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can help support your company's mission

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IN THE FIELD
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BORDERLESS
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FROM THE EDITOR | Kathy Wells

It's one of the top-searched topics on our website, and it's an area of business that some construction business owners have difficulty practicing in their daily routines: marketing. While marketing a business might seem simple, implementing a program that brings results can require a little more work than you may initially think. In this month's cover series, we have brought you three articles that hit marketing head on. On page 26, "Modify Your Strategy to Support Your Company's Mission" explores five specific marketing strategies employed by Amazon.com, and how construction executives can apply those strategies in their businesses. Next, on page 28, "Aim for a Clear Target with Evolved Marketing Tactics" gives readers three facts about today's marketing and communication decision makers and how they continue to evolve. Closing the section on page 30, "4 Marketing Myths Your Firm Needs to Face" debunks four common misconceptions that tend to complicate this area of business and shares methods for overcoming those problems. We hope these articles provide you with some insight into the rights and wrongs of your existing marketing strategy and help drive more successful marketing initiatives for your company in the future.

Last month, the CBO team attended the International Risk Management Institute's (IRMI) Construction Risk Conference (CRC) at the JW Marriott in Indianapolis, Indiana. The event, in its 37th year, was held November 6-8, and hosted nearly 1,800 attendees, the majority of which were contractors and insurance brokers. The conference aims to explore ideas and techniques for improving insurance coverages, controlling insurance costs and fine-tuning risk management programs. Turn to page 20 for our post-conference coverage, including trending insurance topics and insight from the IRMI team and conference attendees.

This month, CBO has partnered with Procore to bring you the next installation in our ongoing webinar series: "How Reality Capture & Drones Can Improve Project Performance." The live webinar will take place December 7 at 1 p.m. EST, and will explore how construction companies can use the data gathered from drones to improve jobsite processes and create more successful projects overall. Visit constructionbusinessowner.com/webinars to register and to gain access to playback from our past webinar archives.

Next month—wait a minute, next year—you can catch up the CBO team in Las Vegas, Nevada, where we will be attending World of Concrete, January 23-26, 2018. The annual trade show will be celebrating its 43rd year, and will be hosting more than 55,000 industry professionals. Visit worldofconcrete.com/en/register to register to attend, or keep up with the show by following CBO on Twitter @CBOMagazine.

Take good care, and Happy New Year!

Kathy Wells

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Pictured here, CBO Managing Editor Elizabeth Manning, Account Executive Van Imbragulo and Editor Kathy Wells attend On River Time's annual fundraiser event. On River Time is a nonprofit organization that benefits abused and neglected children. The organization was founded by CBO Editorial Advisory Board member Steve Davis, who is also well known in the construction risk management sector.

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THE LEADING BUSINESS MAGAZINE FOR CONTRACTORS

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COVER SERIES

MARKETING

- 26** **Modify Your Strategy to Support Your Mission**
5 marketing methods your business can borrow from Amazon.com
- 28** **Aim for a Clear Target with Evolved Marketing Tactics**
3 ways you can use change to benefit your marketing plan
- 30** **4 Marketing Myths Your Firm Needs to Face**
Learn how common misconceptions can hurt your strategy



IN EVERY ISSUE

- 2** From the Editor
- 6** Online Exclusive
- 7** Industry Insight
- 8** Ask the Experts
- 46** Product Focus
- 48** Industry Stats

DEPARTMENTS

In the Office

- 10** **Biz Builder**
By George Hedley
15 questions to identify priorities & better organize your work life
- 12** **Project Playbook**
By Gregg M. Schoppman
Why you should develop a Navy SEAL culture in your business
- 14** **Business Strategy**
12 questions for a better business
- 18** **Software Solutions**
Confronting challenges to become a data-driven organization
- 19** **Post-Conference Coverage**
International Risk Management Institute's (IRMI) 2017 Construction Risk Conference

In the Field

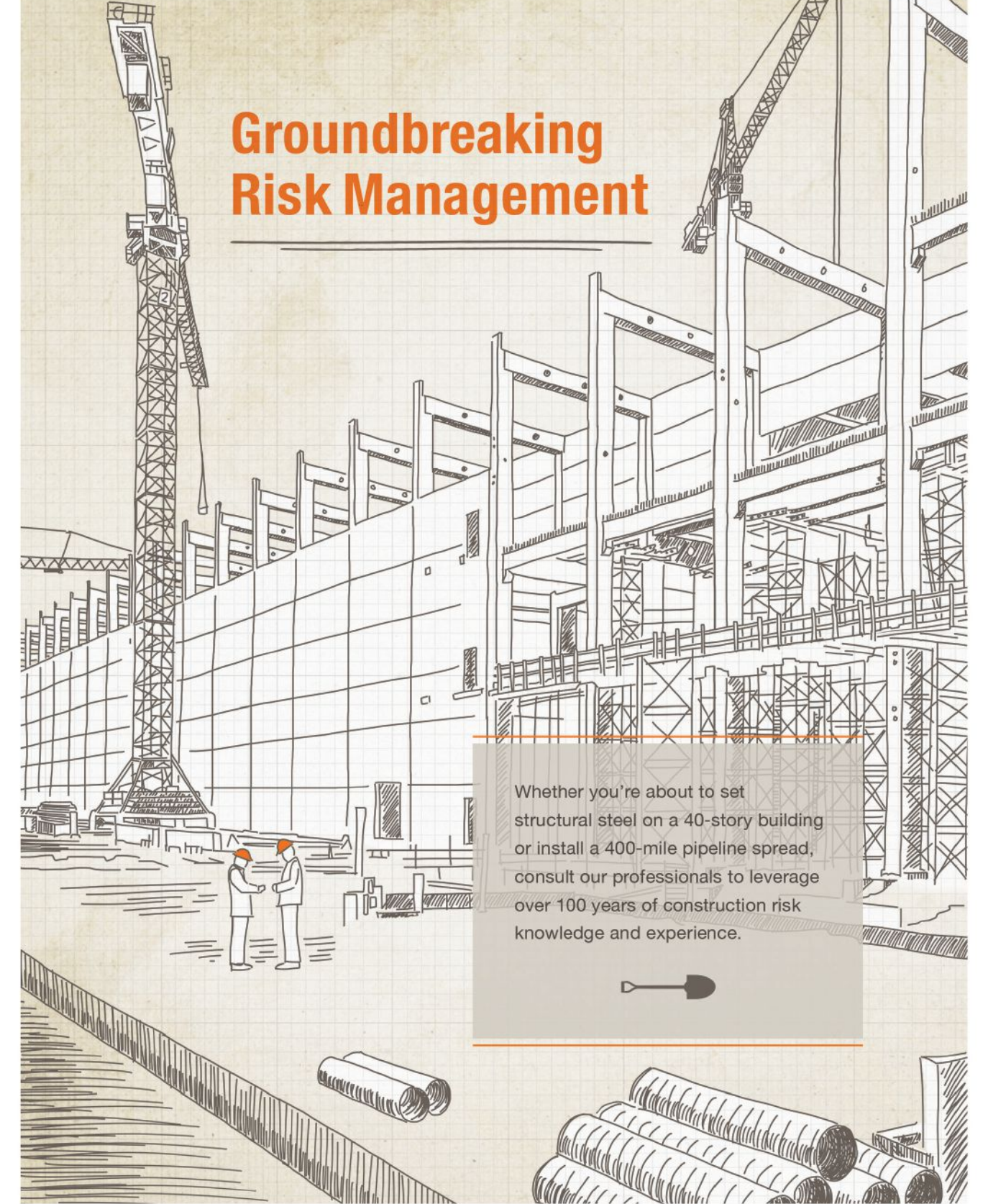
- 32** **Equipment Matters**
4 things to consider before selecting excavators for use in confined spaces
- 34** **SPECIAL SECTION: Commercial Restoration**
Putting on modern twist on the Dumbarton Oaks Fellowship House in Washington, D.C.
- 36** **Site Prep**
5 reasons your company should consider using grade control
- 40** **Tech Support**
Risks to consider before adopting a borderless jobsite
- 42** **Jobsite Safety**
How equipment operators can focus on work & forget the distractions
- 44** **Spotlight: 2017 Game Changers**
How concrete forums encourage interaction between entrepreneurs & contractors



34

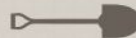


32



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Explore a new potential revenue source for your business

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Optimizing Field Operations for Mobility, Agility & Profitability

How Wanzek Construction's mobile tech initiatives improve operations



How to Effectively Keep Track of I-9 Forms

Evaluating concerns about heightened immigration enforcement by the Trump administration

Why Your Company Needs Multicultural Leadership

Learn what workforce diversification can do for your construction company



The latest rental forecast projects U.S. equipment rental revenue to reach \$49.3 billion in 2017, up 4.7 percent over last year. It calls for rental revenue to grow 5 percent in 2018, 5.8 percent in 2019, 4.4 percent in 2020 & 3.9 percent in 2021, to reach \$59.4 billion combined for all three segments of the rental industry.

JOHN MCCLELLAND, PH.D.

Vice President of Government Affairs & Chief Economist
American Rental Association (ARA)



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KNOW?**

Dodge Data
& Analytics
projects a **3%**
increase in total
United States
construction
starts in 2018.

Dodge Data & Analytics
2018 Dodge Construction Outlook

► **Atlas Copco Appoints Strategic Development Manager**

Atlas Copco Construction Equipment North America has appointed Chuck Westhofen as its strategic development manager. Westhofen will seek growth opportunities in United States and Canadian markets the company serves through the Power Technique business area: air compressors, power generation, lighting and pumps. Westhofen has held leadership roles at Atlas Copco for 12 years, most recently as business development manager positions with Atlas Copco Rental. His Atlas Copco experience also includes tenures as factory product manager Rock Hill/GenMaster and product manager Generators and Compressors. The newly renamed Atlas Copco Power Technique business area serves a range of customer segments, including construction, manufacturing, mining, oil and gas and emergency relief. Visit atlascopco.com.

► **Kyocera to Acquire Power Tool Business from Ryobi**

Kyocera Corporation announced that it has concluded a basic agreement to acquire the majority of shares of a company to be established from the company split of Ryobi Limited's power-tool business. The acquisition is expected to be completed January 2018. Through the acquisition, Kyocera aims to promote diversification and further expansion of its cutting tool business. Over recent years, Kyocera has continually been expanding sales in its cutting tool business on a global basis. In particular, Kyocera has recently strengthened its power-tool business in the U.S. and European markets through targeted acquisitions, such as the acquisition of the Unimerco Group in Europe in 2011 and the acquisition of SENCO Holdings Inc. in 2017. Visit kyocera.com.

► **Kubota Announces Plans for Expansion & Adds Fifth Division & Midwest Sales Office**

Kubota Tractor Corporation officially confirmed its plans to plant solid roots in Kansas for its North American Distribution Center (NADC) by announcing the details of its letter of intent to purchase 203 acres near the company's current leased facility in Edgerton, Kansas. The company plans to design and build two 1-million-square-foot facilities to expand their distribution capacity and streamline logistics processes for the timely delivery of Kubota branded service parts and equipment to its increasing customer base in the U.S. In addition to the logistics facilities, Kubota also announced an additional commitment to its Midwest dealers and customers by establishing a fifth operational division and sales office in Edgerton. The new Midwest Division office will reside within the same complex as the parts and whole-good operations and provide an essential sales presence for Kubota in the heartland of America. Visit kubotausa.com.

► **AEM Hall of Fame Inducts Dyke Messenger of Power Curbers**

The Association of Equipment Manufacturers (AEM) announced that Dwight "Dyke" Messenger, president and CEO of Power Curbers Inc., has been inducted into the AEM Hall of Fame, which recognizes and celebrates outstanding individuals in the off-road equipment industry. Through focusing on research and development, customer service and support and diversification, Messenger took Power Curbers Inc. from a small, regional manufacturer to a major global player in the concrete paving industry. Under Messenger's leadership, Power Curbers launched the 5700 Series curb machine. Messenger made drastic changes to the

business throughout the 1990s and 2000s. Visit aem.org.

► **NESCO Acquires Bethea Tool & Equipment**

NESCO LLC has acquired Bethea Tool and Equipment Company, a manufacturer of handline blocks, stringing blocks, bundle blocks and similar products used by electrical utilities and contractors worldwide for more than 50 years. The acquisition includes Bethea Tool and Equipment's manufacturing facility and distribution center in Brighton, Tennessee. This location provides 60,000 square feet of warehouse and service space. Bethea Tool and Equipment Company will become part of NESCO's Utility Equipment Outfitters (UEO) division. Visit nescorentals.com.

► **Viewpoint & DroneDeploy Form Partnership**

Viewpoint announced a partnership with drone mapping software platform DroneDeploy to help construction companies track job progress, save time and reduce risk with drone maps and 3-D models. Drone technology is becoming increasingly prevalent on jobsites as an efficient means of collecting aerial data to aid in design, planning and construction management. The DroneDeploy platform is compatible with data from any drone and provides flight automation for DJI drone models. Visit viewpoint.com.

► **ABC Announces Promotion of Téa Gennaro to Chief Financial Officer**

Associated Builders and Contractors (ABC) announced the promotion of Téa Gennaro to chief financial officer (CFO). She will be responsible for managing and directing the accounting, finance and facilities functions at ABC and its affiliated organizations—the ABC Political Action Committee, ABC Retirement and Savings Plan, Construction Legal

Rights Foundation, Trimmer Construction Education Foundation and ABC Services Corp. Gennaro is the primary liaison to ABC's budget and finance committee and a liaison to the retirement committee. She is the primary contact for ABC's 70 chapters for nonprofit tax, accounting and related issues. Prior to her promotion, Gennaro was ABC's controller for 4 years, overseeing the finance and accounting departments of the association and its affiliates. Visit abc.org.

