

CONSTRUCTOR

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AGC OF AMERICA'S MAGAZINE
2019

FUTURE FOCUS



INSIDE

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The EksoVest is worn by the construction worker and enables him to lift more overhead.
PHOTO COURTESY OF EKSIO BIONICS



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PRESIDENT'S MESSAGE



BY DIRK ELSPERMAN
AGC PRESIDENT

The transformations coming to our industry will be sweeping, and we want to make sure that member firms understand what is happening and how to benefit from those changes.

Welcome to AGC's First *Future Focus Constructor* Issue

This is the first in what we expect to be an annual series of special *Constructor* issues looking at how the industry is evolving and sharing what contractors need to know to keep pace with those changes. The transformations coming to our industry will be sweeping, and we want to make sure that member firms understand what is happening and how to benefit from those changes.

We developed the idea for this special issue as part of the Future Focus initiative we established during our Centennial Celebration in 2018. We went to great lengths to spend as much time looking forward as we did reviewing our past during our 100th anniversary. As we did that, it became very clear that our industry is on the brink of some very profound changes. Our goal with the Future Focus initiative is to track those changes and develop programming and educational materials to help member firms profit from them.

These special Future Focus issues are designed to share information about some of the new technologies and techniques that are transforming our industry. But we also want to explore how member firms are harnessing these new technologies and these new techniques to their benefit. And as you will see in this issue, we also list some of these transformative technologies and provide information about where firms can learn more about them.

These special issues will be just one of the ways we work to prepare member firms for the coming industry transformation. We are also putting a special focus on the future as we develop new educational programs, schedule presentations at our Annual Convention and other in-person meetings, craft new online courses and map out our schedule of webinars.

As important, we are working to identify member firms with experience – both positive and negative – in adopting new technologies and new techniques. We are bringing these members together at meetings like our IT Conference for Construction Professionals and BIMFORUM so they can share their stories and help others repeat the successes they have had and avoid the mistakes they have made.

Our objective is simple, we don't want our members to become the construction industry equivalents of taxicabs in an Uber world. These special issues, new content, new classes and new connections focusing on how the industry is changing are all designed to help firms not only weather this transition but benefit from it. For the past 100 years we have helped member firms cope with change. We aren't about to stop now.



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Easy, Not Hard

HOW DO SAVVY CONTRACTORS KEEP UP WHEN TECHNOLOGY EVOLES FASTER THAN LIGHT? BY KEEPING IT SIMPLE, SAY THE FOLKS IN THE FIELD.

BY AMY DREW THOMPSON

Construction professionals will tell you that technology is the future, but what does that really mean?

To Alice Leung, an associate at Brick & Mortar Ventures, it means “adoptable, simple technology.”

Leung already had a field construction background when she arrived at the venture capital firm – and as Brick & Mortar invests solely in the construction space, she’s been able to help evaluate many of the companies and products that seek to solve the industry’s bigger issues, assessing BIM-related tools that encompass 3D models, information management and other technologies.

Simple is best, she says, because there’s a bit of a generation gap in this industry.

“In construction, the majority of the people with the expertise and greatest experience tend to be older,” she explains. “They didn’t grow up with computers and iPhones and things like that. And so, one of the bigger challenges is that the people who are building many of these technologies are from a different generation – and the way people use and understand technology differs across generations.”

And as the generational gap changes, says Brian Filkins, operational technology manager, The Beck Group, a member of

multiple AGC chapters, so does the usage of technology. “It is a must-have now. The new talent that is fresh out of school grew up immersed in technology – if we’re not embracing that same technology, we cannot attract top talent.”

Years back (<http://www.nxtbook.com/nxtbooks/naylor/NGCS0612/index.php?startid=14#/14>), *Constructor* reported on the proliferation of tablets and other wireless, paperless practices on jobsites. Today it’s common practice, among so many similar technologies that followed, but back then – not everyone was thrilled. “But we’ve always done it this way” was a war cry of resistance.

The tablet’s simplicity, however (along with mandates from management, no doubt), eventually wore down the naysayers. Things haven’t changed much since then.

“And so if someone who is not super familiar with computers is able to pick it up easily,” Leung says, explaining why some tech makes the investment cut while other don’t, “that’s usually a pretty good sense of user interface and a possible indicator for a technology that is helping to improve processes rather than making them more complicated.”

And change is difficult, says Filkins. “Change solely for the sake of change is never a smart idea,” he says. However, for the Beck Group “using technology allows us to stream-

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line, and in some cases eliminate, processes, freeing up time to focus on other items.”

