast that the concrete guys behind us could not keep up. They actually asked us to slow down. We knew at that point we had to have the excavator in our arsenal, so we bought it."

More aggressive bidding

Like all iMC excavators, PWS' PC360LCi-11 features Auto Grade Assist. As the operator moves the arm, the boom automatically adjusts the bucket height to trace the target surface and minimize the chance of digging too deep. Auto Stop Control halts the working equipment when the bucket edge reaches the design surface.

"The excavator is set up so you can't overdig," added PWS Vice President Rich Schmid. "The machine won't let you dig deeper than the target depth you set it to. The equipment cost per unit for performing our work is amazing; we see a higher proficiency in production with a lower equipment and labor cost factor. It allows us to be more aggressive in our bidding." ■



Lee Meyer,
President and CEO



Rich Schmid,
Vice President



Discover more at
WPIUpdate.com

A PWS operator uses a Komatsu intelligent Machine Control PC360LCi-11 excavator to dig footings. "This excavator is set up so you can't overdig," said Vice President Rich Schmid. "The equipment cost per unit for performing our work is amazing; we see a higher proficiency in production with a lower equipment and labor cost factor. It allows us to be more aggressive in our bidding."

► VIDEO



Redesigned Takeuchi compact track loader features new automotive-style cab

For contractors looking to add a do-it-all track loader that can deliver impressive results on any job site, the new Takeuchi TL8R-2 compact track loader checks that box and then some. The newly revamped 9,185-pound TL8R-2 provides superior power, strength and maneuverability in addition to a radial lift design that delivers a tipping load of 6,041 pounds.

Quick Specs for the Takeuchi TL8R-2 Compact Track Loader

| Model | Weight | Horsepower | Tipping Load | Bucket Width |
|--------|----------|------------|--------------|--------------|
| TL8R-2 | 9,185 lb | 74.3 hp | 6,041 lb | 5 ft, 6 in |

Takeuchi's newly-redesigned TL8R-2 compact track loader features a Tier 4 Final, 74.3-horsepower turbocharged engine and a full complement of operational upgrades.

"Takeuchi is excited to release the completely redesigned TL8R-2," said Keith Kramlich, National Product and Training Manager. "Takeuchi prides itself on a continuing tradition of innovation and advancing technology, and the TL8R-2 is a perfect example of that. Operators will feel more strength, performance, maneuverability, versatility and efficiency in this machine, increasing their profits."

The track loader is equipped with a Tier 4 Final, 74.3-horsepower turbocharged engine. The diesel oxidation catalyst and diesel particulate filter minimize emissions for a clean and efficient operation.

The TL8R-2 also features individualized operation modes, including Creep Mode for models equipped with high-flow auxiliary hydraulics. Creep Mode enables operators to precisely match the forward speed of the machine to a particular attachment without the need to constantly adjust the travel lever. It's ideal when using attachments that require a consistent, repeatable travel speed, such as during milling and trenching.

Designed for operators

While technology and on-site performance have been enhanced, Takeuchi took steps to help improve operator performance as well.

The automotive-style cab boasts a 5.7-inch multi-informational color display with a rearview camera and a sealed rocker switch bank. The design helps boost performance and functionality by providing a wider range of information to the operator.

Also standard on the TL8R-2 are the low-effort pilot controls and proportional auxiliary switch that give the operator the precision needed to work more efficiently in a comfortable, fatigue-free environment.

The TL8R-2 offers a pressurized cab equipped with a roll-up door, air conditioning, heat, defrost, front wiper and an optional AM/FM/Bluetooth radio. ■



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Director, National Accounts Tom Suess says every customer, regardless of size, deserves the best Komatsu has to offer



This is one of a series of articles based on interviews with key people at Komatsu discussing the company's commitment to its customers, and their vision for the future.

Tom Suess,
Komatsu Director, National Accounts

Tom Suess, Director, National Accounts, rejoined the national account team in 2017 after spending two years leading the Cartersville Customer center as the Director of Training and Publications.

"Although I immensely enjoyed my time meeting with people from across the country while in Georgia, I was excited to get back on the sales side and work with national account customers on a daily basis," said Suess.

Suess began his career with Komatsu in the finance division more than 20 years ago after graduating from Illinois State University. He later went on to obtain a master's degree in business administration from the University of Phoenix.