► **CMAA Names New Chair**

Christopher Payne, PE, CCM, executive vice president and chief operating officer of MBP, became chair of the Construction Management Association of America (CMAA) at the Association's national conference and trade show in Washington, D.C. Payne has more than 30 years of experience in construction management and design and has served on the CMAA Board of Directors since 2009. Visit cmaanet.org.

► **Morbark Acquires Rayco Manufacturing**

Morbark LLC (Morbark) announced it had completed the acquisition of Rayco Manufacturing Inc. (Rayco). This transaction represents the first addition since affiliates of the private equity firm Stellex Capital Management LP (Stellex) acquired Morbark in 2016. The purchase of Rayco represents a significant move towards the company's strategic focus on broadening the range of tree care and industrial equipment, aftermarket parts and service offered to its customers. Morbark will operate Rayco as a new division maintaining its brand identity. Rayco's management team will continue to conduct operations. Visit morbark.com.



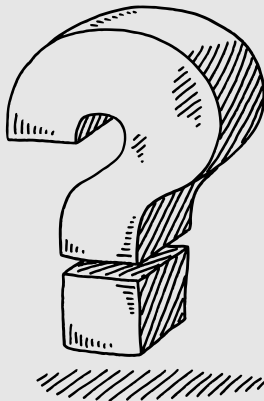
Developments at The White House

One year into President Trump's term, what changes have most influenced the construction industry?



KRISTEN SWEARINGEN
Vice President & Political Affairs
Associated Builders and Contractors
(ABC)

“The construction industry expects to have more certainty and flexibility in their business operations, thanks to President Trump's efforts on regulatory reform during his first year in office. In March, President Trump blocked implementation of an Obama administration executive order, Fair Pay and Safe Workplaces, commonly referred to as “blacklisting.” The regulation would have threatened federal contractors' due process rights, injected unwarranted subjectivity into the federal acquisition process and added needless and duplicative layers of bureaucracy. A few weeks later, President Trump rescinded OSHA's Volks rule, also known as “Clarification of an Employer's Continuing Obligation to Make and Maintain Accurate Records of Each Recordable Injury and Illness,” which would have imposed a massive paperwork burden on contractors without improving jobsite safety. The Trump administration has also delayed regulations related to persuaders and white-collar overtime pay from going into effect. Many business owners in the construction industry are also excited about the impact of an executive order President Trump signed in August, which streamlines the permitting process of infrastructure projects, making the environmental review process more efficient and avoiding unnecessary delays and budget overruns.



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Managing Editor Elizabeth Manning
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CRAIG A. RAMSEYER
Partner
Procopio, Cory, Hargreaves &
Savitch LLP

“The short answer is that, while we have heard a lot of talk about changes that could spur new construction, not much has advanced beyond talk. A growing economy and a stronger financial market has increased access to capital, but a low unemployment rate presents challenges when recruiting construction workers. With both of these trends having begun before President Trump took office, it is difficult to attribute the full impact to his presidency. Should Congress pass infrastructure legislation that President Trump supports, hundreds of billions of federal dollars could be spent on massive construction projects. Federal agencies are also promising rollbacks of environmental and financial regulations designed to spur more private-sector construction, but those changes cannot happen overnight. One concrete result of the Trump presidency is the construction of eight border wall prototypes in San Diego, California, with each one reportedly costing as much as \$500,000 in federal funds. What is unclear is whether Congress—or Mexico, as the President likes to say—will fund construction of an actual wall. I'm not holding my breath.

Look into ways to cut fuel spend.

vehicle tracking??

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Jerry 8644

Mike S 8656

Jose 8643 Bill 8648

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routes next week

Who are my best/worst drivers?

Monthly Fuel Usage				
	Vehicle	Odometer	Miles Driven	Fuel Cost
3	121	3854	88	\$263.12
4	122	199	12	\$35.88
5	123	32565	398	\$1,190.02
6	124	10003	100	\$299.00
7	125	49987	600	\$1,794.00
8	126	97825	454	\$1,357.46
9	127	44862	520	\$1,554.80
10	128	32511	125	\$373.75
11	19	9663	325	\$971.75
	130	279	0	\$0.00
	131	5544	123	\$367.77
	132	58962	0	\$0.00
15	133	98123	410	\$1,225.90
16	134	54287	385	\$1,151.15
17	135	63555	460	\$1,375.40
18	136	87111	288	
19	137	92546	171	

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The Ticket to More Free Time

15 questions to identify priorities & better organize your work life



George Hedley, CSP, CPBC, is a professional construction BIZCOACH and industry speaker. He helps contractors build management teams and get their businesses to work for them. He is the best-selling author of "Get Your Construction Business To Always Make A Profit!," available on amazon.com. Email George at gh@hardhatpresentations.com to sign up for his free e-newsletter, start a BIZCOACH program, attend a 2-day BIZ-BUILDER Boot Camp or get a discount at hardhatbizschool.com online university for contractors. Visit hardhatpresentations.com for more information.

**ASK
GEORGE**



To submit a question for George Hedley, email Managing Editor Elizabeth Manning at emanning@cahabamedia.com.

Many business owners tell me their businesses don't deliver the results they want and have taken control of their lives. They work too many hours, don't make enough money and never have enough time to spend with family and friends. They have become trapped in their web of overcommitment. When this happens, stressed, unfulfilled business owners reach a point where they finally realize their priorities have to change.

Many years ago, I was in this same place. I worked too hard, and I put my personal priorities on the back burner. After reading books on how to manage a successful business, I decided to go to a workshop to develop a plan to enjoy the benefits of a company that works for me.

The day after the workshop, I arrived to work early and made a detailed priority list of all the tasks I had to accomplish. Then I prioritized the activities into three columns: must-do priorities, should-do priorities and low priorities.

Then, that day became just like every other day for the past 10 years. I received calls from customers who needed answers, emails that required immediate attention, interruptions from a project manager who wanted approval before committing to a contract, a call from an estimator who wanted me to review a bid due today, a large subcontractor who wanted to be paid and a jobsite superintendent who requested an emergency meeting. By the

end of the day, I realized I hadn't looked at my priority list once.

FIND YOUR PURPOSE

Most business owners want their companies to build wealth and investments by making significant profits over time. They also want to have a strong management team with structure, systems and processes that allows them to enjoy plenty of freedom and personal time.

A truly successful construction business is purposeful and it stays on target with your priorities. I wanted my business to always make a profit, generate loyal customers, be managed well, grow equity, create wealth and allow me the freedom to enjoy a fulfilled life. Don't you want your business to work for you, rather than you working for your business?

DECIDE WHAT YOU WANT

To make this happen, you must have a well-developed business plan with a clear vision of what you want. You also need specific targets and goals that clearly define how you will deliver the results you want to achieve in your business and personal life. Answer these questions to determine what you want:

1. What would a perfect business and personal life look like?
2. What do you want your business to become?
3. How do you want to do business?



4. How big do you want your business to become?
5. How much money do you want to make?
6. What are your financial and equity goals?
7. What do you want your role to be?
8. Do you want a management team to run your business?
9. Do you want to build a great place to work that attracts and retains great people?
10. Do you want to be organized and systemized?
11. Do you want to know your numbers and job costs?
12. Do you want to have accurate pricing and estimating?
13. Do you want loyal, high-margin customers or low-bid customers and work?
14. Do you want to build wealth and have income-producing investments?
15. Do you want to have more free time to spend with your family and friends?

PRIORITIZE & COMMIT

To achieve the results you want, you must commit to making your vision become a reality. First, make you your top priority. Then you can start working on how you improve your business, how you manage better, how you hire and build a leadership team, how you stop tolerating poor performers, how you delegate and trust people, how

you develop and enforce systems, how you focus on the numbers, how you seek higher-margin customers and, most importantly, how you commit to your priorities. If you keep putting yourself second, things will never change for the better.

One client told me he wanted to stop working so many hours and take more time off. After we discussed his goal, I asked him to be more specific. He said, "I would love it if I could take at least 4 hours off on Sunday." Everyone is in a different place, but to get what you want, start by being specific about how you will balance your business and personal goals. Be ruthless, stick to your priorities and start putting your life first.

Make progress
every day towards
achieving your
personal &
professional goals.
Don't postpone
your personal life
for daily business
pressures.

Be on purpose and on target. Resolve every day to know what you want. Focus on your personal priorities first and business demands second. Make progress everyday towards achieving your personal and professional goals. And don't postpone your personal life for business pressures.

BUY TICKETS

When you continue to put your business first, you tend to postpone your personal life. For example, you may want to take your spouse out to a special dinner or concert, but you keep finding reasons to stay late at work. You may want to take your son or daughter camping, but bids and estimates too often require you to work over the weekends. You may intend to take your best customers to a ballgame, but you never have the time to get around to it. To put yourself and your priorities first, start buying tickets. When you buy tickets months in advance of events or activities, those events become a top priority. When you buy tickets, they are on your calendar and you won't schedule business commitments on those dates or times. Most importantly, making time for your personal life will make you a better leader when you are at work.

To work on your top business priorities, make time in your daily schedule for important activities like management meetings, field supervisor meetings, customer lunches and time to work on your business systems or strategy. **CBO**

The Construction Trident

Why you should develop a Navy SEAL culture in your business



Gregg M. Schoppman is a consultant with FMI, management consultants and investment bankers for the construction industry. Schoppman specializes in the areas of productivity and project management. He also leads FMI's project management consulting practice. Prior to joining FMI, Schoppman served as a senior project manager for a general contracting firm in central Florida. He has completed complex construction projects in the medical, pharmaceutical, office, heavy civil, industrial, manufacturing and multifamily markets. He holds a bachelor's degree and master's degree in civil engineering, as well as a master's of business administration. Schoppman has expertise in numerous contract delivery methods, as well as knowledge of many geographical markets. Visit fminet.com or contact Schoppman by email at gscoppman@fminet.com.

Spartans, samurai, Green Berets, Navy SEALs. These are the best of the best in the military world.

Countless stories have been told about their selection process, training, death-defying missions and pure heroism. In particular, SEALs serve as the premier unit within the United States Navy, operating on sea, air and land. Much of what the public knows is shared through the amazing stories of heroes, such as Marcus Luttrell, Chris Kyle and Rob O'Neill. Each account details their missions and journeys to becoming the greatest in their field.

Each SEAL by himself could be considered a real-life superhero for the arduous and seemingly impossible regiments he endures, but in just about every story, SEALs talk about their commitment to the team and collaboration above all else. In fact, during the "hell week" component of Basic Underwater Demolition/SEAL (BUD/S) training, candidates are partnered together, whether it be for the daily, 4- to 6-mile runs or the grueling surf torture of wallowing in the freezing waves of the Pacific Ocean.

There are countless books from real soldiers about lessons learned during training and missions and how they apply those lessons to business. For the leaders of construction organizations, it is important to extract the main themes of the SEALs—or any similar unit—and refocus their efforts to become the best of the best.

SELECTION

How does a construction organization find its talent? It seems that as markets shift to become more employee-centric, the requirements for hiring are much looser. The desire appears to be focused on finding bodies to fill seats, rather than recruiting and hiring the most talented group of men and women in the industry.

Now, consider the SEALs. Being selected to participate in the 24-week training program begins with a physical test that weeds out some of the most impressive people. After enlistment, there are eight separate training programs that range from indoctrination to airborne school. Each component of BUD/S training challenges not only the physical stamina, but also the mental acuity of the candidates. In the end, the success rate of becoming a SEAL hovers between 30 and 40 percent. While a construction firm does not follow the same guidelines, it is important to ask similar questions, such as:

- How hard is it to get hired in our firm?
- Are we something special, or just another firm?
- Are our hiring processes rigorous enough to screen talent effectively?
- How does our process differ from other firms?

TRAINING

Whether it is Luttrell's *Lone Survivor* or O'Neill's *The Operator*, the common theme



that emerges is SEALs' commitment to training and development. When they are not on a mission, they are fastidiously training for that day.

In fact, many of the lessons learned during BUD/S training are utilized in daily routines to continue to maintain the sharpest edge in warfare. Construction organizations often maintain a position completely counter to the SEALs. The vast majority of the time is spent "in mission," building projects with little downtime. For most companies, workforce training is often relegated to that one Saturday in the winter "when things are slow."

This is a fine line for revenue generating, for-profit businesses, but it is also flaw logic to place such a low emphasis on training and development for all levels within a firm. The SEALs would not be the superior fighting force it is if it did not dedicate as much time to continuous improvement. Construction firms should consider these options:

- *Lunch and learns*—Carve out one monthly meeting dedicated to a construction skills topic.
- *Dedicated coaching*—Develop internal mentor/mentee relationships across business units.
- *In-house universities*—With both internal and external resources, routinely hone all skills, such as communication, finance and leadership.
- *Core values exhibition*—Develop internal case studies that reflect the founding principles of the firm.

PREPARATION

One of the greatest accounts of preparation came in the form of the SEALs raid on Osama bin Laden in Pakistan. The account of the mysterious SEAL Team 6 has been shared in novels, television and movies. However, what is often glossed over is the amount of preparation and planning that goes into such a harrowing operation. In the case of the Pakistan raid, a mock-up of the compound was constructed in an American desert so the operators could conduct step-by-step exercises, simulating every aspect of the operation, including what-if scenarios.