REPORTS ON REPORTING

When Kyle Slager and his partners were gearing up to focus on mobile technology for the construction industry, they polled more than 120 companies about their biggest pain points and compiled data that falls right in line with Leung’s assessment.

Daily reporting was their biggest issue, but how employees did it – and at this point, the majority were doing so with pen and paper – was the sticking point.

“Eighty percent of the people employed in the construction industry work in the field,” says Slager, the founder and CEO of Raken, an AGC of California and San Diego Chapter member, which created an app for

construction industry reporting. “For the folks who were doing the reporting that way for 20-plus years, it might not seem an issue, but from the office perspective – they had no way of accessing that information.”

Emailing written pages? Inefficient. Outdated. And often hard to read on top of it.

“And in the event a job went into litigation?” Slager points out. “Companies had virtually no protection, because reports were often incomplete or even illegible.”

Solutions at that time were big and clumsy project management programs and even more streamlined versions hit a wall with workers in the field.

“I’d ask why people weren’t using them and the office personnel would just laugh. They’d say things like, ‘You must not understand. Our guys have gone through so many

training sessions and we’ve just never been able to get them to adopt this technology.”

The more he looked into it, the more he saw that the available tech wasn’t built for the field.

“They were accounting solutions made for the office with add-ons and checkboxes for people in the field, but it was insufficient. People in the field are mobile. They need mobile technology, so that’s what we set out to do.”

The generation gap Leung mentions figured into the mix.

“Some workers grew up with smartphones in their hands,” Slager notes. “They’d been using mobile apps for 10 years before they even got into the industry – whereas others who have been working in construction for 20 or 30 years never used a smartphone for anything work-related.”





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Since Raken's app was implemented, Slager has found that some of its biggest advocates are 35-year construction veterans who up until using it had been made to feel stupid for not understanding clumsy tech that made communicating harder, not easier.

TAKING THE FIRST STEP

"Start small," says Filkins. "Do not try to tackle everything at once. Evaluate and dissect your current processes and needs to understand what is broken before fixing it. From there, prioritize objectives and execute the most critical items."

Beck conducts process triages to map out most of the company's standard workflows, then thoroughly analyzes those process maps to identify pain points and prioritize them.

"It is also important not to gravitate to the latest and greatest shiny object; instead implement technology through rigorous analysis — being proactive rather than reactive," continues Filkins. "It is also vital to generate a culture that embraces change and innovation. One of our core values is innovation, and we culturally strive to move the needle forward and improve our processes — even small improvements can have a significant overall impact."

THE FACEBOOK FACTOR

Leung highlights some of tech's brightest bells and whistles, but notes that using tech to share ideas and information could be one of the best investments a company could make.

"I've seen teams do amazingly well in their bid interviews because they're able to bring flashy technologies — they have 3D models and make videos — but when it comes down to it, their execution plan or their pricing, may be off. If, during the overall process, they're able to communicate better and be more transparent in the bid process, they'd have greater success."

The tech that construction companies should be investing in, says Slager, should have similar features to consumer apps.

"Historically, you had apps like Facebook or tools like text messaging — these were easy to figure out — but then the enterprise software for their jobs was incredibly complicated. Now the two are starting to move together; we're seeing consumer-like user experiences within industry-based programs ... and this is only going to increase the velocity of the role technology is playing."

Many folks in construction are excited

about the Internet of Things (IoT) — it's in this space where things like tracking equipment are really starting to take off.

"Right now, the current needs are just tracking general equipment, location and use on a construction site," Leung says, noting its prevalence in mining and large civil projects. "On these projects you have many types of equipment and the sites are often quite large ... there are a lot of startups trying to get into this space."

Like Leung, Slager has found that simplicity largely at the root of his customers' satisfaction, and it comes in clients feeling good about themselves as the tech gets incorporated into their day-to-day.

