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THE LEADING BUSINESS MAGAZINE FOR CONTRACTORS



INSIDE

THE 20% TAX DEDUCTION YOUR COMPANY COULD USE IN 2019

3 SIMPLE STEPS TO WINNING MORE BIDS

CEO MICHAEL KAUFMAN SHARES

PROJECT INSIGHTS

Kaufman Lynn Construction's path to becoming one of South Florida's largest contractors



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AIA Contract Documents

Real projects start with the industry standard

Before they broke ground, Solomon Cordwell Buenz ensured **399 Fremont Street** in San Francisco was protected with AIA contracts.

AIA Contract Documents used: B101–Owner/Architect agreement plus associated administrative G-forms.

Learn more about the 399 Fremont Street project at aiacontracts.org/cbo-399



Photography ©Bruce Damonte

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FROM THE EDITOR | Kathy Wells

This month's cover features Michael Kaufman, CEO of Kaufman Lynn Construction in Delray Beach, Florida. As part of our cover series focusing on projects, the 30-year construction industry veteran shares his insights on the projects and processes that have helped make his business profitable, and the lessons he learned along the way to becoming of South Florida's largest contractors. Turn to page 24 to read "Self-Employment, Scale and Success."

Next up, in "Green Building Pioneers Take on Accessibility & Independence," Associate Editor Rachel Fulford outlines the details behind the ways one team of industry professionals is rethinking green building, design and development for those with physical disabilities. Turn to page 28 to read more about the USGBC Malcom Lewis IMPACT! Award-winning project by the name of Ramboland.



Editor Kathy Wells (pictured here with Doosan Infracore North America CEO Edward Song) attended the December 2018 opening of the Doosan Infracore North America Parts Distribution Center near its headquarters in Suwanee, Georgia. The 100,000-square-foot facility will serve dealers as the Southeast hub for parts distribution in the U.S.

Closing our cover series on page 32, "Framing the Future" explores the benefits that can accompany increased owner involvement in the BIM process. Check out what Microdesk's Nicholas Wolf has to say about how altering a project owner's frame of mind could redefine and enhance the overall success of your projects.

This month, CBO has partnered with Newforma to bring you the webinar "Top 3 Tech Challenges to Watch in 2019." The live event will take place Feb. 28 at 1 p.m. EST, and will share results from a recent industry report that surveyed more than 1,200 architecture, engineering and construction (AEC) professionals. Our webinar will share data points from this research and discuss how AEC firms can resolve challenges, such as maintaining an audit trail, streamlining project workflow, and managing email and administrative workload. Join us to explore the possibilities of the top tech trends and learn how these technologies impact the way you plan your company's digital roadmap, grow your company and increase productivity. Registration is free at constructionbusinessowner.com/webinars. Can't make it to the live event? Register anyway; we'll send you the playback and presentation.

Late last month, the CBO team returned from World of Concrete in Las Vegas, Nevada. Meeting with the top equipment and tool manufacturers, and leading software and technology experts, our team was out to discover what the industry needs to know. Look for our post-show coverage in CBO's March issue, where we'll break down today's emerging trends and the best of the best from the exhibit hall.

Correction: *On page 41 of CBO's January 2019 issue, in the article "Pour Me One, Will You?," we published the following incorrect information: "A recent study showed that up to 22.3 million cubic yards of ready-mix concrete poured on any given day in the U.S. goes back to the plant as wasted." Does that math sound a little off to you, too? What we should have published is: "A recent study showed that up to 22.3 million cubic yards of ready-mix concrete poured today in the U.S. goes back to the plant as wasted." Our editorial team is heartily sorry for introducing this inaccuracy into Mark Rinehart's otherwise flawless article and greatly appreciates his diligence. Check out the full article at constructionbusinessowner.com/management/site-management/pour-me-one-will-you.*

Take good care,

Kathy Wells

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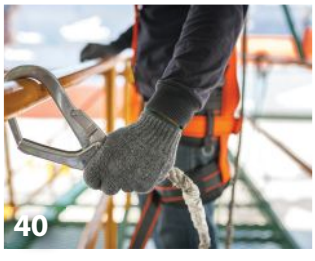
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Hensel Phelps Announces Retirement & Appointment of CEOs


Michael J. Choutka

Hensel Phelps, a large general contracting and construction management company, and its board of directors have announced the retirement of Chief Executive Officer (CEO) Jeff Wenaas and the appointment of Michael J. Choutka as president and the new CEO. Choutka has had a 35-year career with Hensel Phelps and most recently served as president and chief operating officer (COO). Choutka began his career with Hensel Phelps, rising through the ranks from field engineer, office engineer, project engineer, project manager, operations manager, district manager/vice president and executive vice president before being appointed to his new positions. Visit henselphelps.com.

Deltek Acquires Avitru

Deltek, global provider of software and solutions for project-based businesses, has acquired construction-specification content and software provider Avitru. Together, Deltek and Avitru will provide solutions and services to architects, engineers, contractors, owners and building-product manufacturers. Avitru, originally known as ARCOM, is headquartered in Atlanta, Georgia, and designs comprehensive building-specification systems, including MasterSpec, a product of The American Institute of Architects (AIA), SpecText, SpecBuilder Cloud and e-SPECS. Avitru has a strategic partnership with AIA, which created MasterSpec 50 years ago to support the development of accurate specification documents for construction projects. As the exclusive distributor of MasterSpec, Deltek will continue Avitru's partnership with AIA to provide the most current specification content for the architects, engineers, contractors and owners (AECO) industry, as well as easy access to building-product manufacturer information. Visit deltek.com.

UBS Inc. Appoints Senior Vice President

Universal Builders Supply Inc. (UBS) has appointed John Arvonio as senior vice president, along with his current role as chief financial officer (CFO). Arvonio is responsible for directing all the company's accounting, finance and tax functions, including strategic planning and maintaining relationships with the company's bankers, insurers and unions. Arvonio joined UBS in 2015 and has more than 30 years of financial experience. Arvonio began his career at Ernst and Young and later held accounting and leadership positions with Citigroup and another large community bank. He holds a bachelor's degree from Iona College and is a New York state Certified Public Accountant. Visit ubs1.com.

Hillmann Consulting Names Western Regional Manager of Construction Services


Nicole Morse

Hillmann Consulting LLC has appointed Nicole Morse, PMP, as the western regional manager of construction services. Morse has more than 15 years of experience in the construction and real estate industry, through positions held in asset management and property management. Her expertise in construction consulting, project management and team management—with specific experience in multifamily, commercial, student housing and real estate development—have proven valuable to Hillmann Consulting as the company continues its growth on the West Coast. Throughout her career, Morse has worked on challenging projects while also maintaining client accounts and business relationships. She holds a project management professional (PMP) certification with the Project Management Institute and Occupational Safety and Health Administration (OSHA) 10 certification. In her new role, Morse will be responsible for owner's-representative and construction-management programs; projects in the Western Region; and business development and regional leadership of the construction services team working out of Orange, California. Visit hillmannconsulting.com

Bomag & Komatsu Enter Distribution Agreement

Komatsu America Corp.'s six company-owned dealerships (Edward Ehrbar, Komatsu Equipment Company, Komatsu Northeast, Komatsu Southwest, Midlantic Machinery and Pine Bush Equipment) have entered into an arrangement for the sale and support of Bomag Americas Inc. compaction, milling, paving and reclaiming/stabilizing equipment for roadbuilding and other construction markets. The new dealers will serve Bomag customers in Fairfield County Connecticut, Delaware, Maryland, Nevada, New Jersey, New Mexico, southern New York, Utah, Wyoming and El Paso, Texas. For Komatsu customers, the collaboration with Bomag creates access to new, used and rental equipment, along with commitment to spare parts, planned service maintenance and repairs. "This collaboration will support our growth plans, enabling Bomag to expand its position in the roadbuilding sector even more rapidly," said Rob Mueckler, president of Bomag Americas. Visit bomag.com and komatsuamerica.com.

Legrand, North & Central America, Acquires Kenall

Legrand, North and Central America (LNCA), has acquired Kenall, manufacturer of innovative, energy-efficient and sustainable-specification grade lighting and control solutions for commercial, industrial and institutional buildings. With the acquisition, LCNA intends to participate in additional market segments, with products that customers demand, while further serving its existing customers in the lighting market. Kenall provides intelligent, durable and sustainable lighting solutions for high-abuse environments, such as hospitals, schools, public building, food processing, transportation and correctional facilities. "We've seen tremendous growth in the specialty and architectural lighting segments through commercial, industrial and institutional channels," said LNCA President and CEO John Selldorff. Visit legrand.us.

Autodesk to Complete $1.15B in Acquisitions

Autodesk Inc. has completed the acquisition of PlanGrid, provider of construction productivity software, for $875 million. Autodesk funded the transaction using a combination of cash on hand and a short-term loan. Autodesk and PlanGrid developed complementary construction software in which Autodesk's BIM 360 construction management platform connects the people, data and workflows on construction projects by supporting informed decision-making throughout the project lifecycle; and PlanGrid's software provides general contractors, subcontractors and owners in commercial, heavy-civil and other industries with real-time access to project plans, punch lists, project tasks, progress photos, daily field reports, submittals and more. Autodesk has also signed a definitive agreement to acquire BuildingConnected for $275

million. This acquisition will add bid-management, risk-analysis and other preconstruction solutions to Autodesk's construction portfolio. In addition, BuildingConnected's network presents an opportunity to create a digital marketplace for construction goods and services. BuildingConnected has built a network of more than 700,000 construction professionals, helping real estate owners and general contractors find and hire qualified contractors for their projects. "We are investing in digitizing and automating construction workflows, said Autodesk CEO Andrew Anagnost. "Autodesk's goal is to connect construction processes across design, build and operations. BuildingConnected, along with Autodesk BIM 360, Revit, AutoCAD and our acquisitions of PlanGrid and Assemble Systems, gives us a comprehensive construction offering and go-to market capabilities. We look forward to integrating our recent acquisitions and making construction Autodesk's next billion-dollar business." Visit autodesk.com.

▶ Softwood Lumber Appoints 6 New Directors

Agriculture Secretary Sonny Perdue has appointed six members to serve on the Softwood Lumber Board (SLB), an industry-funded initiative established to promote lumber's value proposition and increase demand for softwood lumber products in outdoor, residential and nonresidential construction. Effective Jan. 1, 2019, new members will serve a 3-year term of office. Those members include J.D. Hankins of Ripley, Mississippi, and Brian Luoma of Tuscaloosa, Alabama, who will represent the United States South; Todd Payne of Eugene, Oregon, and George Emmerson of Bella Vista, California, who will represent the U.S. West; Kevin Edgson of Montreal, Quebec, who will represent Canada East; and Brad Thorlakson of Vernon, British Columbia, who will represent Canada West. The SLB is composed of 19 members, including 12 domestic manufacturers and seven importers. Of the 12 domestic manufacturers, six represent the U.S. South, five represent the U.S. West, and one represents the Northeast and Lake States. Of the seven importers, four represent Canada West, two represent Canada East and one represents all other importing countries besides Canada. Visit softwoodlumerboard.org.

▶ BrandSafway Acquires Lyndon Scaffolding

Brand Industrial Services Inc., known as BrandSafway, has acquired Lyndon Scaffolding PLC, along with Taylor's Hoists (acquired by Lyndon in 2017). Moving forward, Lyndon Scaffolding will be combined with SGB, a BrandSafway scaffolding and access unit of Brand Energy and Infrastructure Services United Kingdom Ltd., to become Lyndon SGB by BrandSafway. With Lyndon locations in London, Birmingham, Manchester, Edinburgh, Scotland, Barry and Wales—along with Taylor's Hoists in Duxford, England—Lyndon Scaffolding provides comprehensive access solutions for the commercial construction, industrial and infrastructure markets in the U.K. "By combining resources, Lyndon SGB will have more locations and greater depth of expertise," said Mick Herke, managing director of brand energy and infrastructure services in Europe. "And we will be able to leverage our scale to better serve customers," he said. Visit brandsafway.com.

▶ Case Announces 4th Annual Dire States Equipment Grant

Case Construction Equipment has issued the call for entries for the 2019 Dire States Equipment Grant. Submissions can be made at direstates.com/grant. The 2019 entry deadline is March 31, and the winner will be announced in April 2019. Originally launched in 2016, the Dire States Grant provides one winning community with $25,000 in free equipment use to help offset the costs of building or repairing a critical piece of local infrastructure. Representatives of municipal, county and other local governments are eligible to apply. Entrants will be asked to describe the project and provide a detailed assessment of how that local piece of infrastructure will benefit the community. Examples of suitable infrastructure projects include: road/bridge repair or construction; utility pipe replacement; erosion control along lakes and rivers; wastewater system improvements; school projects; and park/recreational construction. All projects that fall within the 16 core categories of infrastructure, as identified by the American Society of Civil Engineers (ASCE) in its Infrastructure Report Card, will be considered. "Entries for this grant have increased exponentially each year, which highlights the continued need for a greater focus on local infrastructure funding and development," said Athena Campos, senior director of marketing, Case Construction Equipment. "While Federal funding is critical to long-term sustainability of the nation's infrastructure, it's the network of local projects that most directly impact our daily lives. At Case, we're working together with our dealers and customers to make a difference in building those local communities," she said. Visit casece.com.