After working in finance, Suess transitioned into sales and served as a District Sales Manager, then as a Regional Sales Manager before earning a promotion to Director of Business Planning and Development. Suess later advanced to Director of the West Region before moving to a National Account Manager role. His diverse background allowed him to easily transition back into national accounts in a leadership position.

He and his wife, Erin, recently celebrated their 18th wedding anniversary. They have three children: Addison (14), Avery (11) and Jack (4). In addition to spending time with his family, Suess also likes to golf, fish, play basketball and is a die-hard Cubs fan. ■

QUESTION: What are the benefits of national accounts to all customers?

ANSWER: National account customers operate in multi-states and have large fleets. These customers may work under different names depending upon the state. Komatsu national accounts focus on the following four segments: aggregate/quarry, waste, construction and energy. The product support business associated with servicing these large fleets provides certainty for Komatsu, our dealers and our customers from a planning perspective. This allows us to forecast what is needed from a parts standpoint so that we can keep all customers' uptime maximized. At all levels of size, Komatsu and our dealers are looking for long-term partners that we can grow and improve with, focusing on our collective success.

QUESTION: In what ways are you working toward collective success?

ANSWER: All customers want quality products and excellent product support. We believe across the board, Komatsu delivers. We have some of the most innovative and technologically advanced machinery in today's marketplace. And, we back it with solutions that are proven to increase uptime, utilization, production and efficiency.

For example, we recently engaged with a large national aggregate company and completed a fleet analysis through our Business Solutions Group in order to provide recommendations on whether they should replace or rebuild key production units. We focused on what would save the customer the most money in the future, and we provided this service at no charge. This consultative style provides customers with valuable information, and we believe it differentiates Komatsu from competitors by developing a long-term relationship, not a transactional one.

Similar studies have been done with a variety of customers, some with just a couple of machines. In one instance, the study proved that it would be most beneficial for this customer to have less equipment and of a smaller size than they originally planned for. It increased their production for less than they planned to spend. In fact, they saved so much, they were able to buy additional machinery.



Tom Suess, Komatsu Director, National Accounts, says every business is looking for the same from Komatsu and its distributors: component longevity, innovation and ease of doing business.

In other instances, we have shown quarries how to maximize production by changing practices or the types of equipment they use. Our Business Solutions Group has numerous instances such as this, and again, it's complimentary no matter what size or type of operation. We encourage anyone who wants to be more efficient, productive and cost-effective to contact their distributor and/or sales rep to set up an analysis.

QUESTION: So, customer service is no different for any account?

ANSWER: It certainly should not be. Every business is looking for the same from our distributors and us: component longevity, innovation and ease of doing business. Each point is critical to their success, our dealers' success and our success. Komatsu has long been a leader in trailblazing technology that enhances performance and lowers total cost of ownership to all customers. Our dealers are playing a big role in that with industry experts in areas such as Smart Construction, which looks at the total job site picture, from surveying, estimating and bidding to completion, all with greater efficiency. Everyone benefits from innovations like this. The contractor with one machine can get more jobs done by using Smart Construction and an intelligent machine because it's reducing time in staking, grading, digging and more. He can also keep track of his machine's performance and production with technology such as Komtrax, and with Komatsu Care our distributors also track it and stay on top of scheduled maintenance.

Of course, that same equipment and technology is available to larger customers with bigger



Direct, customer-facing interaction helps develop a deep understanding of customer needs and facilitates strong working relationships, according to Tom Suess, Komatsu Director, National Accounts. "All customers want quality products and excellent product support. We believe across the board, Komatsu delivers," said Suess.

fleets. In the mining industry, we have Komtrax Plus, which is the same platform with some additional items geared directly toward those customers.

No matter the size of the operation, we have the tools and support to meet their needs. Across the board, we adhere to these guiding principles:

- Direct customer-facing interaction
- Develop a deep understanding of customer needs
- Facilitate a strong working relationship
- Direct and coordinate Komatsu activities to grow. ■

Care Plus programs provide maintenance, repair service throughout the United States



Felipe Cueva,
Manager,
Genuine Care



Discover more

Contractors sometimes work on jobsites outside of their local equipment distributor's territory. That can leave them guessing about how to get warranty repair and maintenance service on their machinery.