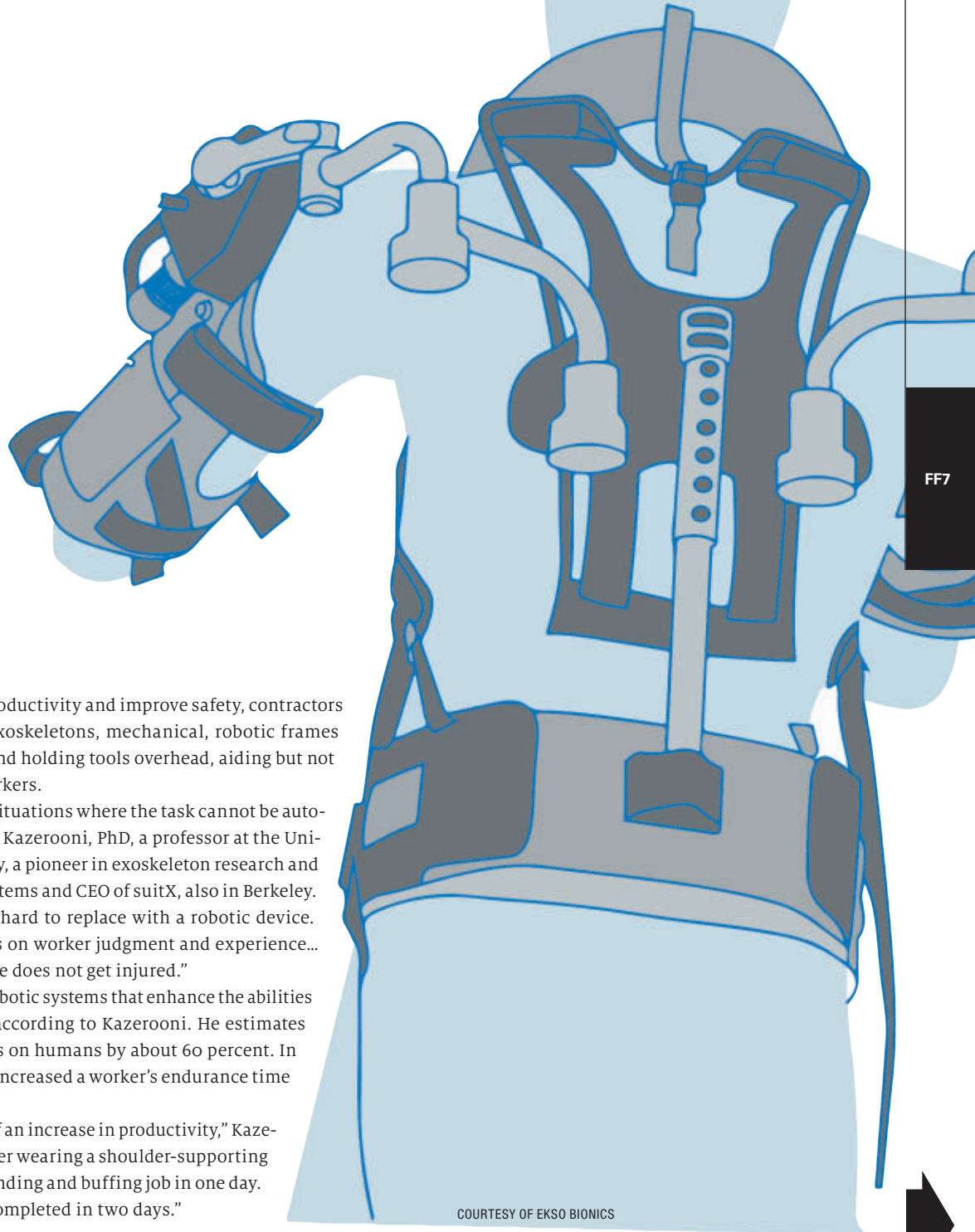
"What we've found is that if a person can figure things out, if the technology is easy for them, they feel like a rock star — they're doing it on their own."

At the end of the day, he notes — regardless of the sort of technology construction professionals are choosing to adopt, they should be incentivized to empower their employees.

"By providing tools that save time, people are able to be more successful, happier in their jobs, which will tend to be more often on time and on budget."

Suit Up

CONTRACTORS FIND SUPER POWERS WITH EXOSKELETONS



BY DEBRA WOOD

Seeking to increase productivity and improve safety, contractors have begun trying exoskeletons, mechanical, robotic frames to help with lifting and holding tools overhead, aiding but not replacing human workers.

"Exoskeletons are good for situations where the task cannot be automated easily," says Homayoon Kazerooni, PhD, a professor at the University of California at Berkeley, a pioneer in exoskeleton research and development of the robotic systems and CEO of suitX, also in Berkeley. "Workers in construction are hard to replace with a robotic device. The quality of the job depends on worker judgment and experience... We augment [the worker], so he does not get injured."