▶ Hyphen Solutions Appoints New Vice President of Customer Relationship Management

Hyphen Solutions, provider of cloud-based construction management software, with over 12,000 companies subscribing to its comprehensive Home Builder and Supply Chain platform, has announced Danny Forbes as vice president of customer-relationship management (CRM). Forbes joins Hyphen with over 25 years of experience in residential software as a service (SaaS), specializing in customer CRM, user interface experience and design, and product development. Forbes will be instrumental in heading Hyphen's CRM delivery of experiential features and functions, designed to give home buyers flexibility and offering home builders' sales and marketing teams ease of use and automated workflows. Visit hyphensolutions.com.

100 years

This year marks 100 years in business for Rosendin Electric, the electrical contracting industry's largest employee-owned firm. The new logo—simply "Rosendin"—is reflective of the company's shared success beyond electrical services, including design-build engineering, BIM, prefabrication, renewable energy, network and maintenance services. Visit rosendin.com.

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What about your business keeps you awake at night?
Our industry experts share their solutions to some of the biggest problems facing construction business owners & their teams.

How do material price fluctuations affect your project management strategy?



DAVID CAIN
Chief Marketing Officer
PlanGrid Inc.

Rising material prices can have hard-hitting cost implications for construction projects, but given that rework makes up 5 percent of a project's cost, these **price fluctuations can have considerably less impact when rework is reduced.** In 2018, rework—caused specifically by poor project data and miscommunication—cost the United States construction industry $31.3 billion.

One of the easiest ways to reduce rework is to **employ a technology strategy that increases collaboration between stakeholders and provides access to critical data when it's most needed.** The right strategy should better connect the field and the office, take into account the unique needs of both sets of users, and allow work to get done faster—all reducing employees' time and labor costs.

Through construction productivity software, construction teams have easy-to-use tools to collaborate—a central source of truth and real-time insights on the status of project work and potential changes to scope or budget. And these teams have a greater **competitive advantage.**

Materials prices will fluctuate, as they always have. **Variable costs for essential project components can certainly be trying, but they represent another set of challenges that construction technology can help address.**



GREG HUNSBERGER
Vice President & Corporate Preconstruction Director
Brasfield & Gorrie LLC

Brasfield & Gorrie employs several strategies to deal with material price fluctuations, whether they are caused by the recent tariffs or any myriad other factors.

First, we **compile a quarterly cost report to track long- and short-term material cost trends,** both from national sources and local subcontractors and vendors. Using this information, we can help our clients better understand market pressures and avoid surprises.

Next, we help the project teams **explore design alternatives that minimize use of the materials experiencing significant price escalation.**

Often, there are options available that can mitigate some exposure from material cost fluctuations.

Lastly, we work with clients and design teams to **develop procurement strategies that allow key materials to be purchased as early as possible.** The use of early-release packages, or similar strategies, can help lock in material pricing for certain trades, safeguarding against and eliminating further exposure to price hikes.

To submit a question for the experts, email Associate Editor Rachel Fulford at rfulford@cahabamedia.com.



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Determining Your Must-Do Role

How tackling one task can turn your company into a project powerhouse



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 Editor Kathy Wells at kwells@cahabamedia.com.

Successful business leaders focus their time and energy on handling the business functions that provide the biggest return on investment (ROI) for their company. Too often, however, their focus is spread thin across too many of these tasks.

What is the No. 1 function that could help you generate the highest revenue, increase equity and/or produce the best project results? As a business owner, you must identify your companywide must-do roles (MDRs) and delegate them to the right employees. Most importantly, you must determine your own MDR, and it's probably not the role you think it is.

Take, for example, a professional football team as a company. The goal of the team is to achieve the maximum ROI for its shareholders. To achieve this, the team owner doesn't tell their coaches how to coach or their players how to play. Instead, the owner employs a group of professionals to build and coach a winning team; hire, manage and train the best players available; develop winning strategies and game plans; handle all player personnel requirements; manage logistics, facilities, travel and management details; develop a marketing and sales plan; and manage finances.

There is no doubt that every role contributes to the team's success. Without proactive sales, there isn't enough high-margin revenue. Without professional accounting and finance, control of the money is lost. Without operational efficiency, the company can't deliver results. And without the best coach with a winning game strategy, the team will lose. If the team loses games, the fans won't buy tickets, and the company won't make any money. If the company doesn't make a financial return, the company won't have funds to attract and keep the best managers, coaches and players it needs to win.

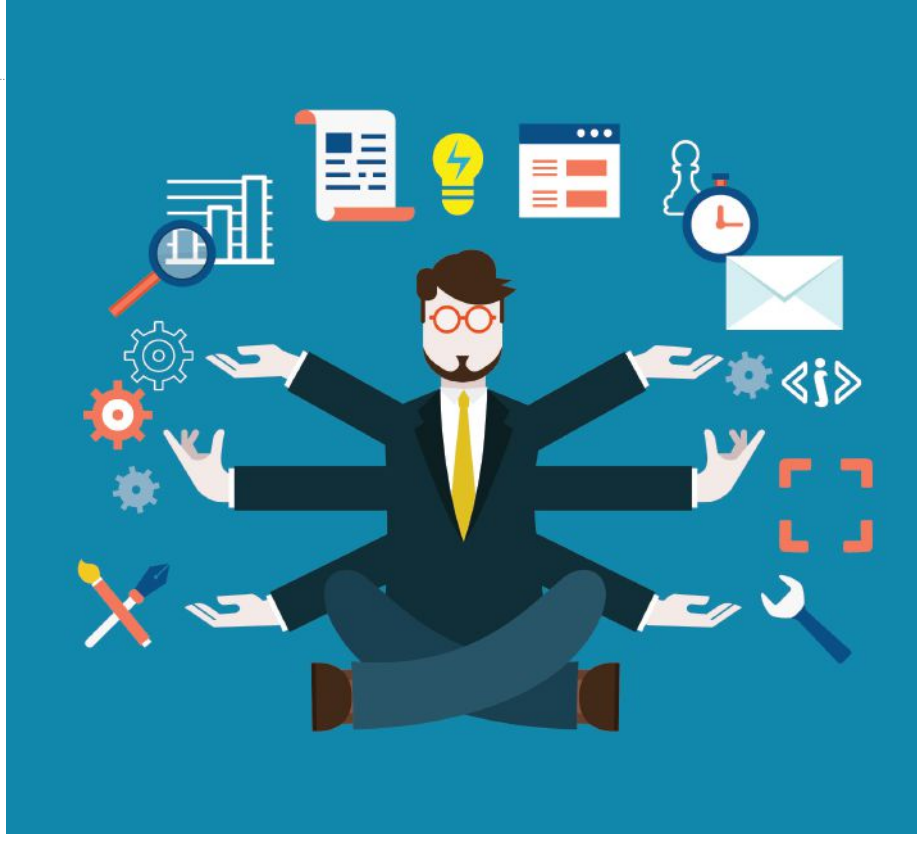
DETERMINE COMPANY MDRS

When construction clients share their current company focus and goals with me, they generally mention one of the following activities that would bring change to their businesses. Read their responses to the following question. Then decide: How would you respond?

1. What do I need to focus on more to drive profits?
   - Developing customer relationships
   - Tracking job-cost production hours versus budgeted hours
   - Completing accurate project estimates and bids
   - Attracting, coaching and mentoring new talent
   - Streamlining processes and systems

PRIORITIZE YOUR MDR

Begin by choosing the MDRs that you, at this time, believe will produce the highest ROI and project results for your company. Next, determine a company leader to take on each function as their primary role, assuming responsibility for achieving the



highest results possible within that role. Next, rank, in order of importance, the following possible MDRs your company must perform with excellence on a continual basis to achieve the best possible results:

- Build accountable management
- Manage people to achieve results
- Develop/enforce company systems
- Create and maintain a great workplace
- Find, keep and train great people
- Build projects on time and on budget
- Provide safe and effective production
- Eliminate profit fade
- Produce quality workmanship
- Perform proactive field supervision
- Maintain top subcontractors/suppliers
- Innovate with the newest technologies
- Prepare accurate estimates
- Implement professional financial management/controls
- Become an industry or niche leader
- Acquire high-margin revenue
- Develop loyal customer relationships
- Other: _____

COMMIT TO YOUR MDR

After you have ranked the most important roles, whittle down the list to the top five tasks that must be performed well no matter what. Now, for the hard part: Reduce the list to your company's top three roles required to achieve your overall company vision and reach your business goals.

If you are the company owner or president, select one or two of these top three MDRs that you, as a leader, will be accountable and responsible for accomplishing. To build, grow and maintain a successful company, you must invest the most time performing these primary roles before you do any other activity or task.

Work with key managers and supervisors select the top two roles they must focus on to become a leader in their area(s) of responsibility for the company. For example, if one of your company's top two MDRs is to develop, grow and maintain high-margin, loyal customer relationships, this must be your primary commitment, job and focus as the leader.

You must invest and dedicate amount of time required to be accountable to develop, manage, direct and implement a business development, marketing and sales program that can deliver a continuous influx of great customers who offer you consistent, high-margin and negotiated work.

Note that this role is not to handle all of the marketing activities. It is to develop a marketing program, delegate its implementation to an employee, and allow you to focus on the sales activities you must perform.

You must commit to seeking out and meeting with potential customers every day. You must also commit to delegating most other construction operation activities and project management duties (that are not your top priority) to another responsible manager or employee.

FIND YOUR FOCUS

As a business owner, your highest goals likely include continual growth, increased volume, more equity, exceptional project results and long-term investments. When you are too busy handling low-priority and/or urgent activities instead of focusing on the top one or two roles that deliver the highest returns for your company, your business will never grow beyond mediocre and will continue to produce below-average results.

When you refuse to let go of control and insist on handling responsibilities that shouldn't belong to you, you will never find your focus. Make a decision to let go of, delegate and hold people accountable for the tasks you shouldn't be doing. Then, your company can finally move toward the next level of success.

Owners often carry the responsibility for a variety of functions that are crucial to the overall success of the company. Every one of your roles has its merits and value. But every single role in you company requires assignment and accountability.

By asking yourself, "What is the No. 1 duty out of my top three MDRs that will best serve my company at this time?," you can keep yourself and your team hyperfocused on true priorities and headed in the direction of growth and success. **CBO**

A Little Bit Ikea, A Little Bit Apple

Striking the right balance between too much instruction & not enough



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Instruction manuals: For some, they bring great solace. For others, they bring great anxiety. Whether you are feverishly comparing bolt sizes and the woefully miniscule Allen wrench or simply scrutinizing the location of said bolts inside improperly labeled holes, instruction manuals should provide the end user with support and guidance, not heart palpitations.

Ikea, the Swedish furniture icon that has an almost cult-like following around the world, has provided some of the most memorable instruction manuals. Whether you prefer the Malm or the Bekant desk, upon purchase, you are furnished with a step-by-step roadmap to building your affordable piece of Swedish accoutrement.

On the other hand, Apple makes an event of its latest iPhone release, similar to the way U2 or Taylor Swift announce an upcoming tour. Yet, when you open the box containing one of these technological marvels, you receive an instruction manual comparable to a bubble gum wrapper.

Unfortunately, the device that likely has 1,000 times the computing power of the Apollo 11 lunar module, completely lacks a user manual. However, even with an increasing level of sophistication with every iPhone release, the controls are not only intuitive, but also provide users immediate access to their data, so they can leverage the device's capabilities. How is it that something with no instructions has users clamoring for new options and applications with, dare I say, even less instruction?

Think about the instruction manuals, or standard operating procedures, for a construction firm. Whether discussing the appropriate way a project should begin or how to present change orders to customers, many organizations think they are Apple. For instance, they give little guidance to their teams and believe they are providing a level of rogue-like independence by shirking the confines of structure.

On the other hand, many of these same firms have manuals sitting on shelves that have stoic titles like "Brand X Standard Construction Operations Procedures." With all of that pageantry, the manuals seem better suited for a museum, rather than practical applications like those of a construction firm. So, which is better—management by Ikea or Apple?

A LITTLE BIT IKEA

The first question to ponder is the efficacy of the instruction manual. Is the manual an accurate representation of your firm's operational model? Written narratives on how to perform particular tasks fail to drive processes. Imagine if Ikea began every instruction with, "Connect the irregular shaped board and insert the medium bolt—not the average size bolt, the medium bolt ... "

Consistency in operational procedures includes providing an easy, user-friendly illustration. And the first step to creating efficient operational models is to examine the state of your company's processes from the perspective of a new employee.

Too often, leaders give directions through the lens of a senior-level employee without considering the needs of the new or midlevel employee.