Consider your firm's own preconstruction planning. Is this relegated to creating a "job book" and lobbing it over the wall like a hand grenade, or are the practitioners brought in to discuss the true job strategy and tactics? Building complete mock-ups might be excessive, but how much quality time is spent in collaborative planning within the firm? Are "rocks in the road" discussed and mitigation strategies implemented? It would have been a disastrous mission had the SEALs simply been handed a set of plans during their helicopter flight on that evening, and the planning only started minutes before they repelled to the ground.

COMMITMENT

One of the most awe-inspiring moments in Luttrell's book, *Lone Survivor*, details his account in the treacherous mountains of Afghanistan, evading enemy forces that had already taken the lives of his comrades.

He goes on to talk about his reflection of the Navy SEALs creed, and how these words not only inspired him to go on in the face of the highest adversity, but also provided a foundation for him as he thought of his family back home in Texas.

Many construction firms have clearly posturized their vision, mission and core values; yet, not a single person in these firms can recite this dogma, nor do they exhibit the same passion of Luttrell. Even other organizations, such as the Boy Scouts and the Girl Scouts, have statements that young men and women recite and demonstrate daily. Short of mentioning safety, the other statements often fall flat as empty platitudes.

Vision statements and credos for construction organizations all start to look familiar, but there are many that live every day based on the statements on their walls. The first test is to see how well your team can recite these guiding principles. Secondly, they should be able to provide tangible examples of how, when and where they have seen an employee execute daily operations based on this mantra.

We are fortunate that we have heroes that truly embody the concept of special forces. The missions are distinctly different, but how we build our organizations should be similar in nature. In fact, building a SEAL-like organization not only inspires the people within the firm, but it also becomes a beacon within the industry as the standard bearer of excellence. **CBO**

12 Questions for Better Business

Learn from these critical answers to achieve the results your firm needs

BY HOWARD LEWINTER

As a CEO, president or business owner, your business day goes by rather quickly, doesn't it? You start your day early in the morning, sometimes before dawn. You hardly have time to think about what is for lunch. The next time you look up, it's near dusk and time for you to call it a day. You bring work home to review before going to sleep.

Business never stops, so neither should business profits. You should always be thinking about how to improve business results at your company. You should be asking the right questions until you are satisfied with the answers and ready to make decisions with which you are comfortable. Look to the following 12 questions to help improve your business.

1. *What is keeping my business from achieving more success?* It is important to understand how the business started, how you led the company in those early startup days and to acknowledge the success you have experienced. As the phrase goes, always remember where you came from, in order to understand where you are currently. Then ask, "What has changed?"
2. *What is preventing better business results?* You need to understand what is holding you back as a business leader. What is no longer working as it



once did? Once you recognize the challenges of what has changed or is different in your business, you can begin to do something about it. But until it is defined, nothing can really happen. Successful CEOs, presidents and business owners don't just do "stuff." Take an action-oriented, strategic approach.

3. *Am I open?* Are you open to listening to what you need to hear? A CEO was at a conference talking to another businessperson who asked him a question. The answer rocked him back on the heels of his shoes. Why? Because it gave him information that could help

improve profits at his company. He wasn't expecting what he heard, but he was open to the words presented to him. If he hadn't been listening well, the information would have gone right by him. Business answers can show up when you least expect them, from anywhere and anyone.

4. *How do I have a better business next year?* To have a better year and improve your business, start with changing the way you think about your business today. It is the key to more success, more profit and less stress. Make each day better than the previous one. The days and weeks turn into

months. Build on the momentum of each day. If you have a bad day, get up the next morning and move forward.

5. *How much revenue do I project bringing into the business?* You can't just say, "I want to make a million dollars this year!" Break it down. What's realistic? Work backwards. Start with the goal; start with a number. Then determine a plan to get there. Review and revise the numbers. Sometimes, it's better to be more profitable and productive than to increase sales volume to unrealistic numbers that the company isn't prepared to handle.
6. *What is my business about?* Your business isn't about you, although you may be its CEO, president or owner. It's about your customers and your employees. Business is about people involved and the relationships you build with them. It is also about solving

problems and helping others succeed.

7. *What about my employees?* To improve your business, surround yourself with the best people. Hire first for attitude, then talent, skills and education. Hiring the right people will make your life less stressful. Reducing your stress levels will only benefit your business. Create a company culture in which people want to work with you as clients, employees, vendors and associates.
8. *Who am I?* To improve your business results, you need to know who you are as a person and as a CEO, president or owner. Who are you to the people you work with every day? What do you represent to others? It is about your leadership skills. How do you lead your company to more success and more profit? Do you dodge the important issues, or do you put yourself in a

position where you are right there to take care of whatever may arise?

9. *What about my competition?* Business opportunities are vast. Keep your mind open to business possibilities. That is why it's critical to know who you are as a businessperson and what your company represents to customers. Business success is about will, drive and determination. Being two steps ahead of the business competition is important, as is being aware of trends in your industry and marketplace. Business is often won by more than just price. What value does your product or service provide? Be proactive. If you are not, your business competition will be.
10. *What am I missing in my business?* The answers are not always found at the surface, so you will often need to dig deeper to improve business

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results. Always be asking questions. If you're not doing enough business, ask yourself why. If your company isn't as productive as you would like, ask yourself why. If you have an especially successful customer account, ask yourself why. You will find the answers to the questions. Keep your mind open to the answers. If you don't find the answers you are seeking, then find an expert who can help you. It could be someone inside or outside of your company, depending on the issue or question. It's okay to ask for help, even as a business owner.

11. *What did my company sell today?*

Prospecting is everything. Having the targeted prospect to sell something to is everything. If you don't have the right prospect and you are not creating new prospects consistently, you won't sell enough just waiting for customers to

come to you. In today's marketplace, no matter how much business you have, you cannot wait for the customer to come to you. How are you going to stay in business long term? It's about delivering the right message to the right prospect, at the right time. It doesn't matter what your company sold yesterday, last week or last month. It only matters what is sold today.

12. *What is my strategy to improve business profits?* You are in business to make a profit. It requires strategy to be successful in business. This includes actively thinking about sales, marketing, ongoing job projects, operations, accounting and hiring. All these specific strategies combine into an overall business plan. Remember to:

- Think through business strategies
- Keep an open mind to opportunities

- Strategies often need revisions to produce intended business results
- Consider about potential outcomes
- Your strategy is to make a business profit, make the company better, the customers happier and to reduce your stress levels

No matter how successful you are, you can be more successful. Use these 12 questions—and your answers to each of them—as a guide to continue to improve your business results and inspire what steps to take next. Most of all, believe in your potential. **CBO**

Howard Lewinter is a business strategist and advisor to CEOs, presidents and business owners throughout the United States. Businesspeople seek Lewinter's advice to solve problems, regarding everything from daily decisions to opportunities for more success, more profit and less stress. Visit talkbusinesswithhoward.com.



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Let Big Data Work for You

Confronting challenges to become a data-driven organization

BY ANDY KAYHANFAR

Over the past 10 years, big data has evolved from a concept to a reality that companies of all sizes face today. Projects can now easily generate gigabytes or even terabytes of information. Big data not only brings the challenge of managing huge amounts of information, but it also presents an opportunity to improve operations. Many construction companies are looking to transform themselves into data-driven organizations, in which everyone has access to the data they need, when they need it, giving them the ability to make decisions based on accurate information. Contractors face several key challenges in creating and maintaining meaningful data integrations, including:

- The decentralized nature of construction companies, often by market sector or geographical region
- Partnering models, which require the ability to share information across company lines
- The disparate nature of business functions on a construction project.

Though the deck may seem stacked against you, these challenges are not insurmountable if careful attention is paid to your company's technology road map. There are several guiding principles to keep you grounded in your quest to determine the right software to help you become a



data-driven organization, listed below.

- *Focus on the big picture*—Technology is a critical part of creating the foundation for a data-driven organization. There is a wide variety of solutions in the marketplace. Historically, many of these have targeted specific business processes or job functions, and only address the needs of a specific area. However, newer solutions provide value across the organization by creating a platform or common data environment to provide visibility to all aspects of your business by bringing together multiple data sources.
- *Resist temptation to customize*—It's important to keep in mind that minimizing customizations to technology will significantly decrease the future risk in your data-integration strategy. Commercial software companies

create and maintain application programming interfaces (APIs) for this specific reason. If you work with your vendors, you can request that they enrich their APIs. This will ensure the integrations put in place today are commercially supported tomorrow.

- *Take a trip to the marketplace*—As you look for technology vendors, focus on those who participate in the commercial marketplace. Vendors who understand the needs of data-driven organizations will be more open to making integrations available and sharing data openly.
- *Set your own timing*—When targeting an integration, take the time to understand how and when you truly need to use the data. Focus on that use case and the information timing needed. You will likely find that near-real-time

information is all that is needed and much easier to manage.

DETERMINE YOUR STRATEGY

With these guiding principles in mind, the next big step is to build your software or application integration strategy. Just like creating a project estimate, there are two unique lines of thought when building an application integration strategy:

- *Linear (top-down) integration strategy*—This approach is designed to improve project controls by following the progression of a project over time. The data integration path would be to initiate a project estimate where your cost items or work breakdown structure (WBS) is synchronized with the accounting system. A schedule would then be initiated to coincide with the project WBS and your pre-bid submittal goes in for award. Upon award, your WBS is pushed to the

project-control system, and from there, your budget conforms to commence construction. During construction, all work packages and claimed progress are measured against the WBS. At the end of the day, you have a hierarchical data model of your project.

- *Nonlinear (bottom-up) integration strategy*—Many forward thinkers in the industry are starting to view a project as a continuously enriched data model, which is an innovative way of looking at the data generated by the project. This integration approach centers around a lowest common denominator, instead of a top-down, WBS hierarchy. The model or visual representation of what you are constructing becomes the lowest common denominator or the foundation for the project data structure. A nonlinear approach focuses on how each role on a project provides information. In the world of BIM, the

level of detail from each of these roles is assigned a relationship to your model, enabling a visual context to all your integrated data.

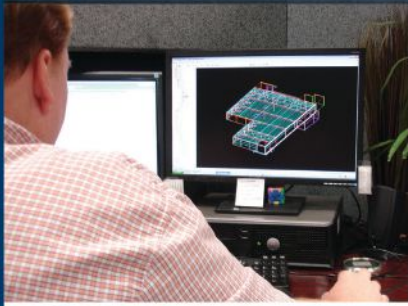
Depending on the near- and long-term objectives of your organization, consider embracing both strategies in your technology road map. The linear model will enable superior project controls. Using a nonlinear integration approach will foster a new era of collaboration for your projects. With that said, not all platforms live up to their hype or their price tag, so be sure to look carefully. **CBO**

Andy Kayhanfar, vice president of product management at InEight, has more than 15 years of design engineering and construction expertise. He is responsible for leading a team to deliver innovative technical and functional business solutions. Visit ineight.com.



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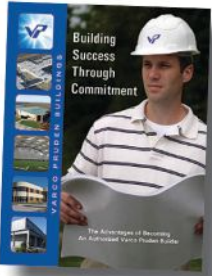
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37th IRMI CRC Champions Safety Efforts

Risk management professionals convene to help shape a smarter jobsite

BY KATHY WELLS

For 37 years, the International Risk Management Institute Inc. (IRMI) has hosted its national Construction Risk Conference (CRC), which brings project owners, general contractors, subcontractors, developers, insurers and insurance agents and brokers together to explore breakthrough strategies and techniques for improving insurance coverages, controlling costs and fine-tuning risk-management programs. This year, the annual CRC was held at the JW Marriott in Indianapolis, Indiana, November 6-8, and hosted nearly 1,800 attendees.

With the aim of simplifying the management of risk, IRMI publishes resources for technical content and provides continuing education, certifications and conferences. "Our goal is to help elevate the level of expertise and professionalism in the construction risk community, making construction projects safer and more profitable," said Lisa Harrington, IRMI's executive vice president and chief marketing officer.

According to attendee and litigation attorney William Bogdan, "Having never swung a hammer or written an insurance policy, I am always looking for industry information that will help me defend contractors. Knowing how the businesses of contracting and placing insurance work gives me greater insight in addressing the challenges presented in construction-related



lawsuits." Bogdan represents contractors in personal injury and indemnity actions for Lynch, Gilardi & Grummer, and not only attended this year's conference, but also supervised several roundtable discussions in IRMI's "Beginners' Boot Camp" for new construction risk professionals.

Outside of the boot camp, this year's course offerings featured three general sessions and more than 30 educational sessions presented by over 70 nationally recognized insurance, risk management, safety and surety experts. Construction companies of all sizes were represented by their risk, insurance and safety managers. Attendance was comprised of 31-percent contractors, 27-percent agents/brokers

and 25-percent insurance companies, with the remaining percents being consulting firms, law firms, project owners and representatives of various associations.

A number of educational sessions were dedicated to addressing the need for coverage of and preparation for the industry's top concerns. In the opening general session, presenter Mike McGavick, CEO of XL Group, fielded questions submitted by registered attendees, many of which focused on technology, including drones, robotics, 3-D printing, driverless vehicles, cyberattacks and fraud protection. "The construction industry is growing at a rapid pace, and technology is changing the way we do business," said IRMI's Harrington.