Exoskeletons are wearable robotic systems that enhance the abilities of the people who use them, according to Kazerooni. He estimates exoskeletons reduce the forces on humans by about 60 percent. In another study, a backX device increased a worker's endurance time by 40 percent.

"We witnessed an example of an increase in productivity," Kazerooni says. "We noticed a worker wearing a shoulder-supporting exoskeleton had finished a grinding and buffing job in one day. The job was scheduled to be completed in two days."

COURTESY OF EKSO BIONICS



The EksoZero G helps in holding equipment overhead.
PHOTO COURTESY OF EKS0 BIONICS

HISTORY

In the 1960s, General Electric, with funding from the U.S. military, built an exoskeleton named Hardiman. The device could lift 1,500 pounds, but it weighed 1,500 pounds and contained a complex electronic and hydraulic network. It never entered production.

Raytheon of Tewksbury, Massachusetts, began working on creating an exoskeleton for the U.S. Army in 2000 and introduced its second-generation exoskeleton (XOS 2) in 2010. The XOS 2 was lighter, faster and stronger. The device allowed the wearer to lift 200 pounds several hundred times, without feeling tired.

Ekso Bionics of Richmond, California, founded in 2005 by Kazerooni and colleagues at the University of California at Berkeley, entered into an agreement with Lockheed Martin in 2009 to co-develop the human universal load carrier, a hydraulic-powered exoskeleton for soldiers.

People in other countries also have been working on exoskeletons. The Japanese

Leg units reduce knee fatigue and can be helpful in squatting positions. Back exoskeletons can reduce the risk of lower back strains by reducing spine compression.

developed a wearable, battery-powered robotic suit to help rehabilitate patients in physical therapy and aid nurses when lifting. Serbians experimented with exoskeletons to assist patients with paralysis.

Until recently, rehabilitation of patients with paralysis or brain injuries was the most common, practical use for exoskel-

etons. The devices allow people who could not ambulate on their own to walk again.

Meanwhile, Ekso Bionics and suitX have developed exoskeletons for manufacturing and construction workers. The devices are lighter than those worn by paralyzed patients to walk, and they are not tethered.

"The technology for exoskeletons for medical purposes is fundamentally different than for industrial uses," Kazerooni says. "They are totally different."

Ekso Bionics and Ford have partnered to pilot use of its EksoVest to support workers' arms when performing overhead work in about 15 plants. The vest assists with lifting five to 15 pounds per arm.

TYPES OF EXOSKELETONS

Full-body exoskeletons, vests and leg units are currently available. The full-body unit can assist with shoulder, back and leg tasks. Three modules make up the suitX MAX full-body model. The modules can be worn independently or in combination.



The EksoVest is worn by the construction worker and enables him to lift more overhead.
PHOTO COURTESY OF EKSO BIONICS

Leg units reduce knee fatigue and can be helpful in squatting positions. Back exoskeletons can reduce the risk of lower back strains by reducing spine compression.

Additionally, Ekso Bionics offers the EksoZeroG, not a true exoskeleton, because it is not worn. However it helps with heavy tasks.

With suitX, Kazerooni is developing the exoskeletons at lower costs than original products. For instance, the shoulder exoskeleton retails for \$5,000 and weighs about six pounds, and rests on the hip.

"Workers cannot afford expensive devices," Kazerooni says. "I want to bring technology to the people."

Exoskeletons can be actuated, with a power source or energy supply to provide torque, or passive. Units with a power source, typically, allow the user to lift more than passive units.

"Exoskeletons are considered a safety device, like hard hats and gloves and harnesses," Kazerooni says. "It also improves the quality of the work."



PHOTO COURTESY OF EKSO BIONICS

CONTRACTORS' EXPERIENCES

Contractors have started to try exoskeletons in the field.

Consigli Construction, a member of multiple AGC chapters, has purchased a couple of different exoskeletons: shoulder vests

and a robot arm, the EksoZeroG, which can support a 36-pound tool.

"They have been helpful," says Jack Moran, manager of Virtual Design & Construction Services at Consigli. "We've used them for a few different uses."

Consigli has used the exoskeletons for chipping masonry with a hammer drill and handing masonry units up to another person, primarily overhead work, like spraying foam or painting. Workers do not have to rotate in and out as often. The devices work by springs, with no power source. They are not helpful when picking up things from the ground.

"The exoskeletons take the weight of the tool off of your arm," Moran explains. "It has had a big impact on fatigue, holding a tool overhead. ...We also think it will help with quality."