The second consideration should be the relevancy of the processes. For example, consider the Malm desk instructions. If the last time the operations manual was updated was when it was created 30 years ago, there might be a relevancy issue. Ensure that your processes have the right applications in mind. Similarly, if your firm has design-build and hard-bid business units, there should be guides that provide instructions for each.

Additionally, there should be tools in the kit applicable to a range of diverse projects. Providing tools that fail to also support both the manager and supervisors leads to obsolescence of the operations.

> Written narratives on how to perform particular tasks fail to drive processes.

A LITTLE BIT APPLE

There isn't a day that goes by in which a "hack" for smart devices is not released. Through trial and error, users discover ways to leverage the capabilities of the iPhone without even reading a guide. More importantly, there is a clamor to share these new-found time savers like that of early man discovering fire. The application programmers developed these features, so it is hardly as if the user has developed something new.

However, discovery creates a certain level of control and empowerment. If there was a manual, it would probably be discarded as a relic of bygone interactionalism (a fancy word for a world predicated on massive volumes of instruction). Many individuals learn by doing and experiencing something rather than using a step-by-step guide to drive change.

Construction organizations that feel confined by too many processes must realize that the road map provides a guideline for managing. But the real power is in enabling managers and supervisors to channel that creative energy into problem solving for themselves.

For instance, if a manager was to ask for every version of a preconstruction planning agenda that existed within a firm, how many would exist? Would creating Version 6.0 be prudent, or would the teams be better suited to use the version that exists and channel the creativity into solving project specific problems. Much like the iPhone, there is more reward in finding that particular project hack that will help a client, expedite a project schedule or provide margin enhancement.

A LITTLE BIT OF BOTH

Processes should exist to provide guardrails for associates to live between and also enable senior management something to measure against. Without the Ikea manual, how does one know what success, or the Malm desk, looks like?

On the other hand, once the baseline is established, building efficiencies and improvements can be achieved. If that desk were to be built again, what could be improved to build it faster? What process enhancements could be made to improve the finished product?

Team energy needs to be channeled towards the right activities rather than reinventing the desk just as processes and tools in any construction organization should strike a balance between control and creativity. After all, do you really want to build the fancy couch with an out-of-date manual? **CBO**



The Art of Return

When good leaders mentor, good companies grow



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It has been said that a person's professional life can be divided into three distinct stages:

1. *The learning stage*—The early part of a career when everything is new
2. *The earning stage*—When the focus is placed on making money
3. *The returning stage*—When giving back to team members and the profession as whole becomes a major part of one's purpose and passion

As such, during the returning stage, giving back through mentorship becomes the most valuable component of modern leadership and the best way to advance your company.

A CASE STUDY

A few weeks back, I was sitting at a restaurant in the Los Angeles International Airport. While eavesdropping isn't necessarily my thing, I couldn't help but overhear the conversation between two individuals seated next to me. Specifically, the frequent use of the word "mentor."

"I've been blessed with the opportunity to build a lot of buildings; but right now, when I'm asked, I tell people that I build teams that build buildings," one of them said. As the other individual left, I explained my interest in the topic of mentoring to the remaining gentleman, told him I had overheard him mention it a few times throughout his conversation and asked if he would share his thoughts on the topic.

He introduced himself as Gene Archibek, senior project manager at Andersen Construction in Oregon, and I couldn't believe my luck. For the past 2 years, I have had the privilege to facilitate and lead the Construction Financial Management Association's (CFMA) formal mentoring program—a national leadership development program the association uses to help identify and cultivate future leaders—and the fact that I was chatting with a leader in the construction industry was an added bonus to our chance encounter.

Archibek explained that his interest in having mentors and mentoring others is integral to his approach to work, life and learning. "I've had three strong formal mentors and seven or eight other informal ones. Collectively, they've gotten me to where I am today," he said, adding, "We're not going to improve as an industry [as fast as we can or should] without others doing the same," which is why he currently mentors seven individuals.

Archibek's plane boarded shortly after we began talking, forcing our conversation to an abrupt stop, but I asked if I could follow up with him in a few weeks, and he encouraged me to do so. In the meantime, I began to think about the two vastly different, but equally important, pieces of his statement.

As an individual, he would not be where he is today without mentoring; and as a professional in the construction industry, he does not think the industry will advance



in a meaningful way without mentoring. This inspired me to seek input and perspective from the individuals I work alongside in the CFMA.

Two of the three colleagues I spoke with are mentors. They included David Wightman, CPCU, senior vice president and West Region practice leader at global advisory, broking and solutions company Willis Towers Watson in Houston, Texas; and Erika Urbani, chief financial officer and vice president of finance at R.D. Olson Construction in Irvine, California.

In addition, I was fortunate enough to have input from Urbani's mentee, Rhonda Huismann, who serves as Crowe's office managing partner in Grand Rapids, Michigan. Archibek was also included in this pool. My goal was to explore how being a part of the mentoring process not only helped them as leaders, but also their team members and their companies.

Exploring mentorship through the eyes of these four construction industry professionals, I discovered the most important reasons companies should embrace mentoring. The following offers their advice on how the creating the right mentor/mentee relationships can advance your teams and your company.

KNOWLEDGE TRANSFER

Team meetings, training events, intranets, newsletters and a host of other forms of communication are essential to keeping businesses moving forward, connecting team members and driving growth. While these all provide great value, there are few methods better than mentoring to improve knowledge transfer within a company or among professionals.

"There is so much information and institutional knowledge being held so closely to people's chests that as they retire or leave the industry, those perspectives and personal archives of learning go with them," Archibek said. "If we're going to instill the values, beliefs and work ethics of our corporations and teams, how are we going to do it without mentoring?"

NETWORK EXPANSION

One of the key components to modern leadership—regardless of your place along the learn, earn and return continuum—is the ability to continually expand your network and the networks of others. Committed mentors, as well as mentees, play an active role in expanding each other's networks.

Wightman said, "Another area that is important to the mentor/mentee relationship, and ultimately, the company, is encouraging mentee participation in face-to-face client meetings, senior leadership meetings (when appropriate), and industry networks and associations, such as CFMA or Associated General Contractors (AGC).

In doing so, mentees have an immediate "friend" to help them meet and interact with clients, industry leaders and professionals. Those initial introductions can be powerful, bringing validity to the emerging leader as they borrow and absorb industry intellect and insight shared in these settings."

BOTTOM LINE IMPROVEMENT

According to PeopleKeep Inc., some studies predict that, on average, every time a business replaces a salaried employee, it costs the company the equivalent of 6 to 9 months of that employee's salary. For example, a company with an employee salaried at $40,000 a year could incur $20,000 to $30,000 in recruiting and training expenses for that employee. Mentoring could potentially offset this expense.

"Mentoring fulfills our need to get young leaders through the learning curve faster," said Urbani. And it's not just about training. "Today, we're hiring people from the fire to the frying pan, and with mentoring, we're able to significantly mitigate the risk associated. Through mentoring, we're instantly creating an opportunity to instill knowledge on company culture, practices, processes and systems management information."

LEADERSHIP & GROWTH

"Leadership is not universally defined and should be situationally adaptable. A good mentor helps the mentee develop their own style and provides the resources for that style maturation," said Wightman. "For example, we frequently see emerging

leaders making tough decisions as they separate themselves from the pack. It's here that mentor reassurance is invaluable. They need someone who they can have complete confidence in and whose opinion they value."

However, the impact of an inspired mentor/mentee relationship extends far beyond the walls of any company. True leaders focus on the growth of their mentees in not only across their professional careers, but also many other spheres of life.

"I honestly feel I have achieved more toward my goals and identifying who I want to be as a leader, advisor, wife, mother and, overall, as a person in the past year than I had in many years," said Huismann. "I was challenged to look at things in a different perspective and to really weigh what was most important to me and where I felt I could add the most value in all of my roles, without having any bias from an organizational view. That's what my mentor brought to me," she said.

APPLICATION

The performance management platform 7Geese reports that employee engagement is hovering at around 33 percent, so, it's easy to see how mentoring can help employee retention and engagement, reduce costs associated with training, and create a connected culture.

For Urbani's firm, mentoring advanced the development of emerging leaders. Archibek astutely pointed out the value of the intangible pieces to corporate knowledge. Wightman's insight on how mentors can be conduits for expanding personal and professional networks should not be understated. What rising stars want most, and what our companies should be providing, are opportunities for professional and personal growth, something Huismann captured in her sentiments.

Implementing a successful mentoring program within your company, or supporting your employees as they pursue external programs, is not the secret to solving this industry's challenges, particularly as they relate to employee retention, hiring and leadership development. However, it will go a long way in helping position your company as a channel to professional and personal development.

IN CONCLUSION

There are several options for companies to engage in formal and informal mentoring programs. Associations, consultants and a host of other options exist.

However, the most important thing to remember is that advancing the interests of our next generation of leaders is the best way to retain talent, inspire our teams and drive growth. **CBO**



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Speaker
Marge Hart
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Marge Hart has been with Newforma since 2006, when she was hired to contribute in a design role. Hart transitioned into product management in 2015. She is responsible for product management of Newforma's flagship product, Newforma Project Center and the new Newforma Cloud product. She has over 20 years of design, customer research and validation experience.

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The Ongoing Impact of the Tax Cuts & Jobs Act

The 20% deduction your company could use in 2019

BY ALAN SPERO

Many construction contractors may not be aware of significant changes that could impact their tax and financial planning—some negative, but mostly very positive—provided under the Tax Cuts and Jobs Act (TCJA).

For example, with regards to Domestic Production Activities Deduction (DPAD), under the previous laws, taxpayers were entitled to a DPAD equal to 9 percent of their qualified production activities income. Under the new law, it has been eliminated.

While this may seem like bad news, eligible contractors can benefit from a new 20-percent pass-through deduction, which can create significant tax savings.

However, to qualify for this deduction, contractors must have salaried employees on staff. This change is likely to motivate some business owners to reconsider how their entity is structured.



THE QUALIFIED BUSINESS INCOME DEDUCTION

Up until 2017, under Section 199 of the United States Jobs Creation Act of 2004, the DPAD was basically earned by being a U.S. company and doing business with U.S. customers.

As of Dec. 22, 2017, the TCJA of 2017 was signed into law, and the 20-percent deduction came into being, with all of its complexity. It represents the Qualified Business Income Deduction (QBID) to adjusted gross income and is governed by Section 199A.

The QBID, known as a pass-through deduction, has two particular benefits for business owners:

1. The new 20-percent deduction is larger than the 9-percent of the DPAD, so it has the potential to make those tax refunds bigger.
2. It's designed to help sole proprietorships, partnerships and S companies operate on a more level playing field with their C-company competitors, who just saw their income tax rates drop. In many cases, the rates dropped as much as 14 percent (from 35 percent to 21 percent) because of the same tax legislation.

IT'S ALL IN THE DETAILS

The details are critical for understanding QBID and how Section 199A was written. Rather than listing businesses that the law governed, it highlighted those that did not qualify for the deduction. Fortunately, the construction industry was not on the list.

Where you once automatically received the 9-percent DPAD, now you must qualify for the 20-percent QBID, and that can require a completely new approach to the way construction contractors do business.

This new approach is driven by the deduction limitation to 50 percent of W-2 wages paid, or 25 percent of those wages plus 2.5 percent of the value of acquired property used in the business, before depreciation.

For example, if a sole proprietor has a taxable income of $200,000 and pays out $100,000 to subcontractors in 1099 wages rather than salary, the QBID is zero dollars. If the construction contractor paid his or her subcontractors in W-2 wages, the QBID would be $40,000.

There are some considerations and caveats to paying W-2 wages. They will bring extra expenses, such as payroll taxes, Social Security payments, contributions to local and state unemployment insurance, and even potential benefit costs, including life and health insurance and pensions.

There are also the pressures of keeping W-2 employees on the payroll when business can often be volatile; whereas, it's much easier to manage subcontractors who receive a 1099.

THE FUTURE OF THE TAX CUTS & JOBS ACT

The authors of the TCJA aimed to help the construction industry by helping company owners to have more funds to invest in themselves and their employees. Whether this happens or not, the impact on the generally conservative construction industry will likely run behind the impact on the economy. This lag will be due to project authorization, funding in the face of rising interest rates and bidding processes, which all take time.

However, this affords the construction industry more time to take advantage of new benefits like the QBID and other aspects of economic change. The IRS has received many queries from accountants seeking insights on how to apply the QBID to their clients. In reaction, the IRS issued proposed regulations to govern the QBID on Aug. 8, 2018. The agency created a frequently asked questions about the deduction webpage, which is constantly updated.

With the right accounting support, it's possible to work through these complexities and achieve significant tax savings, helping the construction industry better invest in its businesses, owners and employees. **CBO**

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We Agreed to What?

Taking ownership of the performance obligations set forth in your contracts

BY JOSEPH BURKETT

Construction is a simple business model. Someone wants something built; someone else knows how to build it; and the two agree on a value of the built project. The end. Right?

It should be that simple, but there are mitigating circumstances that cause the need for clarity for both parties on a contract—budget, schedule, scope and quality, just to name a few. It doesn't matter whether you're working for a developer, property owner, management company, general contractor or subcontractor, contractual clarity is how you stay out of trouble.