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2	Jane	Smith	987-65-4321	Marketing Specialist	\$15.00	35	\$525.00	Health	Life	None	Jane Smith
3	Mike	Johnson	555-44-3333	Sales Representative	\$12.50	40	\$500.00	Health	Life	None	Mike Johnson
4	Sarah	Williams	111-22-3333	Customer Support	\$10.00	30	\$300.00	Health	Life	None	Sarah Williams
5	David	Brown	222-33-4444	Product Development	\$18.00	40	\$720.00	Health	Life	None	David Brown
6	Emily	Green	333-44-5555	Quality Assurance	\$14.00	35	\$490.00	Health	Life	None	Emily Green
7	Chris	White	444-55-6666	Systems Administrator	\$22.00	40	\$880.00	Health	Life	None	Chris White
8	Alex	Black	555-66-7777	Business Development	\$16.00	35	\$560.00	Health	Life	None	Alex Black
9	Mia	Gray	666-77-8888	Human Resources	\$13.00	40	\$520.00	Health	Life	None	Mia Gray
10	Noah	King	777-88-9999	Operations Manager	\$25.00	40	\$1000.00	Health	Life	None	Noah King

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There was no shortage of conversation about the labor shortage and the industry's efforts to solve the problem. According to IRMI President, CEO and Co-chairman Jack Gibson, "Contractors are dealing with unique risk management challenges stemming from the lack of qualified and well-trained workers, new construction technologies and new competitors entering their markets."

"[McGavick's] discussion about difficulties finding personnel in both the construction trades and the insurance market were on point, and should have opened many eyes to this issue/concern," said attendee Ron Arthur, vice president and claims manager for ACIG Insurance Company and American Contractor Insurance Company Risk Retention Group. Arthur has attended CRC 10 times, presented at CRC once and participated in Tool Box Talks on several occasions. With his retirement set for January 2018, he attended one more time to gain more knowledge about changes coming in contractor-controlled insurance programs (CCIP), insurance wrap programs and a session on builders risk insurance programs.

Some of the more popular educational sessions included "Problematic Additional Insured Endorsements," presented by Craig F. Stanovich, co-founder and principal consultant of Austin & Stanovich Risk Managers LLC and Jeffrey J. Vita, partner at Saxe Doernberger & Vita P.C.; "Fifty Shades of Gray—Anatomy of Soft Cost Coverage in Builders Risk Policies," presented by Tony Rastall, divisional director of Ed. Broking, and Susan Gordon, director of risk management at Zachry Holdings Inc.; and "Navigating the Construction Risk Minefield: Surety, Legal and Otherwise," presented by Susan Hecker, area executive vice president and national director of contract surety at Arthur J. Gallagher & Co., and Michael C. Zisa, partner at Peckar & Abramson P.C.

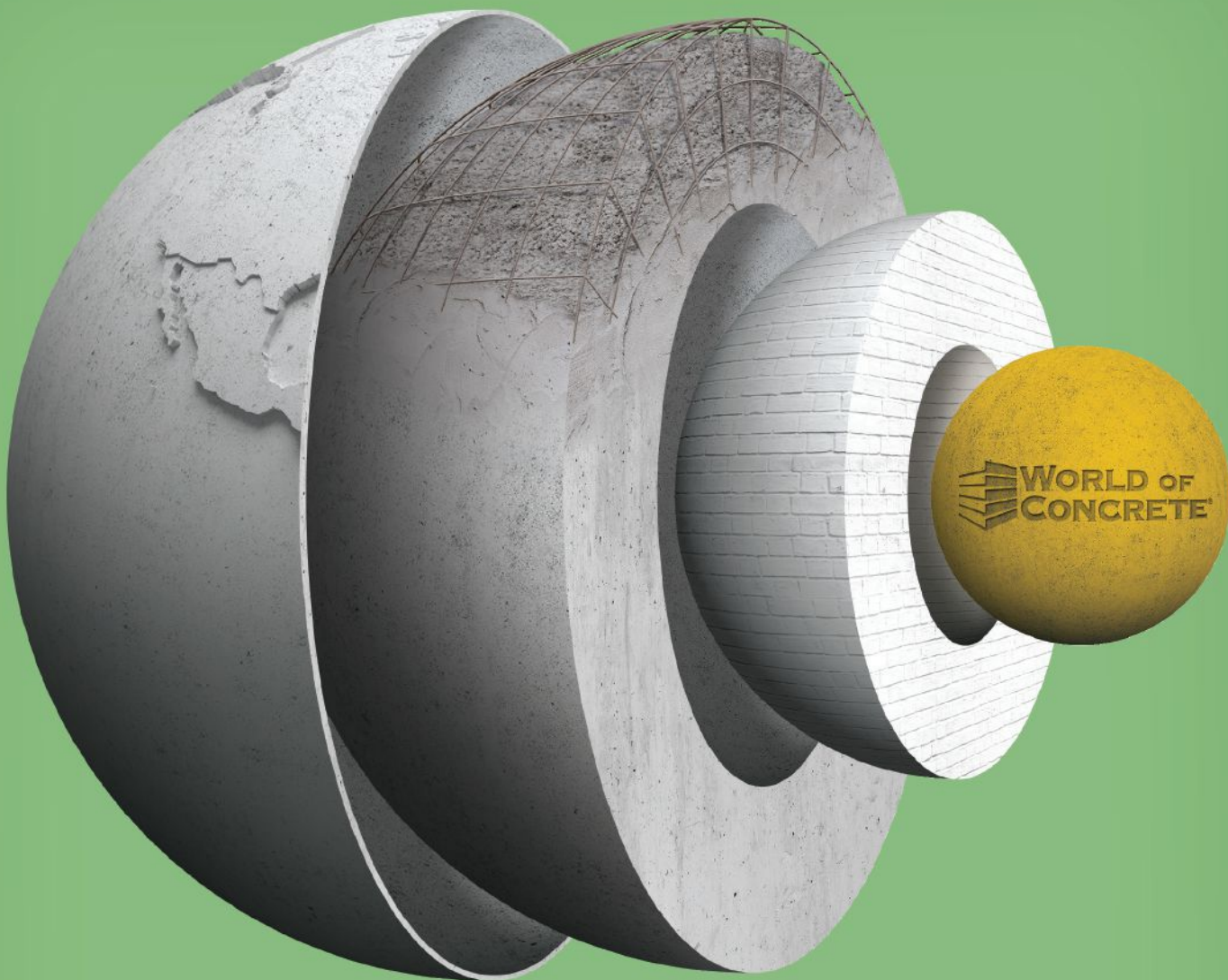
While contract specifics and insurance

queries maintained the attention of attendees, other session topics, such as "Active Shooter: Are You Prepared?," presented by Rob Berryman, safety consultant at American Contractors Insurance Group, punctuated the recent mass casualties in Las Vegas, Nevada, and Sutherland Springs, Texas. "The 'Active Shooter' materials went straight to my office manager as soon as I got them," said Bogdan, who has attended CRC five times.

The Gary E. Bird Horizon Award was presented to Shawn Connick and Ashley Hogue of Charles Pankow Builders Ltd. Sponsored by Travelers, the award recognizes a commitment to improving construction risk management through the implementation of innovative, cost-effective and efficient techniques. The award acknowledges the duo's thoughtful creation of "The 8 Lethal Hazards," a booklet to help increase awareness and understanding of the eight most dangerous hazards encountered in operations that could cause serious injury or a fatality. The booklet was introduced to teams coupled with training to ensure a clear message was delivered across the entire organization. "We had a vision to promote the concept of serious injury, and partnered on this effort to distill that information in a more relatable way," said Connick, director of safety at Pankow Builders. "It's the only program I have introduced that has had zero pushback. Not overly complicated, not overly technical, it's one of the first efforts in the company's history that has created a collaborative partnership, with teams working together, allowing them to relate to each other."

Efforts such as this are at the core of IRMI's mission and the CRC conference itself. The 38th CRC will be held November 4–7, 2018, in Houston, Texas. For more information and to register, visit irmi.com/conference/crc. **CBO**

Kathy Wells is the editor of Construction Business Owner magazine.



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MODIFY YOUR STRATEGY TO SUPPORT YOUR COMPANY'S MISSION

5 marketing methods your business can borrow from e-commerce giant Amazon.com

BY BRIAN M. FRALEY

Amazon.com founder Jeff Bezos spent his summers doing gritty work on a remote ranch with his grandfather, according to Brad Stone in his biography, *The Everything Store*; Jeff Bezos and the Age of Amazon. Together, they repaired windmills, graded dirt roads and even built a crane to move the parts of a Caterpillar D6 Dozer. Sound familiar? Bezos took a similar, hands-on approach to marketing as he steered Amazon.com to a position of dominance. Amazon.com's meteoric rise from an online bookseller to the uncontested player in e-commerce is unprecedented in the American business world. Bezos, a quirky, obsessive-compulsive executive, drove the bootstrapped internet startup to \$136 billion in sales in 2016. While it isn't necessary for construction business owners to imitate the Amazon.com founder's every move, the following article examines some key takeaways from his marketing strategy that are worth emulating.

1. WATCH THE COMPETITION CLOSELY, BUT NOT OBSESSIVELY

Amazon.com set up an internal group called "Competitive Intelligence"

that would research the competition and present potential threats and shortcomings to the committee. An individual was then designated to ensure implementation of action items.

How does your construction firm keep track of the competition? Mentioning a competitor's bidding or pricing strategy by the water cooler is not enough. Perhaps a clandestine group is overkill, but you should have a marketing-related committee constantly watching for opportunities and threats. Designate a business development manager or project manager to monitor competitors. That intelligence can then be presented to the committee for consideration. To avoid all-talk, no-action committee meetings, select an enforcer to make sure changes are implemented.

2. MAINTAIN A HANDS-ON APPROACH TO PUBLIC RELATIONS

While Bezos rarely gives media interviews or speaks at press conferences, he does take public relations seriously. The Amazon.com story has been largely told through standard press releases. In fact, the

You should have a marketing-related committee constantly watching for opportunities & threats. Designate a business development manager or project manager to monitor competitors. That intelligence can then be presented to a committee for consideration.

firm issued 237 press releases from 2012 through the second half of 2013 as its stock surged 60 percent. Bezos controls public relations with an iron fist, taking a red pen to outgoing press releases, shareholder letters and product descriptions to ensure clarity and accuracy.

Is your company taking advantage of free publicity? Do you issue press releases for new hires, promotions, products, major projects and other newsworthy developments? Are you appearing regularly in leading trade publications? Do you publish job stories? Public relations is arguably the most cost-effective form of promotion under the marketing umbrella. Construction firms that don't engage with media are leaving a lot on the table.

3. LIVE BY YOUR MISSION STATEMENT

Amazon.com's mission statement reads: "Our vision is to be Earth's most customer-centric company; to build a place where people can come to find and discover anything they might want to buy online." This captures the two keys to the firm's strategy: customer service and a diverse product offering.

Does your construction firm have a mission statement? If so, does it capture the essence of your operation? And more importantly, does your team live by it? Most firms develop a mission statement, post it on the website or in a brochure, and then forget about it. If your mission statement has been written well, it will be easy to follow because it captures the key principles of your business.

4. HAVE A STRATEGY TO HANDLE STUBBORN COMPETITION

Amazon.com is currently going head to head with big retail players like Walmart, but there were many smaller firms it has either acquired or crushed along the way. Perhaps the most interesting of these was a startup known as Quidsi. The firm gained serious traction with moms across America by selling and distributing diapers online. Modeled after Amazon.com, the firm was flooded with venture capital and showed up on Amazon's threat radar, courtesy of the Competitive Intelligence group.

Both Walmart and Amazon.com wanted a piece of the action. Amazon.com essentially undercut Quidsi's prices and forced the firm

into a vulnerable financial position, making it more susceptible to acquisition. Amazon.com ultimately beat Walmart in a bidding war to acquire Quidsi. Whether bidding or selling equipment or materials, construction firms compete with a stable list of competitors. What is your strategy if you repeatedly lose business to the same firm? Will you cut prices, enhance your product or service, merge or acquire or drive them out of business?

There are conflicting opinions on how much time you should spend studying the competition. Most firms take the approach of, "We will cross that bridge when we get to it," in dealing with stubborn competitors. The safer bet is to anticipate those challenges and determine your strategy up front so you will be ready to pounce.

5. REMEMBER CUSTOMER SERVICE COMES BEFORE MARKETING

While Bezos is an advocate of consistent marketing over the long-term, his No. 1 priority is customer service and keeping the business running efficiently. He once said, "We are genuinely customer-centric, we are genuinely long-term oriented and we genuinely like to invent. Most companies are not those things. They are focused on the competitor, rather than the customer." He backed up his words with actions by reallocating marketing dollars into improving customer service. Bezos is convinced that word-of-mouth would generate new customers.

There is no marketing tactic that can exceed the power of positive word of mouth from existing customers. Investing in marketing while having poor customer service is like pouring concrete without formwork. It is pointless. Invest your resources in making sure existing customers are happy before soliciting new ones. **CBO**

Brian M. Fraley is the owner and chief strategist for Fraley Construction Marketing, a marketing communications consultancy with a unique and deep understanding of the construction industry. He has served this niche market for nearly 25 years. Fraley is active on LinkedIn, Twitter and Google+, and regularly contributes to the Construction Marketing InSITE Newsletter, Construction Marketing Straight Talker Blog and various trade publications. Visit fraleyconstructionmarketing.com.