AR Daniel Construction Services in Cedar Hill, Texas, a member of AGC of Texas Highway, Heavy, Utilities and Industrial Branch, also has tried exoskeletons. The company has rented a shoulder vest with a spring system and an EksoZeroG, used with pneumatic breakers.

"Neither work 100 percent in all of the situations we want," says Art Daniel, president and COO of AR Daniel and a past president of AGC of America. He expects if the wearer used it all day, the device would have improved productivity.

Workers typically quickly learn how to use an exoskeleton. Kazerooni estimates that it would take a construction worker no more than an hour to become comfortable

Kazerooni estimates that it would take a construction worker no more than an hour to become comfortable using the device. There is no training or programming involved.

using the device. There is no training or programming involved.

"We have not given up on it," Daniel says. "There are several benefits. It could cut down on injuries, increase the safety factor, and with that costs go down."

The suit was easier to learn than the arm, Daniel says. The tool was at the arm's maximum capacity, making it more challenging.

"After [workers] used it for a while, they could see the benefit," Daniel adds.

Moran agreed that the exoskeletons were simple to use but took a little while for people to get accustomed to wearing one.

"The people that have used it, love it, even those who were skeptical at first," Moran says. "They do not want to share it. It's hard to get it out of the field."

A LOOK AHEAD

The future is bright for exoskeletons. They may be coming to your jobsite some-

time soon. Kazerooni, however, thinks robots replacing construction workers will take a long time to occur if ever.

"Exoskeletons have more use and applications than robots by themselves," Kazerooni says.

Kazerooni expects more construction firms will start trying exoskeletons. He also hopes to expand the market so individuals can purchase exoskeletons at big-box retailers, such as The Home Depot.

ABI Research in Oyster Bay, New York, reported earlier this year that by 2022, the global market for exoskeletons will surpass \$1 billion, and by 2028, the global exoskeleton market will achieve revenues of \$5 billion.

Manufacturing, with much repetitive overhead work, may adopt the exoskeleton technology before construction, Daniel predicts, explaining that construction is not as repetitive.

However, Daniel suggests fellow contractors be creative and expect resistance from staff members. His company plans to try exoskeletons again.

"The more we delve into them and attempt their use, the more knowledge will be out there for how they could be adapted to work in construction," Daniel says.

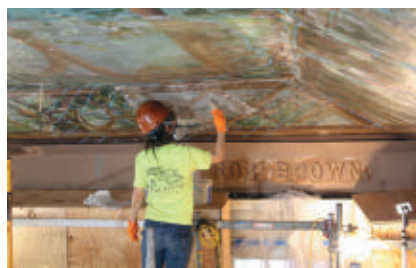
Moran encourages other contractors to try an exoskeleton. Even though the exoskeletons were not cheap, he says, they are less expensive than a shoulder injury.

"We are big believers," Moran says. 


2019 CONSTRUCTION RISK PARTNERS BUILD AMERICA AWARD WINNER BUILDING UNDER \$10 MILLION RENOVATION STEPHEN AND PETER SACHS MUSEUM RENOVATION

Tarlton Corporation
St. Louis, Mo.

Tarlton Corporation completed an \$8-million restoration of a pre-Civil War building, formerly an herbarium and scientific research facility, that had been closed to the public for the past 35 years. The Tarlton team built a new architectural addition, while restoring the dramatic two-story atrium in the main exhibit hall featuring a precise recreation of a botanical mural on the ceiling. The team



uncovered painted portraits of three eminent botanists hidden above a plaster drop ceiling, requiring them to reconfigure plans to install mechanical systems in the floor

above. As the museum is listed on the National Register of Historic Places, the design team worked in accordance with preservation principles outlined by the Secretary of the Interior's Standards for the Treatment of Historic Properties and the U.S. National Park Service. The new 2,000-square-foot contemporary entry way offers modern conveniences to visitors, while the main floor expansion allows for new exhibit space. 

Tools of the Trade

CONTRACTORS GAIN COMPETITIVE EDGE WITH
CONSTRUCTION SOFTWARE TOOLS



The actual process visualization for Champion Petfoods DogStar Kitchen in Auburn, Ken., was developed and simulated in the Gray's Lexington headquarters. Following development and simulation, the monitors were physically moved to the kitchen and installed.

PHOTO COURTESY OF GRAY CONSTRUCTION

BY SHERYL S. JACKSON

Although new technologies designed to promote collaboration, improve project management, increase safety and enhance the bottom line are continually emerging, the construction industry is slow to adopt these tools.