Unfortunately, too many contractors don't know about (or maybe don't even read) the contracts they sign or are being signed on their behalf by "responsible parties" in their organization. At the end of the day, the only person responsible is the shareholder whose name is on the document.



THE DANGER & NECESSITY

Contractors assume inordinate amounts of risk for what amounts to a relatively low financial payoff every time they enter an agreement with a client. "The what, when and how much of the deal are often the easiest parts to determine and assess. Many other areas of a contract can cause issues, and the phrases and clauses that need to be reviewed most closely usually include: payment terms; indemnification; subrogation; primary and noncontributory; pay if paid; pay when paid; warranty; as per the plan specifications; the general contract; including all documents incorporated therein; is hereby incorporated into the contract, etc.

It's your ass on the line for every aspect of the contract—from the simple to the complex. Too often, contractors pursue more work than they can feasibly handle. To win enough work, they bid a multiple of the actual amount of work desired, and oftentimes, those victories can come at a price.

Sometimes the profit margin is too low, or the performance obligations are such that, to complete the job according to the schedule, the contractor must commit to increased costs, such as expediting materials and equipment or using substitutes that can be delivered on time. These are the risks that contractors live with every day.

Yet, the biggest challenges arise when something goes awry on a project. It could start with the owner or developer. There could be cash-flow problems, bank funding/budget issues or many other problems

downstream. You might be familiar with the saying, "stuff flows downhill." Well, the farther away you are from the top of the hill, the more of a burden it becomes once the "stuff" reaches you. It could be that the general contractor slipped up and won the work. Every victory has a habit of becoming a loss for someone, and it's somehow usually downstream. The handshake agreement that we'd all like to live by is a thing of the past. Contracts are necessary should both parties get hit by the same bus. Someone else is going to have to perform on this project, and the only thing that survives is the contract. So, the contract must be clear.

CLEARING IT UP

All of the contractual terms previously discussed are in all agreements. Those words, phrases and clauses are in documents written by the American Institute of Architects (AIA). They are in ConsensusDocs and probably every other construction contract that you have ever seen or signed. The real question is: How fair are they to you and your firm? Do you or your responsible parties push back and attempt to edit, inserting words like "reasonable," "to the extent that," "due solely to negligence," etc.?

There's an old saying, "Negotiate, don't litigate." Whenever a dispute or claim arises, it is often far less costly to resolve through negotiation—regardless of how right you are—not just in dollars and cents, but also your time and your employees' time. Then, there's your reputation at stake. Having principles and fighting the good fight are noble and honorable pursuits. As such, it's better to be fair and clear the first time around.

When the negotiation option doesn't work, it all comes back to the contract and the performance obligations: what, when and how much. Once litigation begins, those items are fairly reasonable to identify, and it's the other language in the contract that can either help or hinder your case.

It's a new year—a good opportunity to spend time and money with a qualified attorney and competent insurer to review your contracts. If you're a general contractor, consult AIA or ConsensusDocs to research areas where contract language might be tweaked to your advantage or level the playing field. If you perform in the private sector, develop a fair, streamlined contract. Subcontractors should consider having a professional review recent contracts and seek alternate language that can even the playing field without making the contract negotiation contentious. CBO

Joseph Burkett is the chief financial officer of Cafco Construction Management LLC and has more than 30 years of experience in construction financial management. Burkett is responsible for managing not only the accounting and finance functions at Cafco, but also contract/legal matters, human resources and IT functions. He holds a bachelor's degree in accounting from Babson College. Burkett has been a member of the Massachusetts chapter of Construction Financial Management Association (CFMA) since 1991 and has served in all chapter-level officer roles. Visit cafcoconstruction.com.





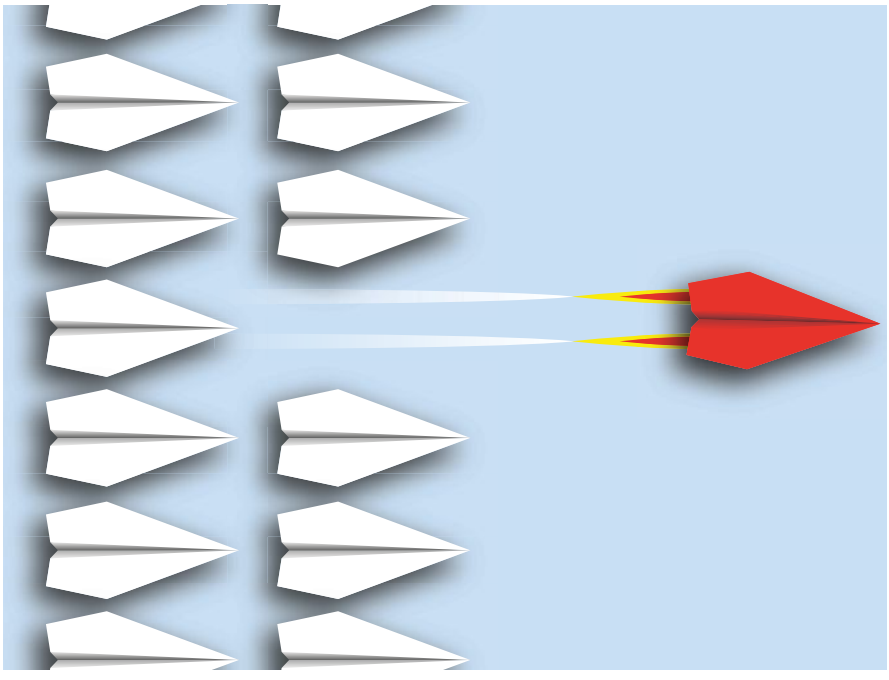
How to Shatter Silos & Boost Operational Efficiencies

Improve projects & productivity with collaborative, customizable technologies

BY JASON BARBER

It's no secret that growing businesses—in every vertical—often struggle with fragmentation (or the silo effect), which, as defined by BusinessDictionary, is a mindset present when certain departments or sectors do not wish to share information with others in the same company. The construction industry is not immune to its appearance and disastrous aftermath.

Even as firms modernize and continue to adopt newer technologies, some business owners still opt for implementing point solutions that help solely with individual department's needs, or isolated pain points, and do not optimize processes throughout the entire organization. This strategy only solves issues in isolation, exacerbating the negative effect data silos can have on a construction company, and causing a neglect of the business as a whole.



Fragmentation within any business affects the bottom line. You've likely seen examples in your own organization of how a disjointed team can wreak havoc both internally and externally, creating silos among stakeholders as well, who could all be more effective with a streamlined, coordinated approach.

THE DISCONNECT BETWEEN THE FIELD & OFFICE

One of the most significant obstacles to successful projects is the disconnect between construction workers in the field and team members working in the office.

Jobsite logistics are a complex and ever-changing challenge. From making sure the right workers are on-site, qualified and able to complete the job on time and under budget, to making sure the right tools and equipment are available and fit for your purposes, all must come to together to work in a safe and compliant symphony of tasks to ensure a successful project. Miscommunications and mistakes happen daily, but the best companies find and deliver the correct information to the right people to solve problems as quickly as possible. In today's market of increasingly tighter schedules, it becomes even more important that the field has access to the most up-to-date, relevant project information.

Construction projects can also suffer in the back office, especially when data from the field is incomplete or challenging to collect. As a result, delays or errors, erroneous cost accounting, and miscommunication regarding job progress can all occur.

By leveraging the latest software, construction business owners can improve their entire operation in real-time, for the entire life cycle of multiple projects.

Moreover, administrative staff members are often buried in manual processes and paperwork, such as reentering data into disparate systems, which takes valuable time away from more critical tasks.

THE HUNGER FOR MORE EFFECTIVE SOLUTIONS

Even as technology adoption rates increase among business owners, many construction companies still depend on paper, Microsoft Excel spreadsheets and single-point solutions to track workers, equipment, certifications, forms, schedules and other operational needs. However, recent statistics indicate that there is a growing appetite for more automated, flexible construction solutions. In fact, productivity can be boosted between 50 and 60 percent by enhancing procurement and supply-chain management, reimagining design, improving on-site execution, and strategically combining technology and supply chain, according to McKinsey Global Institute's 2017 study, "Reinventing construction: A route to higher productivity."

Many construction business owners are transitioning to more customizable, collaborative construction technologies to help eliminate inefficiencies. Much of this cloud-based technology not only takes the complexity out of managing the construction business, but it also improves the productivity of owners, contractors and subcontractors. This, in turn, helps teams meet deadlines by scheduling and allocating available and compliant resources to numerous projects at the same time.

By leveraging the latest software, construction business owners can improve their entire operation—from the office to the field—in real time, for the entire life cycle of multiple projects. Many of these custom technology solutions provide this real-time access to data on all sides, regardless of where the work is taking place, using an up-to-date, single set of data that can be accessed anytime, anywhere. Ultimately, this strategy saves time and mitigates risk, giving your workers powerful tools to better understand their own productivity, as well as the projects.

While contractors are dispatched to different jobs, for instance, mobile technology tools can connect the office workers to field crews with important digital forms and timesheets, enabling more efficient scheduling, compliance and communication.

Another example can be seen when considering qualifications within your own firm. Let's say you have scheduled a crew of five highly skilled contractors to complete a critical aspect of a project on one of your jobsites. However, you later discover at least half of these workers have not completed the proper jobsite safety orientation required. As a result, this team is unable to complete the time-sensitive work for that day, operations shut down temporarily and the contractors must go back to training before they can proceed with the work. This all-too-familiar scenario can easily result when you are without the right data platform, costing you an estimated 40 hours of work in just one day.

Digitized, collaborative construction tools help resolve many of these daily challenges that hinder productivity while improving asset and worker management at the same time. This translates into more simplified operational management when it comes to vital areas like implementing routine and specialized worker documentation and licensing, maximizing special skill sets, streamlining quality control processes, organizing equipment, promoting worker safety, and overseeing temporary employees. Additionally, real-time reporting capabilities on precise field data help streamline daily operations.

THE ENHANCED PROJECT LIFE CYCLE

There's no denying that construction projects are becoming more and more complex, putting many business owners under extra pressure to enhance efficiency, cost savings and timelines.

Digitized, construction-based technology solutions are helping many construction business owners reduce their firm's amount of paperwork, downtime and on-the-job accidents. They are also helping minimize the prevalence of company silos by making use of a common set of data, expanding access to essential information across entire project teams in real time.

This automated approach not only helps open better lines of communication and collaboration among all stakeholders, but also makes the details behind each task easier to understand and perform in the long run. CBO

learn more

Read "Reinventing construction: A route to higher productivity" at mckinsey.com/mgi/overview/2017-in-review/fixing-housing-and-construction/reinventing-construction-a-route-to-higher-productivity.

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PROJECTS: Self-Employment, Scale & Success | By Deborah R. Huso

KAUFMAN LYNN CONSTRUCTION'S PATH TO BECOMING ONE OF SOUTH FLORIDA'S LARGEST CONTRACTORS



In a challenging era of labor shortages and high construction demand, many contractors struggle (understandably) with substantial backlogs of work and an inability to service as many building projects as they might like.

While increasing automation in the back office and the future promise of it in the field will gradually alleviate some of these woes, Kaufman Lynn Construction, based in Delray Beach, Florida, has found a path that currently allows the 30-year-old company to not only operate as one of South Florida's largest and most successful contractors, but also to expand into new markets in North Carolina and Texas.

OPPORTUNITY IN ADVERSITY

Michael Kaufman has occupied the helm of Kaufman Lynn since the firm's inception in 1989 and started the business with a solid grounding in the building industry. A graduate of the Rinker School of Building Construction at the University of Florida, Kaufman always planned for a career in the building sector.

Kaufman's first job after graduating from college was as an estimator at Stiles Construction in Fort Lauderdale, Florida, where he honed his estimating skills, learned the importance of maintaining accurate data and adopted the firm's commitment to integrity as part of the company brand—all of which he would ultimately bring to the establishment of his own company several years later.

Kaufman went on to serve as vice president of Siegfried Construction in Delray Beach, Florida, where he oversaw the estimating department and served as senior project manager on multifamily, commercial and institutional projects, ranging in value from $500,000 to $16 million. In 1986, he co-founded Haynes Kaufman Construction and served as vice president and chief estimator.



After 30 years in business, **CEO Michael Kaufman** continues to drive success with strong talent, solid relationships, a continual focus on safety and a commitment to customer satisfaction on every project.

"I started [Kaufman Lynn Construction] after finding myself out of work with a growing family to support during Florida's economic struggles," Kaufman said of his unintended leap into self-employment.

"It was the result of adversity and opportunity. I dusted off my tools from college and took on odd jobs for homeowners and commercial property managers while looking for opportunities to break into the commercial, ground-up side of the construction industry," he added, recalling the first signs of his willingness not to be defined by a particular niche. That flexibility would ultimately help his company grow to be one of the Sunshine State's largest firms, with an annual revenue of more than $300 million.