AIM FOR A CLEAR TARGET WITH EVOLVED MARKETING TACTICS

3 ways you can use change to benefit your marketing plan

BY SARAH HELBIG

If you are currently making time to browse LinkedIn, online publications and business emails, you will see an overwhelming volume of advice on how to improve your marketing approach: get better SEO, how to use social media, send better emails with more opens and more. Everyone has some advice or a strategy to offer. But until we understand why these changes are in demand, it can be difficult to prioritize making those commitments over the other daily business fires. The simple truth is that marketing is evolving because our audience is evolving. Decision makers are younger. There are more of them, and they have different opinions. So, what do you do about it? The following are three facts that should be informing your marketing approach today.

1. THERE IS AN AVERAGE OF 5.4 INDIVIDUALS INVOLVED IN MAKING A PURCHASE

Multiple influencers and roles drive today's marketing decisions. Relying on just one relationship is risky. To compete, you will need to properly build and structure a contact database. You need to be able to

reach your targets effectively and track those communications at high volume. According to a Google Consumer Insights article, "while 64 percent of the C-suite employees have final sign off on a decision, so do almost a quarter (24 percent) of the non-C-suite employees. What's more, it's the latter that has the most influence; 81 percent of non-C-suiters have a say in purchase decisions." More CEOs are adopting the strategy of hiring strong leaders to be on their team, and then empowering them to bring informed recommendations to the executive table for final approval. Consider applying this approach to help your marketing team make decisions that mean more to your business.

2. THE AVERAGE AGE OF DECISION MAKERS HAS DECREASED

These days, 18- to 34-year-olds account for almost half of the makeup of industry marketers. In fact, according to a recent Forbes article, 73 percent of millennials (born between 1980 and 2000) are involved in the purchasing decisions of their companies. As recently as 2012, that percentage was more evenly distributed across age groups, but

Bring your customers the content they need to make smart, well-informed decisions, in a format they can have at their fingertips & with the ability to have a deeper relationship when it's convenient & necessary to do so.

this evolved workforce now wants to absorb information differently than audiences in the past, who relied on informed relationships, suppliers stopping by in person and even printed materials. There is still a time and a place for all those communication tools, but today's world is more virtual than ever, and it requires successful business leaders to be entirely mobile. This doesn't mean hanging up the phones altogether. In fact, customer satisfaction by phone is low across all industries, but construction businesses are at the bottom, with only a 21-percent phone satisfaction rate. While phone-based sales and marketing services are on the rise, it is vital for them to be authentically attached to the company's brand and background, in order to provide the confidence and guided support necessary to take a recommendation back to the executive panel, who will then make the final call.

3. MANY CLIENTS GO 60% OF THE WAY THROUGH A PURCHASING PROCESS BEFORE MAKING DECISIONS

Not only that, but clients are intentionally looking to block out your influence in the early stages of purchasing for a reason. Unless you have already created distinct loyalty with a client, they are looking for "product" first, not for your brand. What does your firm offer a new client? "About 71 percent of purchase decisions start on a generic query versus a specific brand." Millennials are fiercely drawn to meaningful stories and emotional connections, creating an opportunity for manufacturers to build their brand loyalty around something important to their decision makers.

On one side of the spectrum, that could be playing to their desires for professional success with tools to engage, educate and properly connect with their own customers. On the other end of the spectrum, it may be a social cause, response to a natural disaster or identification with

a philanthropic effort. If you don't already know about Tom's Shoes or Warby Parker, get to know those brands and the efforts they are making to connect with their customers. A recent study by Sacunas found that 80 percent of millennial marketers say that the environmental, social and philanthropic efforts of potential vendors are important factors in their consideration. They don't stop thinking like millennials just because they are at work.

DID YOU KNOW?

73% of millennials are involved in the purchasing decisions of their companies.

In the end, millennials are becoming a larger part of the workforce and the decision-making happening in the marketing space. The impact is that marketing decisions are becoming more like consumer-based decision making than ever. With technical products built to solve problems, it can be challenging to make the shift. However, construction firms who can connect millennials to the "why" story of their brand and products will cut through the commodity crowd and stand apart for the better.

Bring your customers the information they need to make smart, well-informed decisions, in a format they can access at their fingertips and the ability to have a deeper relationship when it's convenient and necessary to do so. Do this, and you will drive loyal purchasers from considering your company to making a commitment at a pace that will leave your competitors in catch-up mode. **CBO**

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4 MARKETING MYTHS YOUR FIRM NEEDS TO FACE

Learn how these common misconceptions can hurt your marketing strategy

BY SUE SILVA

The field of marketing has the perceived image of being fun. People tend to think of viral YouTube videos and Super Bowl ads. But when business executives get into the weeds of marketing, they quickly discover it's not as fun or easy as it might seem. When efforts are guided by misconceptions about marketing, the result is often disappearing dollars with little to show for it. If you suspect you are harboring some misguided notions about marketing, take comfort in the fact that you're in good company. Even the most experienced CEOs are susceptible to several common marketing myths.

MYTH 1: MARKETING IS ABOUT GREAT PICTURES & CLEVER COPY

Research and strategy drive effective marketing. Marketing materials are essential, to be sure, but without research and strategy behind them, they only amount to shots in the dark. That's because most companies focus on what they are selling, when they should focus on what the customer is buying. Research uncovers what people are really buying

when they purchase a product or service. Strategic positioning then nails down why they should purchase it from you. Auto manufacturers understand this really well. Every vehicle is a chassis and four wheels that gets you from point A to point B. But a look at positioning and taglines shows this is not what is sold. Manufacturers all sell the experience that the customer wants. For example, BMW's positioning says, "BMW cars give you a pleasure in driving like no other." The company's tagline is "The ultimate driving machine." Another example is Ford's positioning, which says, "Ford trucks can handle anything." Ford's tagline is, "Built Ford Tough." Each tagline came from strategic positioning, which came from seeing the product through the customers' eyes. Another way to frame this is, "What do you have that your prospects want, and your competitors either don't have or are perceived not to have?"

An example from a roofing company illustrates this nicely. The company has two advantages most others do not: a registered roof consultant and an engineer who improves on architectural specifications. Research showed that customers felt they were getting solutions that made the roof better. The company's positioning

became “Brains & Brawn” – The intelligent approach to roofing. From that came the tagline, “Smarter Approach. Stronger Roof.” The same concepts apply to your business. So before diving into the fun, creative stuff, like images and copy, you need to nail down positioning that is the following:

- *Ownable*—Difficult for other companies in your industry to duplicate or emulate
- *Emotional*—Focuses on what the customer is buying, not on the benefits and value of your category
- *Clear*—Easily understood by anyone

MYTH 2:

THE VICE PRESIDENT OF SALES CAN HANDLE IT

Ninety percent of sales vice presidents have no marketing experience. You wouldn't hand finances over to an IT staff, or human resources over to a customer service representative. And for good reason. Likewise, it's not a good idea to expect your vice president of sales to develop and execute a marketing plan. Though marketing and sales are related, they each use very different skillsets.

Even if your vice president of sales has a marketing background, taking on two roles prevents him/her from doing either of them well. Marketing is a lot more complex than it used to be, and it typically requires a team of professionals in graphic design, writing, web development and account management. A good marketing director knows how to recruit and coordinate this talent. You might not be in the position to hire a full-time marketing director or an advertising agency. The good news is you probably don't need to. A part-time or freelance marketing director could be a good fit for your company.

MYTH 3:

IF YOU BUILD IT (A WEBSITE), THEY WILL COME

There are over 1 billion websites. How will your business prospects find yours? Every company needs a website. It's your online brochure, and it may be where you sell your products or services. Yet so many companies fall short in providing ways for prospects find them. Some standard approaches include:

- *Customer referrals*—Encourage satisfied customers to spread the word, even if it means offering incentives. Customer referrals are one of the most cost-effective sources of new business.
- *Get your URL in front of prospects*—This could entail print ads, pay-per-click campaigns or email blasts, to name a few. It's a good idea to work with a marketer who can test different tactics and determine which offer the best return on investment.
- *Search engine optimization (SEO)*—SEO is about increasing the chances that your website shows up when someone searches online for a vendor in your category. It can get pretty technical and best practices change fast, but here are some SEO basics:
 - Add relevant content often, and ensure your web developer uses a site map that updates automatically with new content.

- Use strong metatags and image names. These are snippets of text, which are invisible to website visitors, but influence how you show up in search results.
- Use descriptions for every page of your site. These are the snippets of text that show up in search results.

MYTH 4:

I NEED A NEW AD

The first thing you need is a marketing strategy. Without a strategy, it's impossible to know whether a new advertisement will accomplish what the company wants. It might work, or it might be a waste of time and money. Developing a strategy always starts with specifying the result you want, then identifying ways of achieving that result. Let's say you want to increase sales by 8 percent. Now, what are some of the ways you could increase sales? Let's break it down:

- *Scenario 1*—Targeting new customers: 75 percent of sales will come from new customers, and 25 percent from increased business from existing customers.
- *Scenario 2*—Targeting existing customers: 75 percent of sales will come from increased business from existing customers, and 25 percent from gaining new customers.

Although the desired result is the same, these two scenarios have different primary targets and objectives, and because of that, they require different approaches. When your primary target is new customers (Scenario 1), you will want to increase awareness of your product or service. Appropriate communications would be advertisements, public relations, direct mail and email blasts that speak to this audience. A second communication objective could be to encourage customer referrals. In this case, your target is still new customers, but you would be communicating with existing customers about your referral program. For Scenario 2, when your primary target is current customers, you will see why you need a different approach: This group already knows you. Your communication objectives could be to educate the audience about new products and services, or to promote add-ons and upgrades. Direct mail, e-newsletters and your customer portal are all great vehicles for reaching this audience.

Marketing is a mix of science, art and trial and error. It's also an important part of any growing company, and doing it right takes knowledge and experience. To increase your knowledge, these three marketing classics are a great place to start: *Guerilla Marketing*, by Jay Conrad Levinson; *Positioning and The 22 Immutable Laws of Marketing*, both by Al Ries and Jack Trout. **CBO**

Sue Silva is the owner of Superus Marketing, a marketing consulting firm that provides part-time marketing director support to companies that need help with marketing, but don't need a full-time director. Visit superusmarketing.com.



Room for Possibilities

4 things to consider before selecting excavators for use in confined spaces

BY TOM CONNOR

With some jobsites getting tighter, particularly in urban areas, contractors rely on compact equipment that can access confined spaces and still have the power to get the job done efficiently. Today's compact excavators are designed to overcome challenges when working in confined spaces where larger equipment cannot fit. This is evident by the dramatic increase of compact excavators in the past 30 years, replacing many tasks previously done with loader backhoes. Demand for compact excavators doesn't appear to be slowing down anytime soon. Before bidding on a project and working in confined areas, evaluate the following considerations.

1. SCOPE OUT THE JOBSITE

When working in tight spaces, it's important to consider the type of work your operators are completing and the jobsite on which they are working. Contractors gravitate toward compact equipment that delivers exceptional performance and attachment versatility on jobsites. Measure widths between permanent structures and gate or door openings to ensure your compact equipment can easily travel in between or through openings. Instead of a single backhoe loader on a project, it's more common to find two machines—a compact track loader and a compact excavator. These



machines can work in tandem, to perform excavating or grading projects faster than backhoe loaders. If you're working in established residential neighborhoods with exceptionally narrow passages, some compact equipment manufacturers offer compact excavators with retractable undercarriages. This feature allows you or your operators to retract the excavator's undercarriage, pass through a gate and then expand the undercarriage before working. Another benefit of compact equipment is its rubber-tracked undercarriage, minimizing damage to established surfaces and time spent after a project's completion to replace or repair surfaces.

2. DON'T FORGET TAIL-SWING CONFIGURATIONS

Today's compact excavator market includes a variety of tail-swing types, depending on the jobsite requirements. Tail-swing types include: conventional, minimal and zero tail. Minimal tail-swing and zero-tail-swing excavators provide more unrestricted rotation and flexibility when working close to objects or against a wall. The zero-tail-swing feature virtually eliminates the chance of the excavator's tail (house) inadvertently contacting surrounding objects and potentially damaging the structure and machine. The minimal-tail-swing feature significantly reduces the chance of inadvertent contact,

KNOW YOUR EXCAVATOR TRAILER REQUIREMENTS

Make sure you are in compliance with your local authorities when you transport your compact excavator. Proper hauling practices will help minimize loading issues that may be out of compliance and slowing your productivity. All states and local municipalities have regulations based on gross vehicle weight rating (GVWR)—the maximum operating weight or mass of a piece of equipment as specified by the manufacturer. Load ratings may vary by state and season. Keep abreast of federal, state and local laws and regulations regarding weight, width, length and height of a load before preparing to transport your machine.

minimizing the likelihood of damage to nearby objects or structures. A zero- or minimal-tail-swing excavator of a given size will generally be wider than its conventional tail-swing counterpart. If you anticipate routine work where your operators must pass through narrow property lines or gates, a conventional tail swing may be a better fit. The typical width of a conventional tail swing will be about 60 inches, whereas a zero- and minimal-tail-swing excavator with

similar performance will have a width of about 70 inches.

3. CONSIDER ARM LENGTHS

Some manufacturers offer different excavator arm configurations to provide additional dig depth and reach without moving up to a larger size class. A long arm or extendable arm may give operators the extra reach they need to trench, load a truck or pile spoil further away from an excavation.