In fact, a recent AGC of America survey, 38 percent of respondents indicated they do not use BIM. Fifty-one percent use Dropbox to share files online. And, 26 percent believe the biggest IT challenge in construction is implementing and training personnel on new technology.

"Gray Construction's customers expect the use of BIM, but our industry as a whole has been slow to adopt new technology because we have proven, repeatable, predictable

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systems in place,” says Brian Jones, chief operating officer of Gray Construction, an AGC of Kentucky member. “It is hard for construction firms, especially smaller firms, to try something new when the system in place is working.”

The adoption rate of BIM or other technologies may depend on the market or region in which a firm works, says Ron Sinopoli, chief information officer of McHugh Construction, a Chicagoland AGC member. “It also depends on the type of work performed by the firm — general contracting, subcontractor trades or construction management,” he says. “Then, it depends on the expectations or requirements of owners because certain clients and projects require a different level of collaboration and technology integration than others,” he adds.

“For example, a general contractor building a strip mall or other small institutional project in a rural area may not realize an adequate return on investment for technology used in that one project, while a contractor working on a complex project such as a hospital or data center can see a return on investment in technology almost immediately,” says Sinopoli.

SOFTWARE BUCKETS

There are two types of software that should be evaluated, suggests Sinopoli: Software that improves “back of house” operations by tracking costs, productivity and quality, and more “forward-facing” tools that help contractors execute the work and communicate with clients to improve the bottom line and project delivery.

The flood of software solutions for construction can be overwhelming, and the first inclination might be to look for one software that can handle everything — but it doesn’t exist, says Sinopoli. “We use Procore as our primary platform to share models and manage projects, but we also have other applications that enable us to integrate technology into more of our processes and operate even more efficiently,” he says. One of these solutions is StructionSite, which uses a 360-degree camera to capture images of the site as a supervisor or project manager walks around. The video can be used to share progress updates with the client and to give subcontractors a

There are two types of software that should be evaluated: Software that improves “back of house” operations by tracking costs, productivity and quality, and more “forward-facing” tools that help contractors execute the work and communicate with clients to improve the bottom line and project delivery.

~ Ron Sinopoli, chief information officer, McHugh Construction

chance to “walk” the site from their mobile device to see what is ready for them.

OLD DATA MEETS NEW SYSTEM

Contractors should not be wary of layering in multiple applications to their workflow because most applications already integrate with major construction platforms such as Procore, says Sinopoli. This was not the case 10 years ago, when technology companies were reluctant to open their platforms to other tools. “Now, we can integrate multiple applications along with our legacy systems, but the challenges include cleansing old data to be sure that predictions are based on accurate information,” he says.

Today’s programs are inherently more valuable as they rely on artificial intelligence and predictive analytics to identify time and cost savings while providing opportunities to improve quality and reduce risk. However, they need “clean” data, says Sinopoli. When you merge multiple systems, not all of the original data is entered in the same format or at the same level of detail as the new tools require, so you do need to plan to address data quality to be sure the information on which you base decisions is accurate, he adds.

The value of construction management platforms that include multiple software tools is that all tools are in one location that is easy to maneuver, leading to less software exhaustion, says James Norris, director of virtual design and construction for The Beck Group, a member of multiple AGC chapters. “A platform like Procore is a basic requirement, then we push capabilities further with other tools,” he says. “The first to use advanced tools will have a competitive edge in our industry.”

MUST-HAVE TOOLS

Examples of tools that expand communication and coordination include:

- **ClearEdge3D’s Verity**

“About 5 to 10 percent of a construction budget represents rework of mistakes,” says Norris. “Verity automatically compares what is in place to what has been designed to identify mistakes before they become expensive problems, which is the difference between making your projected profit or not.”