Kaufman started out as a subcontractor by using a $12,000 loan from his family to purchase supplies and make initial payroll for his small crew. One of his company's first jobs was as a subcontractor to the general contractor who was building the Hecht Athletic Center at the University of Miami. Kaufman's crew performed the form placement and structural concrete finish for the building. Kaufman credits the job with quickly teaching him the importance of accurate crew sizing and maintaining cash flow.

"Successful completion of these first projects led to other opportunities," he explained, "allowing me to steadily build the scope and scale of the company's work."

DEFYING A NICHE

For Kaufman, scaling meant being able to work in a variety of market sectors and being able to shift personnel from one type of construction to another seamlessly—no small feat in the construction industry, where firms are often defined by the niches they serve.

Today, Kaufman Lynn's core markets are unusually diverse and include construction projects in higher education, K-12 education, multifamily, mixed-used and office buildings, and public-sector work that has included parking garages, public safety enterprises and city halls. Of course, that kind of work flexibility also requires the continual hiring of staff and intensive training.

"We look for professionals with a broad background and the flexibility to operate in different construction sectors," Kaufman explained. Employee training and development is ongoing and includes weekly mentoring sessions and annual performance reviews, both of which are designed to help staff build their skills and knowledge in ways that are beneficial for their personal careers and the company's growth trajectory as a whole. Kaufman said that professional development often includes assigning lateral moves into a different market sector or rising responsibility within an existing market for staff members.

Speaking to his company's efforts to operate in many different market sectors, Kaufman said it's a style of business governance that is "inherently entrepreneurial." But the risk involved can also seem counterproductive at times. "I developed my set of skills through failure," he added. "A good failure is—more often than not—a powerful lesson."

Risk itself is inherent in the construction industry, however. And Kaufman Lynn, like the industry as a whole, felt this powerfully during the Great Recession. "From 2009 to 2010, our revenues dropped by more than 80 percent," Kaufman recalled. That would be enough to drive even the most stalwart CEOs to abandon ship, but Kaufman held firm and still managed to make a small profit.

"Our response to the 2008 economic downturn exemplifies our willingness to take calculated risks in the face of uncertainty," he said.

"Rather than hunkering down, I recognized an opportunity to break into the next level of construction, which led me to invest in new talent and upgraded systems." With the small profit the firm garnered during the worst years of the recession, Kaufman Lynn invested in new project-management software and hired a new director of operations for multifamily projects to help the firm further expand its market reach.



"The Kaufman Lynn Construction business model focuses on diversification and agility," Kaufman explained, and that's been the firm's secret to maintaining profit, even during economic downturns. The company works in a variety of public and private markets and adjusts its teams' tasks with the inevitable ebb and flow of individual markets.

Kaufman said he's also conscientious about surrounding himself with a team of professionals who share his ability to make fast, yet informed, decisions based on a combination of intuition and market data. "This allows [us] to respond quickly to market changes, taking advantage of pockets of opportunity that are present, even in [times of] adversity."

For example, during the recession in 2008, when Kaufman's team recognized that shifts in housing preferences and the logical outcome of the mortgage meltdown would deplete income in the single-family residential market, they looked to the self-storage market as an opportunity for growth.

BUILDING CAREERS, NOT JUST JOBS

As a result of this persistence in looking out for new markets and opportunities, Kaufman Lynn decided to expand to the Florida Gulf Coast in 2016, opening a new office in Fort Myers, and also began entering markets in Texas and North Carolina.

Kaufman said he expects to begin expanding into the Tampa/St. Petersburg market in 2019. He feels all of these markets share features of robust population growth and economic resilience.

How does the firm manage this level of expansion in an industry plagued by a skilled-labor shortage? Kaufman credits his company's new "culture of engagement" initiative launched 2 years ago. "It is a cultural philosophy of focusing on helping all our associates be successful," he explained.

Specific components of the program include setting employees on formalized career paths, aligning that path with their performance, and offering ongoing mentorship and leadership training. He asserted that the program helps tremendously with employee retention because it, "provides associates with a clear understanding of advancement opportunities and the skills required to take advantage of [them]," adding that performance alignment is tailored to each individual and addresses both personal and company goals.

Addressing the impacts of labor shortages isn't just about looking for and retaining talent, however. Kaufman said a continual exploration of new geographic regions also helps the firm address market fluctuations and access new talent. The company recently retained a full-time, in-house recruiter whose sole focus is finding talent that matches company projects and finding ways to be more innovative in searching out that talent.

"The industry landscape is ever-changing and, therefore, exciting," said Kaufman. "We maintain a laser focus on continuous improvement and career building for all our associates, while also paying attention to the level of service we provide our clients."



GROWING INTO THE FUTURE

Kaufman Lynn's reputation aided in the firm's winning the 2010 project to restore Miami's historic Freedom Tower—a trophy win. Built in 1925, the tower's current owner, Miami Dade College, hired Kaufman Lynn to provide a top-to-bottom restoration of the national historic landmark that included the exterior and interior of the building.

"Due to the requirement to preserve the historic integrity of the building, we had to refabricate the construction materials to match the [building's] original elements," Kaufman said.

The restoration covered 90,000 square feet, including art galleries and a ballroom. The completed project won recognition from Engineering News-Record as the best renovation/restoration project in the country in 2013. Such accolades have won Kaufman Lynn business- and revenue-expanding projects like the $150-million expansion of automotive giant J.M. Family Enterprises' Deerfield Beach campus.

"Succeeding over 30 years isn't easy," Kaufman said. "It requires strong talent, solid relationships, a continual focus on safety, and a commitment to customer satisfaction on every project, whether large or small."

Reflecting on how his company has come so far in three decades and how he has survived the ups and downs of markets, he said, "Construction isn't for the faint of heart. To survive and excel, you must know your numbers, be prepared for economic upheaval and never compromise your integrity." **CBO**

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RAMBOLAND: THE REGENERATIVE-LIVING LABORATORY THAT'S AIMED AT CHANGING THE WORLD

"Imagine if we could spend half as many tax dollars per citizen with special needs but be radically more effective in supporting their well-being and happiness, as well as the health of our cities. This project points the way." These are the words that greet visitors on the official Ramboland building project's website.

Any project with a name like Ramboland is bound to garner some intrigue. (Cue images of Stallone-style guerilla warfare.) But the name is the least intriguing thing about Ramboland. Despite the project's small stature in comparison with other construction projects of the same scope, the Ramboland team members have inspirationally high goals and one coveted award already under their tool belts. And it all started with one man—Ron Rambo.

THE VISIONARY

Ron Rambo, 57, was born with cerebral palsy. His central goal is to be a pioneer, helping the millions of others in the United States and around the world, who face the same, or similar, difficulties. According to the Ramboland website, the rate of persons with disabilities for ages 18 to 64 in the U.S. is 10.5 percent, and roughly 4.5 million Americans rely on a wheelchair for mobility daily.

According to the Americans With Disabilities Act (ADA), existing residential dwelling units are not required to comply with accessibility laws set forth by the ADA or Section 504 of the Rehabilitation Act of 1973. As such, for those whom these laws generally protect, finding accessible housing is difficult, as landlords of existing housing must be willing and able to fund the necessary additions that make it accessible for those with special needs—an expensive undertaking.

And, in 2013, almost 30 percent of working-age U.S. civilians with disabilities were living in poverty—more than double the national rate, according to ramboland.com. Consequently, these individuals, Rambo included, are forced to live in conditions that make the tasks most of us take for granted—such as navigating from room to room, cooking a meal, showering or simply entering the home—nightmarish feats to complete. But, in true Rambo fashion, he found a solution.



Ron Rambo (front center) and Ramboland team members

Other than allocating a government-run and funded home-ownership program, the only way to help to fix the problems of basic living that both he and his peers face was to first build a model home specially designed for him and for those with special needs. Of course, he couldn't do this alone. To get started, Rambo immediately reached out to Praxis Building Solutions LLC Owner and Chief Executive Officer and Sustainability Nexus Co-founder and Executive Director Max Zahniser.

"Ron contacted me through a mutual acquaintance in the Lancaster, Pennsylvania, area. His mother had offered him a property for developing a home if he could find someone to design it for him," said Zahniser, Leadership in Energy and Environmental Design (LEED) Fellow

and project designer/facilitator. "And he wanted the home to be a demonstration of green living, useable for visitors and future residents of all physical capability levels. In other words: He wanted a home for himself, but he also wanted to show the world a better way and leave something for others to continue to benefit from. All of that was inspiring to me and in line with my own goals. I instantly agreed."

THE TEAM

Zahniser began by assembling the best professionals he could find from both his regional and international green-building networks. "We now have one of the most extraordinary design teams ever assembled, and a lot of that comes down to how inspiring Ron's original vision was," said Zahniser. Through word-of-mouth about this vision among generous experts in the field, the heft of the volunteer team came together: Project Manager Jennifer Sheffield, LEED AP; Lead Builder Jesse Pellman, LEED AP; and Architect Carol Hickey, RA, American Institute of Architects Associate.

A host of other essential team members also joined—direct care staff members from Sheetz Landscaping Inc.; Rambo and Co.; a fundraising and land donation associate; landscape architects from Andropogon Associates Ltd.; a soil- and water-quality scientist from B.F. Environmental Consultants/Keystone Clearwater Solutions; and a structural engineer from Built Form LLC.

Sheffield, LEED AP, said, "Representing GBWAWA, a sustainable design firm in Tel Aviv, Israel, and Philadelphia, Pennsylvania, I attended a green conference in Lancaster, Pennsylvania, in May 2017 and heard [Zahniser] speak about Ramboland. I was fascinated by the advanced social and economic aspects complementing the environmental goals, integrated in ways that I hadn't seen before." And this novel idea pulled her right in to the project management position.

Pellman, LEED, AP, said, "I got a call one day about a project that needed a builder, and as soon as the concept was explained, I was on board. It's such a pioneering house and aligns tightly with the goals of our company (Longview Structures). It was a no-brainer."

Hickey, the owner and principal of Hickey Architects, said, "Max Zahniser (whom I met through a friend of his mother several years ago) asked me if I'd be interested in participating. I've known Ron's caregiver, Lou, for years, and I see Lou and Ron in town frequently. I was honored to be asked to be the project architect."

THE FIRST STAGES

At print, the project site—a 1,100-square-foot home on a 10,000-square-foot site—had completed the design-development stage and was entering the construction-document phase. The project plan is 10 years in the making and represents a decade of brainstorming the team has enjoyed. When asked about their favorite stage of the project thus far, many team members attribute their fondness to this stage. "Early design was fun, when we often had our whole team in the room,



Rendering of Ramboland exterior



Rendering of Ramboland kitchen

swimming in all the possibilities," said Zahniser, adding, "But that energy has continued as we've managed to progress into additional detailing and other design phases."

"The upfront work, while sometimes tedious and laborious, has been rewarding. It's truly collaborative, giving voice to all stakeholders and exploring myriad options to make sure that the end product is fully realized and resilient," said Pellman.

Hickey said, "I really enjoyed the first couple charrettes, where a group of about 10 or 12 of us met up. We included folks on the West Coast via Skype and were able to interact in a productive way (with some disagreements, of course). Ron was present for these sessions and offered his opinions."

However, each added they are certain the final will be their favorite stage. Zahniser said, "I think my favorite phase will be when Ron is first living in the house after we finally get it built, experiencing a lifestyle he's never been able to previously and watching all the doors that having built the house opens. "

THE REVOLUTION

The project has six main goals that, at this time, have only been achieved by a couple of modern buildings in the world:

1. *Universal access*—The home will be accessible to specially abled people across the full spectrum of special needs.
2. *Energy grid independence*—The home will produce eight times as much energy as it uses, eliminating utility bills and creating income though the sale of excess power.
3. *Water grid independence*—Heal hydrology will eliminate the need for municipal water or sewer systems through rainwater collection, wastewater treatment and stormwater solutions.
4. *Food grid independence*—Healing living systems, such as a backyard garden and aquaponics system (connected to the on-site water grid) will produce a substantial abundance of food, creating income though the sale of excess food.
5. *Neighborhood ecological restoration*—Benefits of the water and food grids will be extended throughout the neighborhood.
6. *LEED Platinum and Living Building Challenge certifications*—The project will exceed the highest green building standards in the world through acting as a living laboratory that heals the ecosystem as it supports citizens with special needs through a cheaper method than has ever before existed.

At this time, approval tests (for the water, food and energy grid systems) are still being run on-site. Once the team breaks ground on the project, "the construction process itself should go fairly rapidly," said Zahniser. Completion of Ramboland is projected to take place sometime between spring and fall 2019, with the completion date hinging on how much product and financial support the team receives, or rather, how quickly they receive it.

THE AWARD

After the death of Malcomb Lewis, Ph.D., board member and green building leader, the U.S. Green Building Council (USGBC) created the Malcomb Lewis IMPACT! Award. Lewis was the founder of Constructive Technologies Group, served on the EBN Innovation Network's advisory board, and chaired the USGBC Technical and Scientific Committee, where he helped make important decisions related to LEED Certification. According to USGBC Senior Vice President Kimberly Lewis, "People have been at the heart of USGBC's work since the beginning, and it is that passion and dedication that continues to fuel the green building movement. The Malcolm Lewis IMPACT! Award is meant to honor a team of volunteers who are making green buildings and communities a reality for their neighbors, family, friends, coworkers and greater community."