Komatsu aims to simplify those situations with its recently introduced Komatsu Care Plus and Komatsu Care Plus II programs that deliver consistent coverage across the United States. Under the initiatives, any authorized Komatsu distributor can perform repair and maintenance, regardless of where in the country the machine was purchased.

The Komatsu Care Plus programs provide model-specific detail, outlining maintenance items serviced, repair coverages, program benefits and terms and conditions. Both have automatic scheduling for maintenance services, genuine parts, certified labor, machine inspections and regular oil sampling. Komatsu Care Plus II also includes Komatsu's Premier Extended Coverage for customers seeking fixed repair costs.

Higher resale possible

"We developed our Komatsu Care Plus programs to offer a complete end-user

solution that is hassle-free, and encompasses other services Komatsu provides; such as financing, certified labor, genuine parts and telematics," said Felipe Cueva, Manager, Genuine Care. "Customers can purchase the programs when they buy new equipment or at a later date with some restrictions. Our pricing is standard across the country. Owners can work directly with their distributor to add one or both of the programs."

Once customers have Komatsu Care Plus and Komatsu Care Plus II, Cueva encourages them to use the complimentary MyKomatsu interface to view their machinery's program coverage, care reports and service completions.

"With Komatsu providing consistent and complete service records, machines will also be eligible for the Komatsu Care Certified equipment program, allowing customers to request a higher resale value for their equipment," said Cueva. "These repair and maintenance programs offer great benefits, and we plan to roll out additional options in the near future." ■

Komatsu Care Plus and Komatsu Care Plus II provide nationwide repair and maintenance service with work performed by any authorized Komatsu distributor.



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

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Brown brothers turn working on machinery at a young age into careers as service techs at WPI Austin branch

The debate continues at WPI's Austin branch service department about who is actually "The Better Brown" and how Ethan, a shop technician, came to earn the title over his older brother Jake, a field technician.

"What we know for sure is a former co-worker gave Ethan the nickname a while back for some reason that involved food," Jake joked about the meaningless moniker. "He's been called that around here ever since."

One known fact about the Brown brothers is that they gained a solid foundation in working on equipment when growing up on a farm.

"From a young age, we both turned wrenches," Jake said. "We enjoyed maintaining and repairing the machinery and figuring out how it worked. This turned into good careers with a solid company that is invested in our success."

Recruiting close to home

Jake started with WPI performing lube services about six years ago, following graduation from Texas State Technical College (TSTC). There, he studied diesel technology with an emphasis

on heavy trucks and construction equipment. Within a couple of years of joining the WPI team, he moved into field service.

Another acknowledged fact is that Ethan was actively recruited by Jake.

"He recommended WPI, and as soon as I interviewed and toured the shop, I knew this was the right place for me," said Ethan.

He started, and remains, in the shop. The younger Brown has aspirations to move into a field service role at some point.

"I went on a ride along with Jake to get insight about what it's like, and when the time is right, I'm ready," said Ethan. "In addition to being a good recruiter, Jake has been a great mentor. We have a lot of knowledge and experience here, and the ongoing training keeps us up to date as well.

"This is a great industry," added Ethan, who's now doing some recruiting himself. "I have talked to quite a few people about checking out diesel tech jobs and seeing what WPI offers. I believe they will find this to be a rewarding career and a great place to work." ■



Brothers Jake and Ethan Brown are field and shop technicians respectively at WPI's Austin branch. "From a young age, we were both turning wrenches," Jake said. "We enjoyed maintaining and repairing the machinery and figuring out how it worked. This turned into good careers with a solid company that is invested in our success."

FAST Act funding extended a full year as part of short-term continuing resolution to avert government shutdown

The FAST (Fixing America's Surface Transportation) Act, the current surface transportation bill, received a one-year extension as part of a continuing resolution (CR) passed by Congress and signed by the President in September. The FAST Act was set to expire at the end of that month.

The FAST Act extension includes \$13.6 billion to maintain the Highway Trust Fund's solvency at current funding levels through fiscal year 2021. Of the total, \$10.4 billion would go to the fund's highway account with the transit account set to receive \$3.2 billion.

"A full one-year extension of highway funding provides states and communities the certainty required to plan for critical road and bridge projects," said Senate Environment and Public Works Committee Chairman John Barrasso (R-Wyo.) in a statement following the legislation's passage.