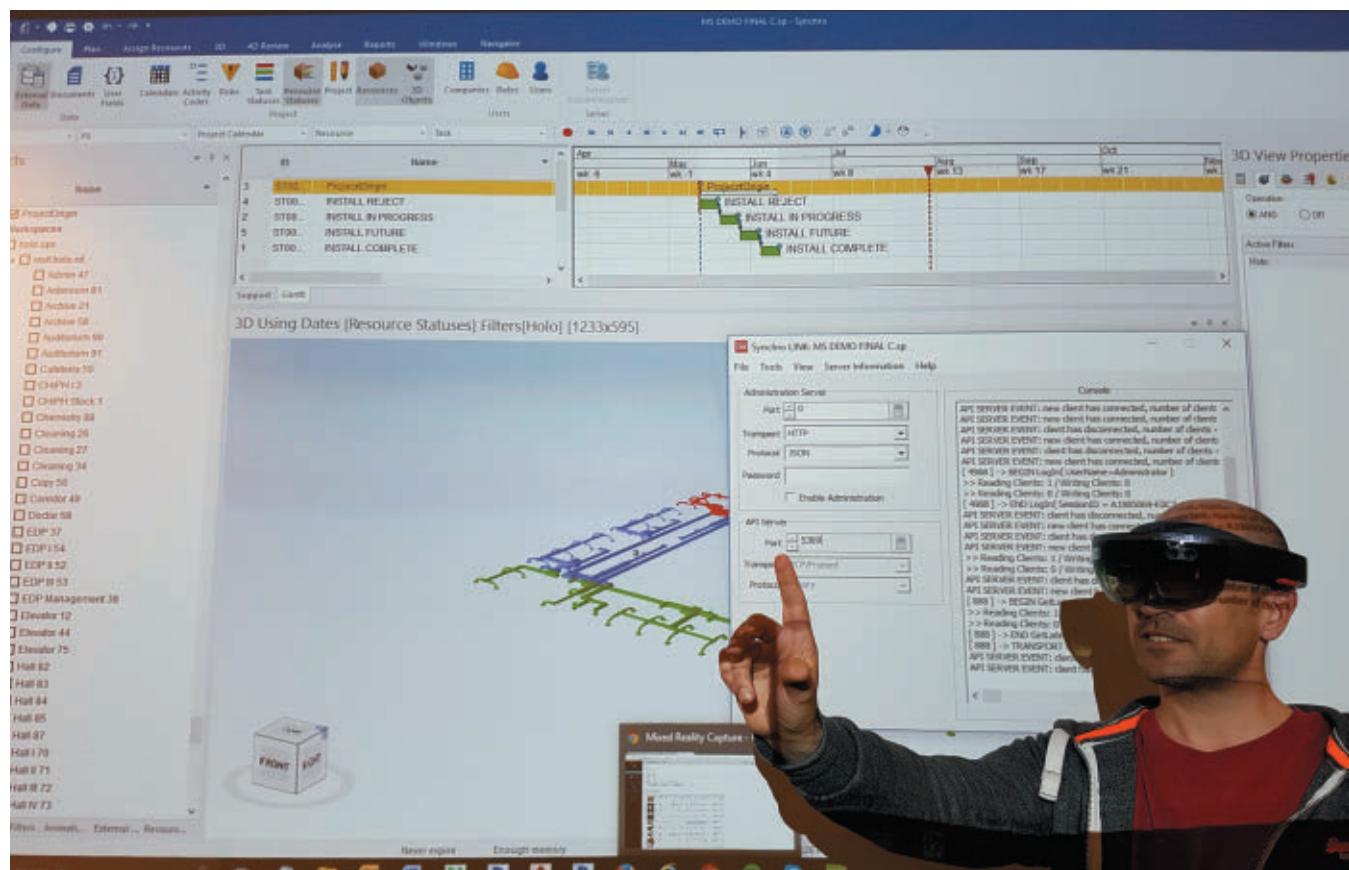
- **Microsoft HoloLens**

Another way to check building models against work performed is the Microsoft HoloLens, a wearable technology that mixes holographic images of plans with the real world image that is seen as the contractor walks around the jobsite. Although the mixed reality technology has been around for years, it wasn’t until a few software firms developed a hard hat solution that allows the “glasses” to be worn with a hard hat — taking advantage of the technology while remaining compliant with safety regulations.

“Synchronizing the HoloLens with the scheduling tool also lets me know if we are on schedule as I walk around a jobsite,” says Norris. “We schedule in 2D but work in 3D, so combining the two into one view gives us a better comparison of what should have been done versus what was done.”

- **BIM Track**

“We do our clash detection in Navisworks and send reports to the design team but communicating across a team — internal or external — can be difficult when they use other design tools,” says Norris. “BIM Track allows everyone — architects, designers, engineers, subcontractors and



contractors — to see clashes in most software they use, such as Revit or other authoring software used to develop building models.”