According to the USGBC website, nominations for the award must come in the form of a slideshow, infographic or video and are shared on USGBC's website and social media pages. The award criteria are:

- Must feature teams of three or more volunteers
- Must be tied to green building and align with USGBC's mission
- Must include at least one volunteer who is a USGBC representative or staff member

During the month of September, the public and nominees may vote via an article poll. Forty-four teams have been awarded since 2012, and winners are formally recognized during the annual Greenbuild leadership luncheon. "Ramboland is special because it really creates a new perspective for considering how communities can be better designed to support people with any level of mobility." said Lewis. "It shows how green building strategies provide benefits for the environment and help improve quality of life. This home, in a smaller community, is an exploration into regenerative development," he said. "It's a living laboratory that teaches us how cities and communities



Regenerative-living community design

can heal our ecosystems while supporting the lifestyles of people with disabilities in a more effective way."

On receiving the award, Zahniser said, "It felt really good for the project to be recognized for how special it is and the amazing amount of donated wisdom, intellect, expertise, time and energy has gone into it. USGBC members actually nominated us, but the decision came down to voting. We admire the project teams we were up against; they were all deserving of winning. And we found out that a couple of those teams were also voting for Ramboland, which was definitely a boost."

THE FUTURE

While the team began with high aspirations for the project itself, their hopes for the implications of the finished product are even higher. These are the kind of ideals that win nominations yet go beyond tangible awards. "A project like this one models the possibilities of how good residential housing can—and should—be," said Pellman.

Taking it a step further, Sheffield added, "I hope that Ramboland is seen as a viable model for addressing the United Nations' Sustainable Development Goals (SDG) at the local level. The goals relate to the global challenges of poverty, inequality, climate and more."

According to Zahniser, "There are so many preconceptions, habits and assumptions about the cost of inclusive and green design, and these default mindsets contaminate and woefully limit most projects. I want everyone to have something to point to when all those preconceptions were not present, and a team of highly qualified, creative people came together to optimize systems; leverage what it has proved; and hopefully change all projects we work on thereafter."

In Rambo's own words: "I want to leave a legacy." And that's exactly what his team intends to help him do. CBO

A FURTHER LOOK

- For more details on the project, visit ramboland.com.
- To get more information about the IMPACT! Awards and LEED certifications, visit usgbc.org.
- For more on the Greenbuild International Conference and Expo, visit greenbuild.usgbc.org.
- To read an in-depth Q&A with the Ramboland team, visit constructionbusinessowner.com/green-building-pioneers-take-accessibility-independence.

Rachel Fulford is associate editor at Construction Business Owner magazine.



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THE BENEFITS THAT COME WITH REDEFINING OWNER INVOLVEMENT IN THE BIM PROCESS

Building information modeling (BIM) is described as a unifying tool, a direct path to collaboration. In many instances, however, this is not the case for construction projects. Why? Because the owner/operator—a key player in the building life cycle—is often left out of the process until the very end. And this needs to change. The process of using BIM should be open to the entire project team, and the leadership role necessary for making that happen lies with the general contractor. Similarly, BIM technology should not be considered a tool exclusive to architects, engineers and other trades, but rather a methodology for improving the workflow of each individual involved, from initial design ideas to actual building operations.

Altering your company's mindset around BIM requires changing your approach to project delivery and getting teams to use foresight. Everyone involved should understand that their work carries on after the construction equipment leaves the jobsite. And, ideally, it results in the legacy all contractors want to leave: a well-built, smooth-operating, fully functional structure. But to reach that goal, the general contractor must bring the owner into early discussions about critical building functions before the shovels hit the ground, and this involvement should continue throughout the project review stage, bringing benefits that will be visible to all.

First, however, the general contractor may need to coach the owner on BIM technology. The owner, who may be unfamiliar with the technology, may not have the same understanding as the general contractor, construction manager and subcontractors of the technology's advantages for conflict detection and reducing rework. For example, the owners might want a four-story, square building. If the owners do not participate in the iterative design process, waiting instead for a paper drawing, they miss the opportunity to see the three-dimensional designs and to better understand how and why changes are made. They will then see the building rendered as a two-dimensional image, in lieu of a more realistic depiction on a computer screen through augmented reality (AR) or viewing it with virtual reality (VR) headsets. As a result, they lose the chance to experience BIM's ability to offer a full understanding of the project.

CURRENT OBSERVATIONS

Nearly every project currently being designed, coordinated, built and commissioned is leveraging BIM and virtual design and construction (VDC) techniques. In many cases, the process centers around the construction manager and the subcontractors instead of being focused on the owner/operator. Resistance to using BIM and VDC often comes from the position of, "This is how it has been done for years." I have been monitoring firsthand the evolution of BIM for 15 years from the different vantage points of design/engineering, subcontracting/fabrication and construction management. For the most part, in each project, the same results are delivered—the owner



receives CDs, DVDs, accompanying three-ring binders and maybe a Microsoft Excel spreadsheet containing all the most important data. Ten years ago, there was a semblance of BIM/VDC, and a large portion of content was developed and coordinated in an early BIM-based workflow. But the process lacked valuable operations, maintenance and commissioning data. Even in 2018, this disjointed process still existed for many construction projects that were specified and subsequently turned over to the owner/operator with the critical data separated from the BIM deliverable. While some specifiers, such as architects and engineers satisfy their clients by requiring a spatially accurate model as a final deliverable, this is only part of the insight that BIM is capable of delivering.

Of course, there are exceptions. More complex projects, such as medical facilities, data centers or pharmaceutical production buildings, tend to use BIM because the end users can "walk" through the facilities and determine if the location or scale of assets is appropriate or needs to be adjusted, all before construction starts. In these cases, the needs or requirements are very specific. But even with less complicated projects, there are notable benefits. With a 3D model for commercial office buildings, owners know exactly where electrical, plumbing and fire equipment will be located. Scheduling their installation can be better coordinated before work begins, as no guesswork is involved because the team is not relying on paper drawings. The true power of the BIM-based workflow is invaluable to owners/operators. It links critical building information for the owner/operator and enables them to audit every aspect of their facility, including where elements are located (even those concealed by walls or ceilings). They gain the necessary access to mine critical data from these elements, which affords them intelligent operations and maintenance programs, maximizing the life of their investment.

THE FINAL PRODUCT

Owners have the power to say, "I want a fully coordinated and functioning model with asset management data turned over at the end of the project," and join forces with the general contractor and designer to ensure integrated project delivery. Owners pay for the work, and therefore, have the right to specify what they want in a request for proposal or request for quote. CBO

Nicholas Wolf is director of VDC services for Microdesk. He oversees all construction and VDC projects and directly manages specific ongoing construction projects with government agencies and Fortune 500 companies. Wolf is a member of the board of advisers of the Construction Institute in Connecticut. Visit microdesk.com.





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How to Win Construction Bid Proposals

3 simple steps to set your company apart from the competition

BY DAN TAYLOR

Everyone thinks the hard work in construction is in the actual building. But in fact, that's the fun part—it's what you signed up for when you first got involved in this industry.

The real grind happens before a single shovel ever hits the dirt: the construction-bid-proposal process, in which you essentially apply for jobs over and over again, only to get "laid off" at the end of each project, left to find another employer. It's a necessary part of the business, but that doesn't make it any more fun.

For general contractors, a bid-to-win rate of one out of six is standard, and some see worse returns than that. Roughly 83 percent of your bid-proposal time is spent on the drudgery of paperwork, and when a client chooses the lowest bid from a less-qualified competitor, it can be maddening. But, take heart; there are a few simple things you can do to set your bids apart from the pack and make your potential clients take notice.

1. MOVE QUICKLY

According to Honest Buildings, a capital planning and project management platform purpose-built for real estate owners, the median time it takes for the first bid to come in following a request for proposals is 8 days. That means there's more than a week's time between when the client begins to expect bids and when the very first contractor is able to talk to the client. This time gap is a huge opportunity for any construction business looking to win a bid.

Obviously, crafting a bid proposal isn't like applying to a job ad on Craigslist. You first have to compile a huge quantity of data, measurements and budget figures to create a cohesive argument as to why the client should select you. That takes time. But take a good, hard look at your current timelines. Then decide: If you really tried, could you shorten it?

If you could turn that bid proposal around in, say, 4 days, think about the tremendous advantage that would give you. You'd most likely be the very first bidder to reach the client's inbox. At this stage, clients are working through myriad questions in their minds—questions like, "Is this part of the project even feasible from an engineering standpoint?" and, "Is my cost expectation for the flooring reasonable?"

As soon as the client receives that first bid, they're looking to find the answers to those burning questions. If you're the first to move, your proposal becomes the standard by which they judge their project expectations. Don't underestimate the importance of this aspect of your proposal. It's a simple change that can have a gigantic impact on your ability to win bids.



2. TALK TO THE CLIENT

Of course, being first won't keep you on top of the client's mental list forever. You must nurture the relationship you're building and keep redirecting the client's attention to your proposal. Don't worry about the client comparing other proposals to yours—you've already set the standard. Just keep "teasing" your potential client with more

information at each stage of the process. Here are a few ways you can do that:

- *Anticipate your competitors' bids*—You probably have an idea of some alternatives your competitors might propose. Follow up with the client to discuss these alternatives and why your approach is superior. Otherwise, your potential client may give these alternatives equal footing with yours.
- *Anticipate your client's concerns*—Research past projects on which the client has been involved, as well as what sort of issues were most important. Or, even better, ask them outright. For example, if a previous contractor badly underestimated heating, ventilation and air conditioning (HVAC) costs, explain how your company will avoid committing the same mistake.
- *Create a one-sheet*—A single sheet that lays out the basics of your proposal in a visual style is a great item to pass on to your potential client at a key point in the process. A perfect time would be on the twelfth day, after the request for proposal is released, and the client probably has a few bids in and is starting the process of figuring out which one to go with.



3. WORK ON YOUR VALUE PROPOSITION

You may not think that a past competitor who lowballed you and won the job had a compelling value proposition, but actually, they did. They offered the client the opportunity to save a bunch of money at the outset. That's the simplest value proposition there is. What you need to do is offer the next client a better value proposition than being the cheapest. That race to the bottom just means disappointed clients and razor-thin profit margins.



All clients want to save money, but most realize that they have to pay for high-value products and services. People pay for value over price all the time, whether it's brand-name paper towels that do a better job than the generics or higher-quality electronics that offer more features and last longer than those of lesser quality.

Your future clients are no different—they will pay for value if you can show, not tell, your value proposition to them. So, how do you show value? Take the hypothetical client with the previous HVAC disaster as an example. If you hired a competent HVAC specialist to work (successfully) on previous projects, that information is will render you more than enticing to someone who saw the budget of their past project balloon by tens of thousands of dollars because of the mistakes of an unqualified firm.

If you don't have such a specific example to point to, focus on your customer service. Show how you treated your past clients when crises inevitably arose and how you kept their minds at ease.

Whatever it is, there's something you do better than anyone else. Identify that and then find ways to demonstratively communicate that to potential clients.

PUT A PLAN INTO ACTION

These are simple, fundamental ways you can increase your rate of bids won. Now it's time to take action and come up with a plan. To begin:

- Hold a meeting with your team to figure out how you can shorten the bid-proposal timeline so that you can submit your bids first.
- Carve out some time to research your potential client after the initial bid is in so that you can begin crafting a follow-up strategy.
- Create a simple, succinct value proposition that will separate you from the pack and then figure out ways you can demonstrate that to the client. CBO

Dan Taylor is a content analyst at Software Advice. He covers the construction market, helping construction managers better run their businesses through technology, software and best practices. Taylor follows reports in the construction market to keep up with the latest industry trends. Visit softwareadvice.com.



Making All the Right Moves

How to choose the ideal track & tread for your compact track loader

BY JASON BOERGER

The growing demand for compact tracks loaders can primarily be attributed to the increased maneuverability and productivity that tracks can now provide. Compact track loaders are ideal for operating on soft soils, such as clay, mud or sand, and outfitting a compact track loader with the proper tracks for your worksite can improve machine performance, minimize ground disturbance and extend your working season in wet months.

Tracks can be wide or narrow, are designed with different tread patterns and can be nonmarking. However, before choosing a compact track loader, you should consider first whether tracks are the best choice for your jobs.

After much thought, if you decide that tracks are right for your projects, consider the following factors for selecting the ideal set of tracks.



WIDE VS. NARROW TRACKS

The wider the tracks of the loader, the less ground pressure the machine will exert because wide tracks distribute the loader's weight over a greater surface area. Therefore, when minimizing ground disturbance on your jobsite is a priority—during landscaping or turf application work, for example—you should choose wider tracks. This will increase the loader's flotation, making working on soft soils easier.