4. MAKE THE MOST OF YOUR ATTACHMENTS

Don't overlook the importance of doing more than digging with an excavator. Replace work previously done with manual labor by purchasing or renting an attachment for occasional use. For example, when removing concrete, add a hydraulic breaker to demolish the material. Add a hydraulic clamp for land-clearing applications to quickly grab, lift and load materials. Make the most of your excavator, especially when working in tight spaces. **CBO**

Tom Connor is an excavator product specialist with Bobcat Company, a Doosan Company. Connor has more than 2 decades of compact equipment experience in product and attachment development, demonstration and training. Connor focuses on the core competencies of machine performance, operational efficiencies and market innovations. Visit bobcat.com.



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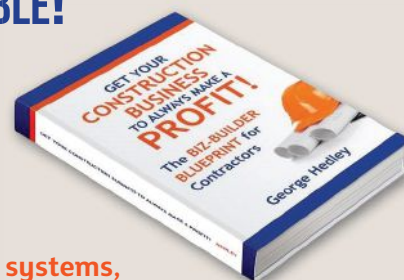
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Renovating a Corner of History

How the Dumbarton Oaks Fellowship House received an award-winning, modern twist

BY LORELEI K. HARLOE

A Washington, D.C., historic landmark demonstrates design ingenuity by combining fired-clay brick with complementary natural materials and a whole building approach. Designed and entered by Cunningham | Quill Architects PLLC, the Dumbarton Oaks Fellowship House project earned a best-in-class award in the renovation/restoration category in the Brick Industry Association's (BIA) 2017 Brick in Architecture Awards. BIA's annual competition honors outstanding and resilient design that incorporates clay brick.

The Dumbarton Oaks Fellowship House is an adaptive reuse project with large, new additions to a 1950s commercial brick masonry building in the historic Georgetown neighborhood of Washington, D.C. The new building provides 25 dwelling units for Harvard University's Dumbarton Oaks Research Library and Collection's annual student fellows and their families, as well as public spaces for the community.

According to the awards entry, the project's main challenge was to take a very irregular site and reintegrate it into the existing Georgetown grid. The new addition is rotated to take advantage of the site's shape, while maintaining the integrity of the original building and creating usable outdoor space. Many measures to upgrade, improve and add to the existing bones were employed to provide a robust program



within this confined, urban footprint. The building utilizes traditional building materials to complement the surrounding historic architecture, but innovation is achieved through the brick and copper detailing and the numerous sustainable measures implemented, but it is not readily visible.

"Early in the design process, the team explored myriad massing strategies to marry the new, significantly larger program into the existing masonry building," said David Coxson, project designer at Cunningham | Quill Architects PLLC. "However, the selection of brick as the primary material for the additions was an early and natural choice



for the design team. It allows the new additions to intersect relatively seamlessly into the existing massing and into the context of the historical Georgetown neighborhood within which the site is set."

The architectural and landscape history and how they relate to the central mission

of Dumbarton Oaks main campus, a historically brick campus with an encyclopedic selection of brick detailing, informed the design of the Fellowship House. Boasting an architectural and landscape confluence of McKim, Mead and White, Beatrix Ferrand, Phillip Johnson and Robert Venturi, the main campus is both playful and formal, with old and new meshing consistently throughout the grounds.

The Fellowship House, located on a tight corner lot fronting a commercial corridor and surrounded by historic residential neighborhoods, pursued this concept and use of materials. Traditional materials ease the building into its historic context and blend the new additions seamlessly into the existing building. The small, brick-and copper-clad residential bays of the additions are intended to recall the scale and precedent of brick-clad townhomes lining the adjacent residential streets.

The Flemish bond pattern with accented headers was employed for the new brick additions to achieve a juxtaposition with the existing building. A stainless-steel cable trellis system laid in a diamond pattern allows vertical plantings to rise up the new brick additions and front entrance of the building. These green walls provide a modern twist on a traditional material, and allow for passive shading and soften the building within the residential context.



Dwelling units are configured into furnished studio, one-bedroom and two-bedroom arrangements, with multiuse spaces at the upper and lower levels of the building. The new programming includes the Garden Room (a Fellows gathering place), the Oak Room (presentation space), a commercial kitchen and an outdoor terrace. A fitness room, soundproof music room, common lounge, laundry room, bike room and storage room are in the basement. The third-story addition, within the extent of the existing building footprint, and the three-story new additions on the north, west and south elevations employ brick veneer construction with oversized brick to match the existing. This strategy allowed for the additions to blend seamlessly into the existing footprint and site.

To play off the ubiquitous material palette of brick façades and copper roofing and trim in Georgetown, Coxson said the design team explored methods in which these two materials could be interwoven. The solution was to have the brick, in a Flemish bond pattern, serve as the primary material, which anchors the additions to the site and to the existing building, while the flat-seam, copper paneling wrapped the projecting bays and penthouse in a running bond pattern. This technique allowed the copper to act as the lighter material for the forms, which floated above the ground plane. To avoid the bright penny finish of plain copper juxtaposed with the red brick,

the design team specified a preoxidized copper panel, which has a natural brown, bronze oxide finish. While the copper panels will continue to weather naturally, it was important to the design team that these two materials would stand out from day one.

The project has achieved LEED Gold Certification from implementing sustainable strategies early in the design process, and adopted goals to improve energy efficiency to a level that is 30 percent better than ASHRAE 90.1 and 30 percent more than Harvard University's 2009 Green Building Standards. Starting with the geothermal renewable energy system, the building utilizes an integrated "whole-building" design approach that succeeds in incorporating sustainable technologies and assemblies, such as green roofing and a stormwater vault, and with passive strategies, such as considerate glazing locations, daylighting, passive shading and cooling via window awnings and shutter elements. **CBO**

Lorelei K. Harloe serves as a strategic communication partner to national trade associations, companies and other organizations. She has provided marketing communication and public relations services, primarily for the building industry, since 1998. Prior, she served as communication services representative with Edison Electric Institute (EEI). Founded in 1934, BIA is a nationally recognized authority on clay brick construction representing the nation's distributors and manufacturers of clay brick and suppliers of related products. Visit gobrick.com.

DUMBARTON OAKS FELLOWSHIP HOUSE - WASHINGTON, D.C.

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Builder: Whiting Turner Contracting Company

Mason Contractor: Baltimore Masonry Inc.

Making the Grade

Top 5 reasons your company should consider using grade control

BY JON MCKENDRY

On some construction jobsites today, machine-control systems are just as prevalent as smartphones, excavators or even hardhats, while on other jobsites, you may only see stringlines and grade stakes. Often, construction business owners who are hesitant to adopt machine-control systems are intimidated by the technology, or they just don't know where to start. However, if this describes you, your business could be missing out on a significant opportunity to improve grading accuracy and optimize productivity. Today's machine-control systems help operators of all skill levels get to finished grade faster by relaying real-time grade information directly to the operator's dashboard. By putting the design of the job in the cab and at the operator's fingertips, operators can guide the bucket or attachment to finish grade much more quickly. Before you pound one more stake, consider the benefits of machine control, as well as the cost of over- or under-excavation, project overruns or missing out on opportunities to branch out and win new work. Let's dive into the top five reasons you should be using grade control for your business.

1. INCREASED EFFICIENCY

The scary truth about most construction projects is that 80 percent run into overtime. While not all of that overtime



can be attributed to grading, it's safe to assume that some of it can be. Keep in mind that grade control speeds up many of these processes by relaying real-time grade information directly to the operator. In addition, some new systems now offer a sophisticated "automatics mode." With excavator autos, the system automatically controls the boom and bucket according to the digital design. It essentially locks onto the grade and automatically makes adjustments. From there, the operator controls the stick, and the system prevents the machine from undercutting or overcutting. These automatic options are helping operators of all experience levels achieve grade consistently, with high accuracy and

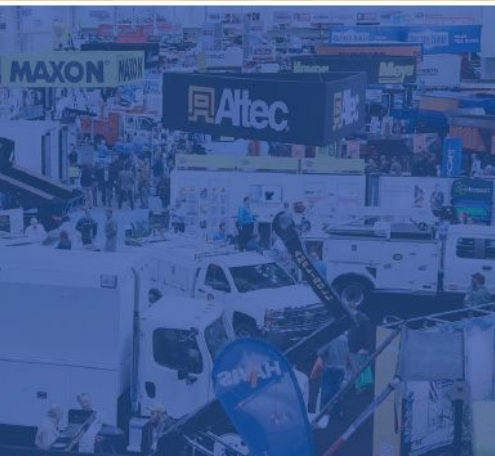
in much less time. New grade-control systems also speed the transfer of files from the office to field, which gives everyone the latest design quickly and easily. Many users report being able to get to grade 30-percent faster using grade control. When evaluating the cost of grade-control systems, divide the investment by your labor rate to determine how many hours of use it will take to pay for the system. Most users can expect a full return on investment (ROI) for grade control systems at around 200 hours of use.

2. GREATER ACCURACY

While getting to grade quickly is important, it doesn't mean much without accuracy.



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Grade-control systems use a combination of GNSS, inertial and laser or total station technology to accurately position the excavator's bucket or dozer blade in real time. Using an in-cab display, the operator then sees the 2-D or 3-D design surface, grade or alignment inside the cab. These systems determine the position of each tip of the blade and compare it to the design elevation in the cab to compute cut/fill to grade. As discussed earlier, automatics-mode features are also available for excavators, which allow for accurate excavation in a very short time.

3. IMPROVED SAFETY

Today, the best construction companies have made a serious commitment to jobsite safety. The most effective safety programs emphasize continuous improvement and ongoing training to ensure that injuries and incidents are minimized. Improving safety

on the jobsite is just one more reason to consider grade control. Grade-control systems greatly reduce the number of moving pieces around the jobsite. In many cases, these systems reduce the need for staking and grade checkers, who can sometimes be put in precarious positions, such as the bottom of a trench, while checking grade. They also reduce the need for supervisors and surveyors to be constantly on-site.

Extended Wi-Fi capabilities and greater connectivity options available with grade-control packages also allow teams to remotely transfer grade control data, 3-D models, remote GNSS corrections and telematics from the jobsite to and from the office. Grade control, coupled with connectivity options, also offers the potential to save many hours each month that were once spent driving to each machine and stopping the excavators and dozers to share new design revisions.

4. INCREASED REVENUE

One of the greatest things about machine control is that in many cases, it helps level the playing field for small and midsize contractors. By automating much of the excavator or dozer operation, operators can achieve grade and move on to the next job more quickly. And the enhanced accuracy of various positioning systems allows precise control of grades and contours in several applications like mining, earthmoving and paving. Reducing material overages when using machine control can save significant revenue.

A typical contractor will budget for 10-percent material yield on concrete, asphalt or engineered fill. For contractors using machine control, this is typically in the 1 to 2 percent range. To give you an idea of the saving on a 50,000-square-foot, 4-inch slab on grade with 6 inches of engineered fill, the contractor would save



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ALERT

49 cubic yards of concrete and 74 cubic yards of engineered material. Grade control also allows contractors to branch out into new areas of work or to take on bigger jobs. That might include taking on more finish grading jobs, landscaping work, site layout or utility layout, for example.

Easy-to-use 3-D modeling and automated grade-control systems specifically designed for smaller projects and smaller machines can mean a significant new revenue stream for small and midsize contractors. These systems are cost effective and can be put on equipment. In addition, because operators can reach finish grade more quickly, often with the same machine, instead of bringing in finished grade equipment, there is less travel time and coordination of machines across multiple jobsites. This translates to significant savings for contractors in terms of fuel costs, wear and tear on machines and maintenance.

5. DECREASED STAFFING CHALLENGES

It's no secret that there is a growing shortage of skilled and experienced heavy equipment operators. As many experienced operators near retirement, contractors are beginning to realize the potential of grade control solutions to help fill this skills gap. New grade control systems are much more intuitive and easy to use, which make them more attractive to new operators. This allows operators of all skill levels to be much more accurate at the first pass and create smooth, flat or sloped surfaces more easily. They can also achieve finished grade to millimeter accuracy with fewer passes. This frees up more experienced operators for complex jobs and lets newer operators hone their skills. Today, many grade-control applications are also built on familiar operating systems, which make them easy to use with a similar look and feel to

smartphones, tablets and other devices we use every day. They also have a more intuitive interface and touch-screen displays, which have been optimized for productivity. New systems are also more configurable, so each operator can personalize the interface to match his/her workflow.

Whatever your personal comfort level has been with grade control in the past, it may be a good time to reevaluate the way you think about these systems. Construction business owners willing to make the leap can experience significant efficiency gains in terms of minimal rework, cost savings and more competitive bidding. **CBO**

Jon McKendry is a product manager in Trimble's Civil Engineering and Construction Division, where he is responsible for excavator, compact machine and wheel loader solutions. Contact him at jon_mckendry@trimble.com. Visit trimble.com.

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The Borderless Jobsite

Risks to consider in an industry still working to adopt new technology

BY KATHY WELLS

As more technology infiltrates the construction industry, physical borders are no longer enough to protect a site from potential costly damages. Construction Business Owner recently spoke with Pete Wilcox, inland marine director at Travelers Insurance, to understand the implications of new technology and the concept of the “borderless jobsite.”

CBO: What is a borderless jobsite & what does it mean for the security of today’s construction jobsites?

PW: With the rapid progression of the “internet of things” (IoT) and other emerging technologies, practices such as virtual building design and the virtual sharing of plans are becoming more common. The traditional jobsite model is changing, which impacts construction site security. Traditional security measures once meant fences and security cameras. Those are no longer enough to protect today’s jobsites, because, often, the risks extend beyond set borders. Managers need to think of the jobsite not just as a physical location, but as any location that could leave them vulnerable, and that includes their digital presence.