The FAST Act was signed into law in 2015. It was the first federal law in more than a decade to provide long-term funding for surface transportation. It authorized \$305 billion from fiscal year 2016 to fiscal year 2020.

Pleased, but wanting more

Industry groups seemed generally happy with the full-year extension as part of a short-term

CR to finance the federal government for 72 days. Money for the extension comes from the general fund.

"We are pleased that Congress approved the \$13.6-billion transfer to the Highway Trust Fund and that states will have certainty for planning their 2021 programs, knowing that current surface transportation legislation remains in place for another year," said Jim Tymon, Executive Director of American Association of State Highway and Transportation Officials in a statement.

Many were hoping for a longer-term solution.

"While a one-year extension of the FAST Act isn't the multi-year surface transportation bill the equipment industry was hoping for, in the current political environment, it's a win," said AED President & CEO Brian P. McGuire. "AED members from across the country participated in our unprecedented grassroots campaign, and Congress' action demonstrates the effort's success. Lawmakers heard loud and clear that short-term doesn't work when it comes to the Highway Trust Fund, and the industry needed a longer-term solution with additional funding to ensure critical road and bridge projects continue well into next year." ■

Congress passed and the President signed a continuing resolution that includes a full-year extension of the FAST Act, the current surface transportation bill. It approves \$13.6 billion for the Highway Trust Fund.



Surface drill adjusts to changing conditions to achieve optimal performance in wider variety of your applications

Too often equipment is viewed as having only one function or being geared to a particular industry. Case in point are track drills, which are mainly associated with drilling blast holes in mining.

“The right drill can be a versatile tool in a variety of operations, especially those that perform multiple applications,” explained Matt Koss, Product Manager, Track Drills, Komatsu Mining Corporation. “You can use it for aggregate production one day, then put it on a project that requires drilling to dewater a construction site.”

Koss indicated that Komatsu’s new ZT44 fits that mold. “Its main function is to serve as a down-the-hole surface drilling rig for mining-duty applications. However, with a relatively small footprint, it excels in quarry, aggregate and construction environments, too. Its low center of gravity gives it excellent stability, so your operators can be confident on nearly all types of ground, including climbing hills.”

Koss added that the dual-pressure compressor enables high- and low-pressure drilling and can efficiently adjust to changing conditions to achieve optimal performance. In hard rock it provides up to 500 psi at 1,160 cubic feet per minute. In most applications, it delivers 350 psi at 1,360 cubic feet per minute. The ZT44 drills up to 20 feet in a single pass and as deep as 140 feet total. The onboard carousel holds up to six pipe extensions.

Built for longevity

Whatever the task at hand, the ZT44 was built to keep projects moving with minimal downtime, according to Koss. The drill features a robust structure for key component longevity.

“Target life is 40,000 hours, consistent with industry standards,” said Koss. “In addition to the compressor, it has a sturdy power unit and a best-in-class heat exchanger that mitigates high thermal loads during drilling. A second cooler keeps hydraulic temperatures at an optimum working state, to dedicate more time to the task.”

For maintenance, personnel can remotely position the rig and the boom or mast to efficiently change out consumables. An external

catwalk and handrails provide accessibility around the machine for routine service. The internal walkway through the canopy gives access to the internal componentry, such as the engine and compressor.

“Reduced mean time to repair was essential to the ZT44’s design,” said Koss, “So was comfort. An operator can fully stand in the spacious cab; the seat is adjustable, and it has an operator assist function. It’s very ergonomic, so an operator remains comfortable and productive throughout the shift, no matter the drilling application.” ■



Matt Koss,
Product Manager,
Track Drills, Komatsu
Mining Corporation

Quick Specs on Komatsu’s ZT44 Surface Drill

| Horsepower | Operating Weight | Hole Size | Air System |
|------------|------------------|---------------|--|
| 800 hp | 80,000 lb | 4.5 to 8.5 in | HP mode: 1,160 cfm @500 psi LP mode: 1,360 cfm @350 psi |

Komatsu designed the ZT44 for mining-duty applications, but with a small footprint, the ZT44 also excels in quarry, aggregate and construction environments, according to Matt Koss, Product Manager, Track Drills, Komatsu Mining Corporation. “Its low center of gravity gives it excellent stability, so operators can be confident on nearly all types of ground, including climbing hills,” he said.