Narrower tracks are a good choice when traction or push force is the top priority for the job, and flotation is less of a concern. With narrow tracks, the loader's weight is concentrated in a smaller surface area, which in turn increases ground pressure and traction. Choose narrow tracks when operating in slippery or icy conditions or when trying to maximize the loader's push force on a firm surface.

TREAD PATTERNS

Compact track loader manufacturers sell a variety of proprietary tread patterns, but there are four basic patterns that are common across all manufacturers: C-pattern, block-tread, straight-bar, multibar and nonmarking turf.

The C-pattern is the most versatile—good for a variety of applications. It offers a happy medium between loader traction and flotation. It creates less ground pressure than a straight-bar or multibar pattern and more ground pressure than a turf pattern. The C-pattern is a popular, do-it-all tread pattern that offers performance and operator comfort.

The block tread is one of the most popular options. This tread type works well on hard and abrasive surfaces like pavement

or gravel. Additionally, the block tread operates smoothly on hard surfaces, causes minimal ground disturbance and is ideal for use on clay, sand, dirt, mud, gravel and asphalt.

A straight-bar pattern creates the highest ground pressure of the four patterns and is best used in work on surfaces requiring high traction. On hard surfaces, especially pavement, this pattern may cause the loader to vibrate and create an uncomfortable ride for the operator.

The multibar pattern provides greater ground pressure and traction than the C pattern, as well as a smoother ride on hard surfaces than the straight-bar pattern. So, if the loader operator needs high traction and is moving the loader between hard and soft surfaces frequently, such as in ice or snow, the multibar pattern is a good option.

Turf patterns create the least amount of ground pressure of all the track types and are a good tread choice for jobs in which minimizing ground disturbance is a top priority. The individual lug height on turf patterns is much lower than on the other patterns discussed, which reduces traction and minimizes the displacement of the ground material. This reduces the risk of damaging irrigation systems and underground utility lines when operating a loader.

Traditional compact loader tracks can leave black rubber marks when operating on concrete. If the loader operator is traveling across hard surfaces, such as concrete, driveways, sidewalks and parking lots where visibility is a concern, nonmarking tracks are a good choice. As such, they are especially helpful for landscaping and turf-maintenance uses.

MAINTENANCE

While some compact track loader models automatically maintain track tension, the track tension of most current machines needs to be manually maintained. Owners and operators should consult the operation and maintenance manual to see how often the tension should be checked. Loose tracks can result in detracking and unplanned downtime. Tracks that are too tight reduce loader performance and can cause accelerated wear to the rollers, sprockets and drive motors.

Operator performance also affects the life of compact track loaders. While compact track loaders are nimble enough to turn within their own tracks, operators can minimize track wear by making three-point turns when possible. CBO

Jason Boerger is a marketing manager for Bobcat Company, where he has spent the last 5 years. During that time, he has held positions in the product training and marketing departments. Visit bobcat.com.





Circle 123 on card.

The New View of Overall Machine Health

Using telematics to improve equipment maintenance & life span

BY WILLY SCHLACKS

What if you could predict equipment breakdowns before your machine showed any signs of distress? What if you could extend the life of your assets, increase their utilization and reduce machine downtime? Good news: By using a cloud-connected telematics platform, you can.

Telematics hardware installed on equipment engines monitors your machines' vital signs and alerts you to any performance abnormalities. With telematics, you can access a comprehensive view of the health of every machine. What's more, you can use that data to inform maintenance processes and to predict—even prevent—problems. Telematics-enabled maintenance keeps your machines in top condition, allowing them to run more hours on the jobsite with less unexpected downtime.



GETTING STARTED WITH DATA COLLECTION

For the most informed and educated picture of each of your machines, you should collect data the moment you get your equipment. The sooner you begin collecting machine data, the more you'll know about that machine over the course of its life. Plus, with digital data collection, it's simple to begin.

Digitally collected data is easier to gather, organize and interpret. Many construction firms are using computerized maintenance management systems (CMMS), which are usually built into the company's telematics solution for exactly this reason.

The data your CMMS collects creates a comprehensive history of your machines that you can access at any time. And telematics keeps your maintenance schedule on track. If you're using telematics to its full potential, you'll be alerted when it's time for regular maintenance and if engine irregularities are detected.

However, data is nothing if it's not used to make informed decisions. Telematics capabilities don't only make it easy to collect and interpret machine data, but also make that information immediately available to your field employees in real time. Access to granular equipment data helps everyone on your team understand and contribute to the overall health of your fleet.

Additionally, telematics solutions allow you to generate comprehensive reports that dig even deeper into each machine's

operating health so that you and your team can make better decisions about servicing equipment, optimizing jobsite utilization and productivity, increasing equipment return on investment, and more.

PREDICTIVE MAINTENANCE MEANS MAXIMUM UPTIME

When it comes to servicing construction equipment, many fleets rely on reactive maintenance. Without telematics, construction fleets can only know to work on machines once they have already broken down or when they come back from a jobsite in less-than-stellar condition. Reactive maintenance causes problems like:

- *Increased, unpredictable downtime*—When your equipment goes down, work stops, a service technician has to identify the issue, and only then—assuming you don't have to order any parts—can it finally be fixed. Downed machines cost money and waste time (which, in the end, also contributes to revenue loss).
- *Ragged machines*—Repeatedly running machines until they break down puts unnecessary stress on equipment and leads to shorter life cycles.
- *Lack of insight*—You cannot learn much from a disconnected fleet. Without telematics, you simply do not have access to concrete equipment data that allows invaluable insight into machine efficiency and productivity.

The most effective maintenance program utilizes both preventative and predictive maintenance. Your CMMS tracks all machine maintenance to keep machines on their ideal service schedules. But preventive maintenance alone doesn't eliminate the unpredictability of breakdowns or help spot early signs of a problem. Proactive, tech-enabled predictive maintenance is the most effective way to extend the life cycles of your machines. Why?

- *Fewer breakdowns*—When you can see how your machines run on a granular level, you can spot the signs of a breakdown and prevent it.
- *Complete, accurate records*—Data gathered through telematics is collected straight from the controller area network (CAN) bus and creates digital records to ensure quality and accuracy.
- *Peak machine performance*—Only the machines operating in top condition can ensure maximum utilization.

Constantly monitoring your assets with telematics helps you learn each machine's ideal operating conditions. Over time, telematics solutions also memorize the engine conditions that are likely to lead to a breakdown, and as it learns, it improves the accuracy of the asset diagnostic alerts you receive. The longer you collect machine data, the clearer the picture of individual asset and overall fleet health you can assemble.

Think of it like going to the doctor. If you get regular checkups, it's more likely your doctor will spot something out of the ordinary. But if you only go when you're sick, it's too late for the doctor to help prevent the illness. A telematics platform acts as a full-time engine doctor by running tests and issuing diagnoses in real-time.

BETTER DATA MEANS BETTER DECISIONS

Complete, accurate data is essential for compiling a clear picture of fleet health and business operations. There is a seemingly endless list of data that informs your telematics solution's interpretation of engine behaviors. You can program your own conditional alerts in addition to basic warnings like low fuel, but the advantage of a telematics solution's predictive capabilities is the ability to learn how each machine operates. As information is collected, your alerts become tailored to each asset, based off of the machine's previous operating and maintenance data.

Telematics solutions store equipment data and establish digital machine history records, so you can create comprehensive fleet health reports. And, when all of your data is stored and available on one platform, your team gains a holistic view of your entire fleet. In turn, everyone from service technicians to machine operators to equipment buyers can access valuable information that helps them make better decisions on the job.

This holistic view of your assets is essential to creating clear communication across your workforce and productive workflows. You and your team can pinpoint machines that idle too long, waste fuel or cost the company money (instead of earning it) in a multitude of other ways. When it's easy to see those problems, it's easier to fix them quickly.

With a cloud-connected telematics platform, the insights you gain go far beyond asset health. Aggregating data from every facet of your business, from the jobsite to the back office, telematics offer a holistic view of your entire operation and a better understanding of how your jobsites operate. With thorough, accurate data to help you understand how each part of your business runs, you can confidently make impactful decisions that improve workflows across departments.

There's a reason for the phrase "runs like a well-oiled machine." Equipment operating in its best condition helps projects run smoothly, helps employees stay on schedule and keeps your projects on budget. With telematics, you'll have a fleet of well-oiled machines running like the day they arrived on the lot. **CBO**

Willy Schlacks is president and co-founder of EquipmentShare, a construction technology company dedicated to helping contractors and heavy-equipment owners increase the utilization of their assets. Driven by Track, the company's proprietary telematics solution, EquipmentShare enables contractors to see critical equipment data, such as asset health and utilization. Visit equipmentshare.com.



4 Safety Best Practices for the Modern Jobsite

New study points out danger points & how to protect against them

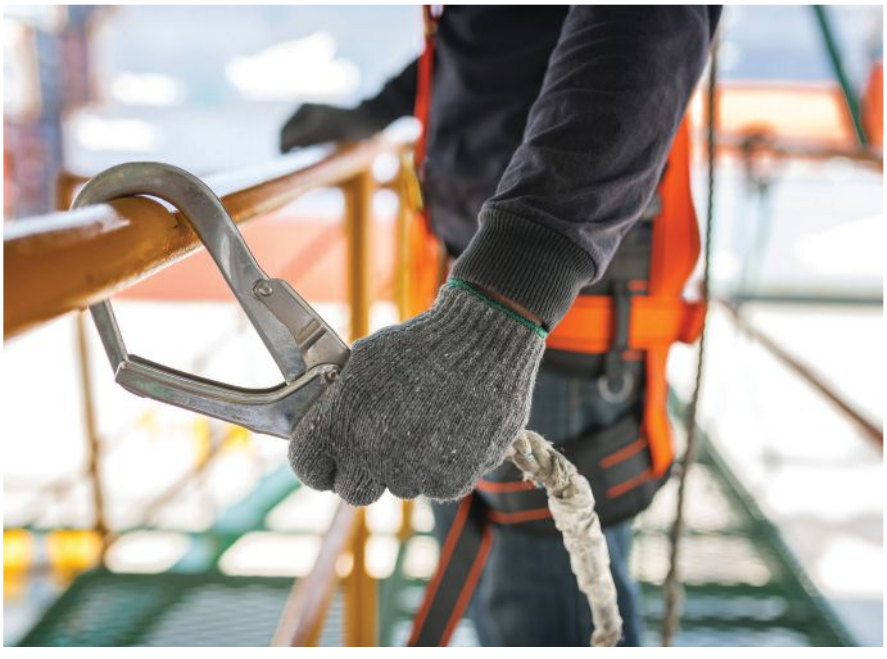
BY DONNA LAQUIDARA-CARR

To what degree are you taking advantage of best practices to improve safety on your jobsites? Dodge Data & Analytics recently conducted a study for CPWR – The Center for Construction Research and Planning in which contractors were asked this same question about a series of very specific practices. And the results, published in the Contractor Use of Safety Best Practices SmartMarket Brief, were surprising.

Some practices mentioned in the study deal directly with hazards like reducing noise levels from construction equipment and risk of injuries due to falls. Other practices pertain to the hazards associated with materials, such as preventing injuries while lifting or moving materials.

In addition to the adoption of these specific practices, the study also examined larger issues of how to create a safety climate on-site that includes leadership by supervisors and foremen, as well as the use of lean approaches to minimize waste and improve training and communication.

The study's findings share one common feature: They reveal the degree to which the industry can still improve its use of practices known to improve worker safety, health and well-being. In accordance with the results, the following are four safety best practices that need to become commonplace at your worksites.



1. MANAGE HAZARDS BEFORE CONSTRUCTION BEGINS

In addition to broad underutilization of safety practices in general, even with simple practices, such as using hearing protection, there is a clear trend of large companies (with annual revenues or $100 million or more) to use many safety best practices more frequently than small companies.

Despite the financial advantages that large companies have, giving them the edge on safety, there are still practices that small companies can take advantage of.

One category in which large companies consistently perform better than small ones is advanced hazard planning. This arena extends as far as the advanced planning of ways to reduce noise exposure, which midsize companies (those with revenues of $10 million to just shy of $100 million) seem to find particularly challenging. Only 28 percent of midsize respondents reported believing their company handles advanced planning well—compared with 36 percent of small companies and 42 percent of large ones. Similar gaps in advanced planning

Despite the financial advantages that large companies have, giving them the edge on safety, there are still practices that small companies can take advantage of.

are reported in the prevention of musculoskeletal injuries. Seventy-two percent of large companies do worksite planning and task planning to address this issue, but only 51 percent of small and 56 percent of midsize companies do. Yet, this kind of planning can be done by any size company.

A similar pattern emerges when looking at materials-handling best practices. Nearly all contractors from large companies (86 percent) reported that they formally plan for how materials will be handled once work is awarded, and almost three quarters (72 percent) reported that they meet with employees for a discussion on how materials will be moved.

Yet, only around 63 percent of small and midsize contractors develop a formal plan for materials handling, and only 54 percent of them are conducting those meetings with employees. To engage in effective advanced planning, contractors need to draw upon their experiences with previous projects, and having that information captured in a systematic, consistent way aids with the process.