CBO: What are the risks that IoT tech can bring to construction jobsites?

PW: Many jobsites and buildings now have technology to turn on lights, control the



temperature and utilize water sensors and alarm systems remotely. Especially during the construction phase, there are many people in and out of the jobsite, which creates opportunities for tampering with these systems. These technologies may also be vulnerable to hacking after completion of a project.

CBO: What are some applications of virtual design & how might they pose a threat to construction businesses?

PW: Virtual design is allowing more construction partners to collaborate on projects before building begins. While this may

be convenient, it also presents a potentially serious cyber security risk. Because virtual design is digitalized, it is much easier for someone to hack into the system to obtain immediate access and even interfere with sensitive information, floor plans and building designs.

For major projects, this can be costly and dangerous. Some practices we recommend for contractors to protect their information include limiting the number of employees and partners who can access the material; making sure passwords are strong and secure; implementing a multi-tier sign-on process; and establishing a

backup that tracks changes and is kept at a different location.

CBO: What do construction professionals need to know about wearable technology before using it?

PW: Wearable technology can be extremely beneficial because it can improve the quality of work and safety for employees. As with any new technology, there are risks involved if employees do not understand how to use it. I would highlight two main risk categories when integrating wearable technology into a business: cyberrisk and bodily injury.

- *Cyberrisk*—If information is not properly secured and a breach occurs that allows sensitive information to be released, companies can face class-action lawsuits, fines and a damaged reputation. These risks tie into what I mentioned earlier regarding virtual design. It is important to keep virtually stored information safe and protected. A simple and effective tip to mitigate this type of risk is creating a strong password to ensure file safety.
- *Bodily injury*—This is the most critical risk within the construction industry. Devices are susceptible to malfunctions, which can cause injuries and even death. Further, we have seen a disconnect between employees using wearables on a construction site and the managers who monitor their activity from afar. Since they are not experiencing the task, the colleagues observing and providing recommendations must be careful of the advice they provide.

For example, workers in the field wearing smart glasses can be monitored by supervisors at a remote location who can communicate and react to real-time conditions on the jobsite. The supervisors can also aid fieldworkers by providing them immediate direction on what to monitor and how to complete a complex task. To help prevent injury and keep everyone safe, companies

should conduct extensive testing and training before introducing wearable technology to their employees.

CBO: How are drones impacting construction sites?

PW: Drones are still a relatively new application to the construction space. Several national contractors have begun to use drones to document activities and survey site conditions and to hone in on details that were less detectable before, such as property damage after severe weather incidents. Because drones are still an emerging technology, other potential applications to the construction site are still being tested, and the full impact is yet to be seen.

CBO: What other traditional jobsite threats should professionals continue to protect against?

PW: Traditional threats, such as fires, water damage and theft, are also important to keep in mind. Managers should provide new employees with an overview of physical worksite threats, as well as the proper protocol for addressing them.

- *Fire damage*—Buildings under construction face a higher risk of fire, especially when fire suppression systems have not yet been installed. Construction fires are often caused by human error—typically from the use of torches for cutting, soldering, roof work, blazing and welding. A formal, written plan that includes operations management and fire protocols should be developed and enforced to prevent this from happening. Smoking is also a major risk for fire. Smoking should not be permitted inside any building or near any combustible materials or fuel. “No Smoking” signs should be posted all over the jobsite. We also see cooking on the job often lead to fire. If items such as portable grills or stoves are going to be used on-site, they need to be closely monitored. Fire extinguishers should also be readily available.

- *Water damage*—When it comes to water damage, there are three things to keep in mind: prevention, detection and response. Ideally, you want to prevent water from flowing from a pipe system in the first place. This can be done by conducting quality control testing and periodic inspections. Workers should also be aware of water damage and prevention protocols so they can report damages and potential risks in real time. Additionally, a water-damage response plan is critical to quickly react to the issue before water begins to spread. This plan may include an assessment of possible water sources around the site.
- *Theft*—Lastly, theft, vandalism and unauthorized entry are major risks on a construction site. There should be a plan in place with various layers of theft prevention to reduce loss or damage. Establishing barriers to prevent access is the first line of defense. This can be done by installing full-perimeter fencing, locked gates and interior/exterior lighting. Sites should also install intrusion detection systems, such as motion detectors, at all points of entry.

Construction managers should also focus on project materials management. Construction materials and equipment are prime targets for thieves to seize and sell. Staffing the delivery of materials and storing them in a secure location that is monitored by an intrusion detection system can reduce risk.

The most important thing to keep in mind is that, border or no border, construction jobsite risks are evolving. It is imperative for today’s managers to continuously evaluate the protective measures they are taking, the training they provide and the safety culture they are putting in place. **CBO**

Kathy Wells is the editor of Construction Business Owner magazine.

Safety Inside the Cab

How equipment operators can focus on work & forget the distractions

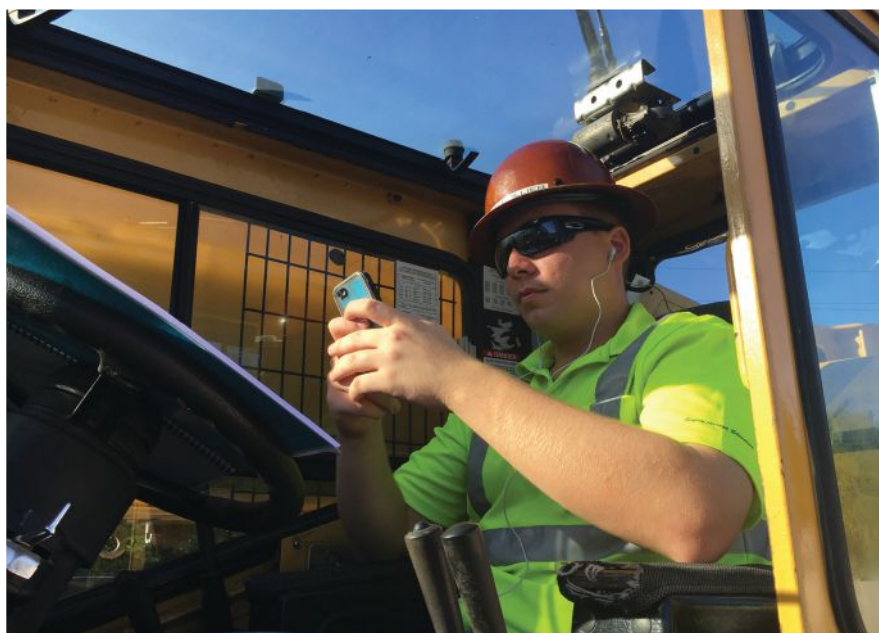
BY KATIE MACKEY

A ringing cell phone, family issues, the weekend fishing trip, text messages, ball game scores, funny pet videos, the glare of the sun—the list goes on and on. Sometimes, these distractions come from external sources, such as a phone call or text message. Other times, they are internal distractions, such as medical concerns, personal issues or plans for a future event. But it only takes a momentary distraction for one's life to be permanently altered—meaning equipment operators have to be on their game 100 percent of the time.

EXTERNAL DISTRACTIONS

Cellphones are an excellent way to communicate, and are a very useful tool to have in one's arsenal, but experience has shown that they also have a reputation for being abused. Any tool, no matter how useful, can be dangerous when not properly employed. Before technology became such an integral part of everyday life, equipment operators might have a radio in the cab, perhaps to listen to a ballgame or background music. Even this might be distracting, or it might prevent the operator from hearing something amiss with the machinery that could have been detected. Now, day in and day out, people are distracted by their phones.

Cellphones have gone beyond the simple use of talking to another person. Now, they



are minicomputers in our hands. Email can be checked by the minute and whole conversations take place via text, when a simple phone call would have worked. We can be plugged in 24/7 through social media. We might feel the need to be entertained through streaming videos, or reach the next level in a game. We might listen to music directly through earbuds to block out other noises or dim the hum of the engine.

But when operating a crane or heavy machinery, this can have dangerous consequences. Don't take the risk of bumping a lever in an effort to take the phone out

and answer a call or skip a song. Don't ever take your eyes off the load or signal person to read a text. When safety standards are ignored, serious accidents can happen.

Not only is this sound advice, but it is also the law. The Occupational Safety and Health Administration (OSHA) forbids the use of a cellphone while operating a crane in 1926 Subpart CC 1926.1417(d), which states; "The [crane or derrick] operator must not engage in any practice or activity that diverts his/her attention while actually engaged in operating the equipment, such as the use of cellular phones (other than

when used for signal communications).” And if the cellphone is used for receiving signals, OSHA standard 1926.1420(c) requires that “the operator’s reception of signals must be by a hands-free system.”

Due to the dangers associated with working on or around cranes, this must be enforced by all companies that own cranes, as well as the contractors and operators who use them. While these OSHA regulations are specific to crane operations, the use of a cellphone by other types of heavy equipment operators should be prohibited as well.

Employees who are not operating heavy equipment, but are working around it, should make sure to work distraction free, too—keeping their mind on the task and the environment in which they are working. They should only use cellphones when they have stepped away from the active jobsite, keep their earbuds out and wear proper hearing protection when warranted.

INTERNAL DISTRACTIONS

Another area where distractions occur, but cannot be as easily seen as a cellphone in the hand is the mind. Mental and emotional distractions are probably the most easily dismissed types of distractions, but they can make a big difference in the effectiveness of an operator and the safety on the jobsite.

Operators must learn to “put their junk in the trunk” every day when they come to work. They need to clear their head of all the emotional distractions, figuratively taking the related thoughts from their brain and putting them in their vehicle until the shift has ended. Mental distractions do not belong on the site or in the operator’s seat.

For example, John is the best crane operator on the job. He made this lift yesterday, the day before and the day before that. But today, he seems off his game. It appears that everything is fine on the outside, but the way he is operating says there might be something else going on outside of the crane. What should be done?

- Ignore it and let him keep operating, hoping no one gets hurt
- Check in with him and see if he insists that he keep working
- Ask him to tell you what is going on and ask him to push through
- Wait to see if he says something
- Take him out of the seat of the crane for an hour or two
- Assign the lift to someone else

While some of these options may seem a little out of the ordinary, once a concern has been recognized, the site supervisor should approach the situation with a balance of managing risk and common sense to make the best decision for the safety of the entire jobsite. Maybe the supervisor should step in and relieve John of his operating duties until he has the chance to clear his head by putting in a relief operator for a couple of hours or a day. Once John is back to normal, he can get back in the seat of the crane and continue with his work. The only wrong answer is to ignore it and hope nothing happens.

Looking at it from another perspective: In a baseball game, when a pitcher is rocked by an opposing team or loses his edge, the manager comes out and talks with him and, more often than not, the pitcher hands the ball to the manager and the relief pitcher comes in. It doesn’t mean the original pitcher is a poor pitcher. It just means he lost his mojo for the day, or his head isn’t in the game. Sometimes managers want to believe in their players so much that they leave them in too long, and the game is lost.

A site supervisor may need to take the same approach with an operator because he/she may have lost his/her edge. Depending on how the situation is handled, the operator can come back strong, once his/her head is clear. A greater hazard can be created by intimidating, chastising or embarrassing him/her, especially in front of peers. Regardless, you certainly don’t want an environment where good operators fear for their job or a loss of pay because

of external distractions that create safety concerns.

In the standards, the only place mental distractions are alluded to is the ASME B30.5 Chapter 5 Qualifications for Operators, which requires an operator to pass a physical examination that meets the criteria: “No evidence of physical defects or emotional instability that could render a hazard to the operator or others ...” While an operator may have passed the physical exam and met the qualifications, is he/she emotionally stable? Is emotional stability a concern in John’s case of a temporary distraction? Any operator with a true passion for safety and concern for others on the site should know to either step down and excuse himself/herself for a day or so, or to mentally put the distraction aside until the work is finished.

PLANNING FOR SUCCESS

In order to mitigate both external and internal distractions, one must not only be able to recognize concerns, but also have a plan in place to address them when necessary. Where does the organization stand on the use of cellphones by operators and crews? Is there a policy against it? Do employees abide by it? Does each worker manage himself/herself, or is it seen as a nonissue? What about emotionally distracted employees, how are these situations handled?

Preemptively talk to employees and operators about the importance of keeping their head in the game. A little preparation before encountering of these types of diversions will help the jobsite run smoother and stay a safer place. **CBO**

Katie Mackey is the marketing manager of Crane Tech LLC, a crane, rigging and heavy equipment training provider for the material handling industry. Crane Tech’s guiding principle, safety through education, is integrated into all the programs and services they offer. Sign up for Crane Tech’s weekly, educational emails at cranetech.com/newsletter-signup or visit cranetech.com.



Accelerating Innovation in the Concrete Industry

The key to encouraging interaction among entrepreneurs & contractors

BY ANN DAUGHERTY

If the United States is to maintain its place in the world economy, it must increase its productivity and rate of innovation. Unfortunately, as one of the key sectors in the domestic economy, the construction industry has experienced nearly flat productivity growth for decades. The construction industry also has a significant impact on the environment. To address these issues, the industry must identify the strategic and technical barriers to productivity and adopt new technologies that both improve productivity and minimize concrete's impact on the environment.