Operating machinery is life-long dream for Wyat Larson; working with equipment is his passion



Wyat Larson,
Operator

"Being an operator is something I take great pride in, and I encourage others to at least check it out."

Wyat Larson was born to run equipment. He grew up around an excavation company and has been operating dozers, excavators and wheel loaders for a good portion of his life.

"It's a family heritage," he shared. "I have been doing this almost since I was in diapers. My dad and my uncles have operated for a long time, and it's nice to step into their shoes and continue the legacy. I always wanted to do it."

Most of his acquaintances and friends don't share his passion, he said.

"I know of only a few who are into operating equipment," said Larson. "It seems like there are a lot of people who don't have the work ethic it takes to do this job. Fortunately, I was lucky enough to be raised in the industry and saw it first-hand. Being an operator is something I take great pride in, and I encourage others to at least check it out."

Enjoys the challenges, working outdoors

In addition to following in the footsteps of various family members, Larson likes the wide range of projects that are associated with running equipment for an excavation-related company.

"People think it's just doing the same thing over and over again, but no two days are ever exactly the same," he pointed out. "We run into different materials, and you have to understand how to move each and what's the best machine for getting the job done. It can be challenging at times, but that's what makes it so enjoyable."

Larson also appreciates spending his work hours in the elements, although nearly every machine he runs has a climate-controlled cab.

"It definitely beats sitting in an office all day," he exclaimed. "Today's equipment is more comfortable with air conditioning and heat, and it's fairly easy to operate with joystick controls. Running equipment is my favorite thing to do." ■

Operator Wyat Larson grew up in the excavation industry and enjoys working out in nature. "It definitely beats sitting in an office all day," he exclaimed. "Today's equipment is more comfortable with air conditioning and heat, and it's fairly easy to operate with joystick controls. Running equipment is my favorite thing to do."



Need dirt? Want to sell some? There's an app for that

If you need dirt or have some to sell, Soil Connect can put you in touch with others who may help. The free app lets users see what soils are available and where they are located.

"You might have a national homebuilder from the Midwest who needs to get rid of one million yards of soil, and may only post one time for a year," said founder and CEO Cliff Fetner in an Engineering News-Record article, noting that the app has a variety of users. "Then you might have Tommy the pool

guy who moves (smaller amounts of) dirt every day."

Developed about three years ago, Soil Connect is now in version 2.0, with updated features such as geotechnical reports and soil analysis. Users can also receive text alerts notifying them of available dirt or potential buyers who are interested in their soil. Fetner is working on 3.0, which will include digitized manifests for the truckers hauling material and the entire ticketing process. ■

Study: buffs, gaiters may be worse than no masks

A Duke University study shows that the face coverings known as buffs or gaiters are ineffective against COVID 19 and may worsen the spread. It showed wearing no mask may be better than wearing the popular thin fabric masks, which are worn around the neck and pulled up over the mouth and nose.

"We noticed that speaking through some masks (particularly the neck fleece) seemed to

disperse the largest droplets into a multitude of smaller droplets, which explains the apparent increase in droplet count relative to no mask in this case," noted researchers in the journal Science Advances. "Considering that smaller particles are airborne longer than large droplets (larger droplets sink faster), the use of such as a mask might be counterproductive." ■

CARES Act provides \$25 billion for transportation

Road funding got a boost with the United States Department of Transportation providing \$25 billion for transportation systems. The money came from the Coronavirus Aid, Relief, and Economic Security (CARES) Act, providing grants to recipients of urbanized area and rural area formula funds and are to be spent on capital, operating and other expenses.

The grants may also be used for maintaining transit services. Urban areas will be allocated \$22.7 billion, with rural areas receiving \$2.2 billion.

"This historic funding will ensure our nation's public transportation systems can continue to provide services to the millions of Americans who depend on them," said U.S. Transportation Secretary Elaine Chao. ■

Wastewater studies help track COVID-19

Biobot, a Boston-based firm that specializes in data analytics for wastewater is working with about 400 facilities across the United States, along with public health officials, to monitor and track COVID-19. Biobot said in a recent Engineering News-Record article that collecting information from sewage will enable communities to measure the scope of an outbreak, independent of patient testing or hospital reporting.