THE WHOLE PICTURE

With all of the construction-related technology solutions available, it is important to look at software technology needs holistically, says Marcel Broekmaat, director of project management at Trimble. For example, a drone that uses photogrammetry, 3D scanning and IoT [Internet of Things] capabilities to communicate with other applications can be valuable for some projects, he says. “However, does it add value to the planning process?” he asks. “If the technology creates a knowledge that leads to a more constructible, safe, cost-effective project, it adds value.”

Gray took a close look at the company’s technology ecosystem this year to determine what tools were being used and how effectively they worked. “Any tool that enhances collaboration with the customer

or improves communications among the team is critical to future success, but we have to make sure the technology solves the problem you need solved,” says Jones. For example, predictive analytics can help you become more efficient and reduce risk, which helps you do more with less — a solution to the tightening labor market, he explains.

An added advantage of increasing the use of technology is the workforce challenges in the construction industry, says Broekmaat. “We have a problem attracting new talent and when we do, it takes longer to bring them on board if the tools they need to support them are not available,” he says.

When Trimble ran an experiment to compare the decision-making ability of experienced members of a construction team and younger, less-experienced members, there were some interesting results. “We asked both groups to use traditional tools — spreadsheets and pdfs — and to use BIM so we could compare decisions reached,” says Broekmaat. “More experi-

enced contractors made good decisions based on traditional tools while those with fewer than 10 years in the industry made their best decisions with BIM.” As the construction industry workforce ages and retires, providing tools that help younger employees do their jobs better will become even more important to attract and retain employees, he adds.

As construction companies look at adopting more robust technology, it is important to look at BIM as the foundation, says Jones. “We need to get the use of BIM to 100 percent, which opens up the opportunities to add more technologies,” he says. Tools that allow contractors to compare photos of work done to the model to check quality, evaluate material quantities and deliveries to keep a project on schedule, and a digital audit that can be shared with subcontractors to keep everyone on track, build on the value of BIM, he says. “In the future, we’ll be able to meet with customers in a virtual setting to tour part of the facility under construction.”

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Search ... Potential Change Items + Create PCI

EXT0000074
Move North Wall
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EXT0000073
Move North Wall
Pending 2017-03-12

EXT0000072
Move North Wall
Pending 2017-03-12

EXT0000071
Move North Wall
Pending 2017-03-12

EXT0000070
Move North Wall
Pending 2017-03-12

EXT0000069
Move North Wall
Pending 2017-03-12

EXT0000068
Move north wall over 5 feet
Pending 2017-03-12

EXT0000067 - Higher End HVAC Unit

Created 03/03/17 Posted Status Pending

Scope Description and Details

Description	Job	Cost Code	Cost	Billing
Labor	15300C	03110	\$10,000.00	\$10,000.00
HVAC Unit	15300	19915	\$25,000.00	\$25,000.00
Markup				
General Liability Insurance	15300	90005	\$700.00	\$1,400.00
Admin Fee	15300	FEE	\$0.00	\$1,000.00
Project Management Fee	15300	FEE	\$0.00	\$3,500.00
Total			\$35,700.00	\$41,900.00

Request for Quotation

Description	Vendor	Received	Comment
HVAC Unit	ABC Supply Co. Inc.		

Review and Approval



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ONE IS A POWERFUL NUMBER

When considering construction software, one broad and deep solution, rather than various disparate programs, is the most efficient and affordable choice.

Doing more with less is a common ideology in most business sectors, and the construction industry is no exception. A skilled labor shortage plaguing the global construction workforce is further driving this lean mindset.

Astute construction business owners know their success is dependent upon meticulous management of assorted moving parts and people. Choosing a comprehensive software solution that increases efficiency and enhances internal and external team collaboration is key to maximizing profitability and outperforming the competition.

With an abundance of technological solutions available in the construction

industry today, it's imperative to choose digital tools wisely, focusing on proven solutions that drive value. Cutting-edge technology that streamlines construction operations by leveraging mobile devices and cloud services that boost productivity and eliminate waste achieve this goal.

Corecon Technologies flagship product, Corecon V8, is a true cloud-based construction software suite that is accessible at any time and any place from a web browser or mobile app. For nearly 20 years, Corecon has empowered construction business owners with a holistic approach to automating construction operations, helping them outperform the

competition by combining various software platforms into one broad and deep solution.

Touching all aspects of construction operations—from business development through project closeout—the comprehensive platform includes modules for lead tracking, estimating, project management, job cost control, scheduling, quality control and safety. Corecon also integrates with accounting software and has online team collaboration functionality via its TeamLink Portal.

For more information, visit
www.corecon.com