Some of the greatest results can be gained by focusing on the largest element of the construction sector—concrete construction—a sector comprised of multiple suppliers, producers and contractors. One of the best and most immediate ways may be through attendance of technology forums—regularly scheduled events that provide entrepreneurs with venues for showcasing solutions to construction challenges. Examples of productivity-enhancing tools considered at recent forums have included the following:

- Building information modeling (BIM) solutions have been developed by multiple software vendors. These systems allow designers and contractors to produce highly detailed datasets that provide virtual representations of a



completed building. It is a logical move to coordinate the 3-D building models (developed using BIM tools) with the fourth dimension (time) to generate construction schedules. ALICE Technologies has created a parametric software solution that can generate thousands of viable scheduling options at the push of a button.

- High-precision, 3-D measurement and imaging using laser scanning has changed the way concrete is measured—and the application offerings in concrete construction are just beginning. FARO Technologies Inc. produces a 3-D measurement

tool that is now used to detect high and low areas on fresh concrete floor surfaces, evaluate floor flatness after hardening and monitor structural performance in real time, under loads. These capabilities represent only a fraction of the potential functionality for the tool. For example, contractors can now document existing structures and prevent construction errors through comparison of as-built conditions with 3-D models, before adjoining elements are fabricated.

- For optimum resistance to cycles of freezing and thawing, concrete must have well-distributed, small voids that

help to “vent” pressures developed as ice crystals form. For optimum efficiency, the voids should be evaluated before placement, rather than after the concrete has hardened. The Super Air Meter is a new meter that measures the air-void volume and spacing in fresh concrete—in minutes. This timely access to air-void data allows efficient adjustments to mixtures, thus increasing consistency and durability.

SUSTAINABILITY IMPACTS

Heightened global awareness of the effects of carbon dioxide (CO₂) emissions has presented a major challenge to the concrete industry. As worldwide urbanization continues, the demand for concrete is increasing and emissions from the associated production of cement rising.

Also, material supplies for concrete, including natural aggregates and manufactured byproducts, are experiencing regional shortages. Some of the related innovations discussed at industry forums have included:

- Engineers have often looked to nature to assist with technology solutions. Blue Planet LLC has created a geomimetic concept to convert CO₂ emissions from industrial plants, including coal and gas-fired power plants, steel mills and cement plants, into limestone aggregate with similar properties to natural limestone aggregate.
- Many perceived environmental and supply chain issues related to cement and concrete can be solved by utilizing post-consumer glass waste. Building Products Ecosystem developed an initiative with the following goals:
 - Reuse the recycled glass by processing it into a supplementary cementitious material (SCM), thus reducing the amount of Portland cement in concrete
 - Localize the supply chain
 - Fill supply shortages of fly ash and slag

This group is now evaluating pilot studies and working with industry-standard development organizations to assure performance.

- Gaurav Sant, University of California Los Angeles, developed a unique approach to CO₂ emission concerns by using CO₂ as a resource. By capturing the CO₂ gas and using it to create a new building material fabricated by 3-D printing technology, he and his research team are turning a problem into an opportunity. This highly innovative material has been produced at lab scale; researchers are seeking ways to scale up the production.
- Waste CO₂ from emissions can also be put to a beneficial use as an admixture in ready-mixed concrete by enhancing the reaction products that solidify the concrete. Carbon Cure Technologies has already scaled up this technology, which has been shown to improve concrete performance through several pilot projects.
- Using alternative cementitious materials (ACMs) to replace Portland cement in some applications has the benefit of:
 - Integrating recycled and waste materials
 - Reducing energy consumption and emissions compared to Portland cement
 - Improving concrete durability, sustainability and performance

ACMs, such as geopolymers, magnesium phosphate and calcium aluminate cement, are in various stages of development. While some are commercially available and have been used on many projects, others are still in development and need additional testing before implementation. The industry is supporting the development of a guide for using these materials effectively. Oceans Technology Group Inc. looks to the sea to improve on materials already used in concrete. An algae-based supplementary binder and additive for concrete

works through exothermic reaction and formation of covalent bonds. It can provide advanced thermal properties, increased R-values, anti-corrosive attributes and mold and mildew control. Modified concrete mixtures bind well to other types of concrete, helping to reduce or eliminate cold joints.

FOUNDATIONS FOR THE FUTURE

Innovation can positively affect the many challenges that face the concrete construction industry, including a decreasing workforce, sluggish productivity gains and increasing sustainability impacts. But to drive adoption, there is a need to establish confidence in any one technology. This may come from demonstrating performance in pilot studies, passing criteria of proven acceptance tests or revising long established design standard—all of which require investment of time and effort.

The typically risk-averse construction community needs a clear incentive to invest in an innovative concept. The industry can support new technologies by first evaluating and then jumpstarting integration into the concrete design and construction community. This may be through sponsoring or managing creation of new technical documents, such as guidelines, specifications and codes.

Other ways are to organize stakeholders for specific industry critical issues, to help establish a foothold in standards developing organizations, perform industry surveys, develop business cases, test models, develop courses and support research to fill that will provide confidence in the performance of the technology. **CBO**

Ann Daugherty is director of the ACI Foundation, a not-for-profit organization established by the American Concrete Institute that supports research, scholarships and implementation of new technology. To learn about new technologies or share an innovative project or process, join the ACI Foundation's Strategic Development Council at an upcoming technology forum. Contact her at ann.daugherty@acifoundation.org. Visit concretesdc.org.

1 CUTTING TOOLS

Fiskars has expanded its hardware category with PowerGear Cutting Tools, which includes bolt cutters, aviation snips and pipe cutters. The line's optimized gear profiles reduce force at the part of the cut where more force is required. PowerGear technology limits the handle opening without reducing cut length, maximizing efficiency. The line's grips correctly position a user's hand, allowing the user to utilize full hand strength.

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2 TELESCOPIC BOOM LIFT

JLG has released its 400S telescopic boom lift to the North American market. The lift offers a platform height of 40 feet, restricted platform capacity of 1,000 pounds (600 pounds unrestricted) and horizontal outreach of 33 feet, 3 inches. The lift features improved multifunction capability and DuraTough hoods for heat, impact and corrosion resistance and sound and vibration insulation. Customer-preferred controls mean fewer buttons and switches used to position the platform and less time spent learning to use the platform controls. The Control ADE system improves machine maintainability, while an engine swing-out tray provides greater serviceability access. Other standard features include: a 180-degree hydraulic platform rotator; a platform console machine status light panel; a 110V-AC receptacle in the platform; and a 5-degree, tilt alarm/indicator light.

jlg.com

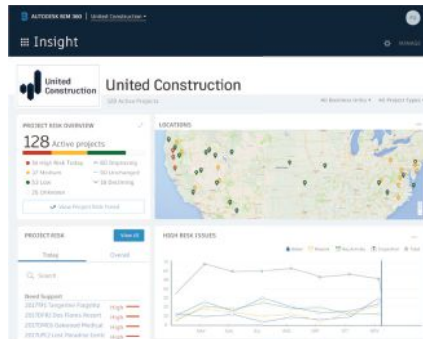
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3 SELF-RETRACTING LIFELINE SYSTEM

Honeywell announced a new line of premium, durable self-retracting lifelines (SRLs) designed to protect workers against serious injury or death if their lifeline becomes severed by a sharp edge during a fall from height. Honeywell's new Miller Falcon Edge SRL series is specifically designed to protect workers who are tying off at foot level or working near sharp edges by ensuring the lifeline remains intact if a fall were to occur over an edge. Available in 20-, 30- and 50-foot cable lengths, the Miller Falcon Edge SRL provides versatility, reliability and maximum safety. It is effective for at-height work situations with the capacity to support user weights up to 420 pounds in all connections at foot level and above, including horizontal, vertical and overhead mounting. Miller Falcon Edge SRLs are equipped with an RFID tag, which enables safety managers and workers to track important product information, inspection and employee training in real time through Honeywell Safety Suite Software.

millerfallprotection.com

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4 MACHINE-LEARNING RISK MANAGEMENT SOFTWARE

Autodesk has collaborated with its customers to mine key data from construction sites and apply machine learning techniques to that data to address the major risk areas for construction projects. The result of this research is a software solution called Project IQ. Project IQ takes 10 years of BIM field data—that's 27 million documented construction issues—and uses machine learning to look forward and out into the world of construction. The Project IQ team started by mining the construction data from projects to develop a hierarchy of machine learning models that understand the construction context and are able to flag high-risk issues, predict subcontractor risk and identify project risk. Imagine if you could look at the actual performance of all of your subcontractors based on data from each project and use it to understand areas of risk.

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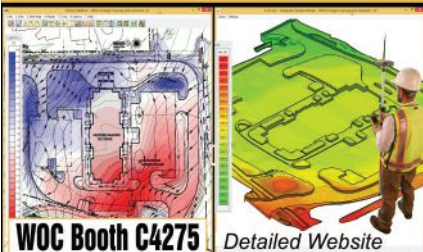
5 AUTOMATIC LADDER LEVELER

Jershon Inc. announces its automatic ladder-leveling solution, the Level-EZE. Simply set the ladder in place and the Level-EZE automatically adjusts and locks in a level position, reducing falls and close calls. Unlike competitor levelers, there is no need to manually adjust pins, levers or locks to achieve level. The Level-EZE attaches to all lengths and types of aluminum and fiberglass straight and extension ladders and does not affect the duty rating of the ladder. The product meets or exceeds all ANSI requirements for ladders. Level-EZE can be factory installed by most major ladder manufacturers, or can be installed in the field to your existing ladders with simple tools.

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Advertiser Name..... RS# Page

AIA Contract Documents.....	100	IBC
Advantage Funding Corp.	122	47
Asta Development.....	101	22
Bobcat Company.....	102	1
ClearSpan Fabric Structures.....	103	47
Doosan Construction Equipment.....	104	BC
Foundation Software	105	17
GPS Insight	107	9
HardHat Presentations	108	33
InSite Software	109	47
John Brown and Sons	38	
McGriff, Seibels & Williams Inc.	110	5
NoteVault	111	39
NTEA - Work Truck Show	37	
Payroll4Construction.com	106	21
Progressive Commercial		
Auto Insurance.....	113	15
Ram Trucks/FCA Group	114	24-25
Schweiss Doors.....	115	47
Shell Oil / Lubricants.....	116	3
Skid-Lift	117	39
SkyBitz Local Fleets	118	47
The Hartford Group	119	IFC
Thieman Tailgate.....	120	16
VP Buildings	121	19
World of Concrete.....	23	

Annual Value of Construction Put in Place

2015/2016/September 2017 Annual Rate Comparison

This chart compares the two previous years' total value of construction put in place to an annual forecast based on September 2017 figures. (Millions of dollars. Totals may not add up perfectly due to rounding.)

	2015	2016	Sep 17
Total Private Construction	827,345	909,664	942,729
Residential	433,108	475,167	515,422
Nonresidential	394,237	434,496	427,308
Total Public Construction	296,153	279,277	276,815
Residential	5,909	6,592	6,023
Nonresidential	290,244	272,685	270,792
TOTAL Construction	1,123,497	1,188,941	1,219,544

**Seasonally Adjusted Annual Rate. Source: U.S. Census Bureau*

\$1,219,544

SEPTEMBER 2017 TOTAL ANNUAL VALUE OF
CONSTRUCTION PUT IN PLACE

“We’ve seen **unexpectedly strong numbers** in design activity for most of 2017, so the pause in September should be viewed in that context. Project inquiries & new design contracts remain healthy & the continued strength in most sectors & regions indicates **stability industrywide**,” said AIA Chief Economist Kermit Baker, Hon. AIA, Ph.D.

AIA Architectural Billings Index (ABI)

National			*Regional - Billings				*Sectors - Billings			
Month	Billings	Inquiries	Northeast	Midwest	South	West	Multifamily Residential	Commercial/Industrial	Institutional	Mixed
Apr-17	50.9	60.2	50.7	53.3	55.3	50.9	49.9	52.4	54.0	53.4
May-17	53.0	62.4	46.5	50.4	56.1	52.3	51.3	51.2	51.2	55.8
Jun-17	54.2	58.6	51.5	51.9	54.8	53.1	57.1	52.1	52.6	53.8
Jul-17	51.9	59.5	53.6	53.8	53.8	50.9	55.8	55.4	52.0	48.4
Aug-17	53.7	62.5	54.3	52.5	55.7	51.3	53.8	57.6	50.1	52.5
Sep-17	49.1	59	56.9	50.4	54.0	48.8	51.0	54.0	51.0	52.2

For more information on the index or to subscribe to the complete historical data going back to 1995 for your internal analysis, **please contact economics@aia.org**. The ABI presents monthly construction billings data, using a base score of 50. A score of more than 50 indicates a growth from the previous month, and a score of less than 50 indicates a contraction from the previous month. A score of 50 indicates no change. Source: The American Institute of Architects (AIA), Architecture Billings Index (ABI).

*Regional and Sectoral indexes are three-month moving averages, due to small sample size. All data is seasonally adjusted.

**Every January, the AIA research department updates the seasonal factors used to calculate the ABI, resulting in a revision of recent ABI values.

The Announcement of the Decade

AIA Releases 2017 Contract Documents

Like Kowalski, the comet that only makes an appearance every ten years, the core set of AIA Contract Documents is updated every ten years to ensure your design and construction projects are protected against changing industry trends and needs.

Changes affecting contractors include a new insurance exhibit that allows for the selection of insurance coverages specifically tailored to the needs of the project. Other changes to the insurance requirements have been made to keep AIA Documents consistent with legal and practice developments in the insurance industry.

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AIA Contract Documents

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