It says tracking wastewater can help in making predictions about public health trends, such as whether COVID-19 is likely to spread or decrease in specific communities and counties. In the same article, an engineer reported that studies show wastewater treatment processes are effective in eradicating viruses and bacteria that are even stronger in their molecular structure than coronaviruses. ■

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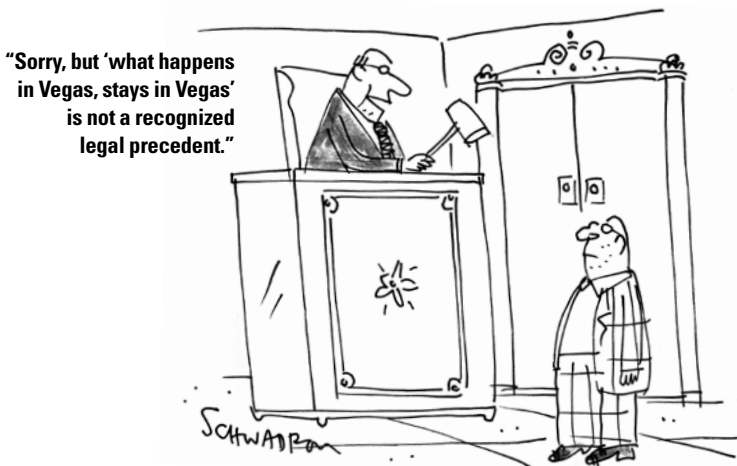
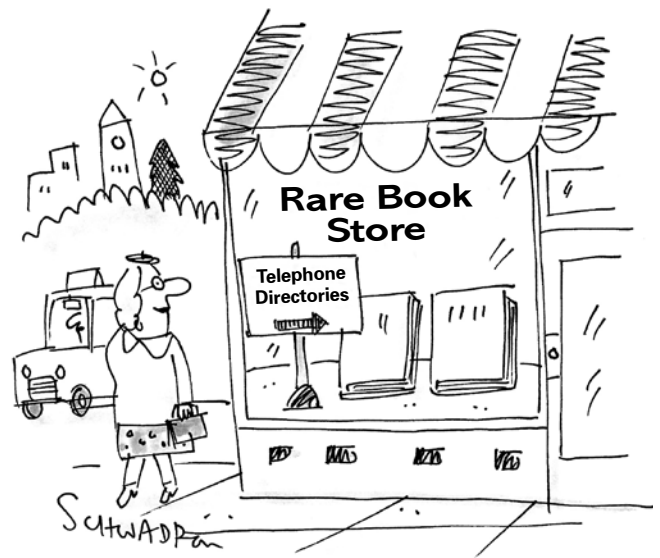
Dawn Mallard / D.Grimm, Inc. / Conroe, TX

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On the light side



Did you know?

- There's a rare breed of chicken called Ayam Cemani that's completely black.
- Apollo 17 astronaut Gene Cernan, the last man to walk on the Moon, wrote his daughter's initials there. They'll last at least 50,000 years.
- Charles Kirby designed an improved fishing hook in 1655 that remains relatively unchanged to this day.
- Worrying too much is scientifically associated with higher intelligence. People who over-think tend to have higher IQs.
- Taking a nap after learning something can help your retention of it.
- The world's largest swimming pool is at a resort in Chile; it's 3,324 feet long.
- On average, cats sleep for two thirds of their lives.
- The TomTato is a plant that produces both potatoes and tomatoes.
- No one knows who invented the fire hydrant because its patent was burned in a fire.
- The Battle of Bunker Hill in June 1775 was actually fought on Breed's Hill, southeast of Bunker Hill.

Brain Teasers

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

1. LLEC _____
2. SBDEIR _____ B _____
3. EELLV _____ E _____
4. DORA _____
5. SETKA _____ K _____
5. RARUYQ _____ U _____

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The advertisement features a large map of Texas in the center, with the WPI logo (a stylized 'W' and 'P') and the text 'A PEARCE INDUSTRIES COMPANY' overlaid. Surrounding the map are images of various construction equipment: a yellow Komatsu bulldozer, a yellow Komatsu excavator, a green excavator, a yellow wheel loader, a yellow skid steer loader, and a yellow backhoe loader. The background is a textured, light brown surface.

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