Additionally, few large, midsize or small companies reported that they review how materials were handled after project completion. Only 40 percent of large companies do this on more than half of their projects, and even fewer small (30 percent) and midsize (26 percent) companies do. Without this final step, the ability to plan better for the next project is compromised.

2. TAKE ADVANTAGE OF ONLINE SAFETY TOOLS

As revealed by the study findings, another opportunity to improve jobsite safety, especially for small or midsize contractors, lies within the many websites and online tools that provide useful information and materials for improving safety.

Contractors were asked about how frequently they use six of these such sites, and with the exception of CPWR's "Work Safely with Silica and Create-A-Plan" tool, all of these resources were used by fewer than one quarter of respondents. And even this one exception is used by well under half of study respondents.

The study also demonstrates that these websites provide value to the contractors that use them. Most were rated as having a moderate or higher value for improving safety by more than 70 percent of those that use them. These sites included the Stop Construction Falls, Choose Hand Safety, and CPWR's Construction Solutions database, as well as the Electronic Library of Construction Occupational Safety and Health.

The gap between the percentage of contractors using them and the percentage who find that they provide value suggests that wider use of these online resources could help contractors access practices and solutions, ultimately helping them improve safety on-site.

3. MENTOR SUBCONTRACTORS ON SAFETY PERFORMANCE

One way to enhance the safety climate of a project is to make sure that all workers understand the safety goals and parameters of the project, and the best way to do that is to provide health- and safety-related mentorship to subcontractors. But, contractors in the study were asked how frequently they supply this type of mentorship, and the findings show that this is not a common practice.

Only 58 percent of large companies do this on the majority of their projects. Among the small and midsize companies that felt this practice applied to them, only 29 percent and 35 percent, respectively, reported they frequently provide safety mentorship.

So, what do smaller firms need in order to improve their health and safety performance? The highest percentage of respondents from small firms reported that they want printed materials related to site-specific safety and health hazards, as well as toolbox training resources.

About half of small contractors also reported wanting assistance in conducting a job-hazard analysis (JHA) and to be supplied with safety equipment.

However, large companies rated the importance of assistance conducting a JHA and receiving safety equipment much higher than the small companies did, and over half believe that small companies need assistance on injury- and illness-reporting procedures, even though only 21 percent of small companies feel the same.

4. PRACTICE LEAN CONSTRUCTION WIDELY

Lean construction is not technically a safety best practice. However, its goals of eliminating waste and improving the process of construction are frequently supported by enhanced leadership and communication across the organization. These same qualities are essential to enhancing safety, and safety is also a key performance indicator of success for lean projects. Therefore, the

industry's embracing of a lean approach would have a direct impact on safety.

Most contractors in this study (71 percent) reported that they are at least familiar with lean construction. This is a significant increase over the 52 percent of contractors familiar with this approach, who were surveyed for the study Dodge Data & Analytics conducted in 2013.

However, in the current study, only 21 percent reported actually implementing lean procedures in their organizations. The low level of adoption is not an indicator that contractors do not recognize the value of lean, however.

Interestingly, over 70 percent of respondents consider lean training valuable for foremen/lead workers, project managers and supervisors, which closely aligns with the percentage who reported being familiar with the lean approach, rather than the percentage actually using a lean approach.

The study also demonstrates the link between lean and safety, especially when it comes to leadership on-site. Over half of the contractors in the study with a high level of familiarity with lean practices strongly agree that enhancing frontline supervisors' leadership skills improves their ability to engage crew members in coming up with ways to get the job done more efficiently and more safely.

Meanwhile, fewer than one-third of those who have less familiarity with lean practices share that point of view. Those with a high level of familiarity with lean practices are also more likely to strongly agree that the relationship between foremen's safety leadership skills and safety climates on jobsites is strong.

An important aspect of a lean practice is the ability for leadership on-site to actively engage all workers in improving processes, through a bottom-up approach to gaining insights on potential improvements. This truth extends to safety, so it is no surprise that contractors who are more familiar with lean construction are also more aware of the need for leadership on the parts of foremen and supervisors as a means of engaging the workforce as a whole and creating a good safety climate on the project. **CBO**

learn more

These are just a few of the findings published in the Contractor Use of Safety Best Practices SmartMarket Brief. Download the full version free at construction.com/toolkit.



Donna Laquidara-Carr, Ph.D., LEED AP, is research director for the industry insights division of Dodge Data & Analytics. Visit construction.com.

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New Products to Watch

Selected by the editors of Construction Business Owner, these new-to-the-market products are just a few of our favorites recently released to the construction community. Stay tuned in every issue to find out what you need to know about the latest gear, solutions & industry-leading innovations.

ENGCON

SKB Sorting Buckets

Released 11/28/18

Availability: U.S., Canadian, European & Australian markets

What's new? Design in which side plates can act as a barrier when the operator needs to get under bigger asphalt bits or similar materials; narrower, deeper shape

Specs: Manufactured in eight sizes, from 70 liters and 600 millimeters wide to 1,550 liters and 1,500 millimeters wide; complement model launched in 2016; do not require hydraulics; well-suited for easier sorting work with finer materials for filling or other uses; side plates and ribs consisting of high-strength, wear-resistant steel with up to 500 Brinell hardness

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ALLOY LED ▸

PowerLine AC LED Tape Light

Released: 12/4/18

Availability: U.S. Canadian & European markets

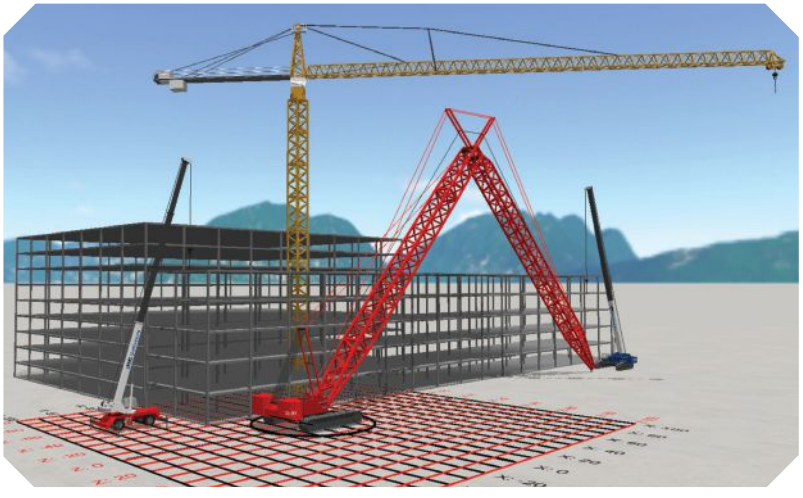
What's new? 120 volt (V), direct-connect LED tape light offered in ETL-listed custom lengths made to customer specifications

Specs: 120V alternating current; no external power needed; plug-in and hard-wired models; runs up to 150 feet; 95+ color rendering index; 200 lumens per square foot; indoor/outdoor capability; cost-efficient installation; 5-year, limited warranty; low heat

Circle 226 on card.



WHEN FACTORY-FINISHED BY ALLOY LED, THE TAPE LIGHT BEARS THE ETL LISTING, AN IMPORTANT FEATURE FOR A LUMINAIRE TO BE CODE-COMPLIANT IN MANY REGIONS.



◂ AIA SOFTWARE

SD Lift Plan

Released: 11/14/18

Availability: All global markets

What's new? New features include WebGl technology that enables the display of 3D content in all browsers, including Chrome, Firefox and Microsoft Edge; added rigging configuration in the advanced rigging design

Specs: Expands the options for users as they plan which type of crane pads or mats are best for the ground conditions

Circle 227 on card.



KYOCERA
DuraForce Pro 2
Released: 11/15/18
Availability: U.S. market
What's new? Rugged, 4G LTE Android smartphone that features a Verizon-exclusive, 5-inch sapphire shield display, which is virtually scratch proof, waterproof and dustproof
Specs: Protected against shock, vibration, temperature extremes, blowing rain, low pressure, solar radiation, salt fog, humidity, immersion, temperature shock and icing/freezing rain; ideal for plant and field operations where concentrations of flammable gas, vapors or mists are not normally present in explosive concentrations but may exist; 106 Deutsche Bahn dual-front speakers; four noise cancelling microphones; three cameras: 13-megapixel (MP) rear, 5-MP front and a super-wide-view, 4K-resolution action camera; compatible with action-camera mounts
Circle 228 on card.



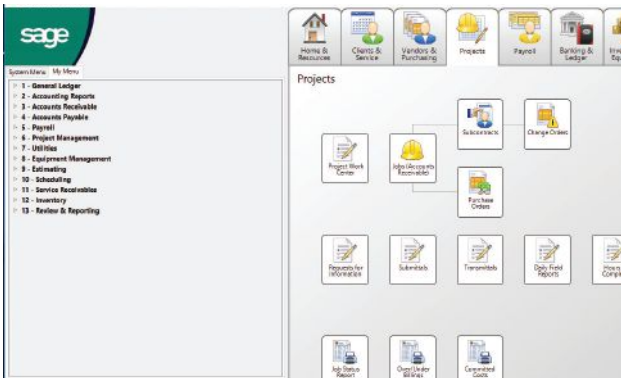
GIVENHANSCO
Keystone Online Operations
Released: 12/1/18
Availability: U.S. & Canadian markets
What's new? Online suite that gives operations end-users the power to monitor, manage and optimize efficiency, whether at their desk or in the field
Specs: Allows plant managers, sales teams and owners to look at orders in real-time to see where trucks are and receive the load/batch information they need to make informed business decisions that can help to decrease operational costs and increase fleet efficiency
Circle 229 on card.



Circle 107 on card.



Circle 112 on card.



▲ SAGE CONSTRUCTION AND REAL ESTATE

Sage 100 Contractor v21.2

Released: 10/4/18

Availability: U.S. & Canadian markets

What's new? Bank Feeds capability that streamlines the banking process and allows users to import bank transactions directly from their bank account

Specs: Integrated project- and financial-management solution made to help contractors seamlessly migrate when they choose to, at the pace that works best for their business

Circle 230 on card.



▲ THE TORO COMPANY

Toro Dingo TXL 2000 Compact Utility Loader

Released: 11/5/18

Availability: Select U.S. & Canadian Toro dealers

What's new? Fully extended telescoping loader arms with a hinge-pin height of 10 feet; operating capacity of 2,000 pounds; open visibility; ability to easily hop on and off the machine

Specs: 49.6 horsepower Kubota diesel engine; 3,000 pounds per square inch (psi) of hydraulic pressure; dual hydrostatic pump; 5.3 psi of ground pressure; 6.3 inches of ground clearance; 45.2 inches of extended reach

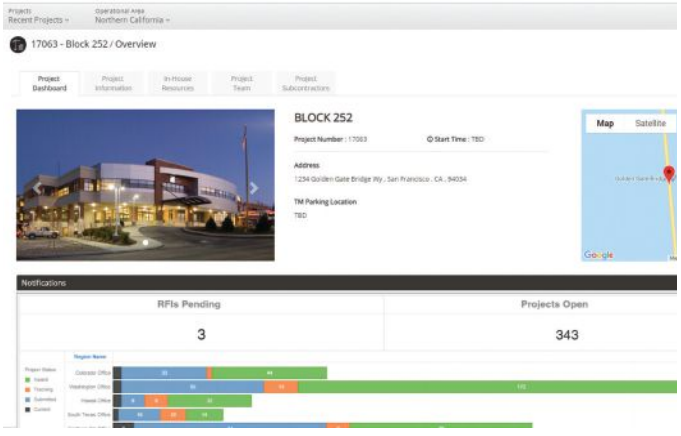
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Circle 116 on card.



Circle 113 on card.



▲ PRONOVOS

Operations Manager

Released: 10/23/18

Availability: U.S., Canadian & European markets

What's new? Ramps up contractors' profitability by leveraging data analytics, smart workflows, data integration and smart mobile technology through an easy-to-use interface

Specs: Cloud-based; empowers contractors to track and manage bids, crews, equipment, punch lists, blueprints, requests for proposals and more; integrates data from all existing applications, including Microsoft Excel, giving contractors one central application and one version of the truth

Circle 232 on card.



▲ TRUELOOK

4K Pan-Tilt-Zoom Construction Site Camera

Released: 10/31/18

Availability: U.S. & Canadian markets

What's new? Ultra HD 4K resolution; ability to create panoramic photos up to 250 MP

Specs: Robotic pan-tilt-zoom (PTZ); 12x optical zoom; built-in 4G LTE modem; easily switches between 110V and solar-power usage; operational in conditions of -4 to 122 degrees Fahrenheit

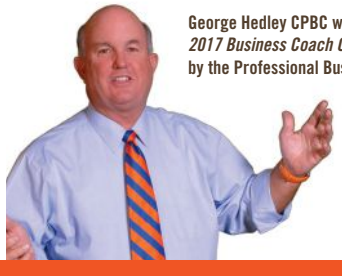
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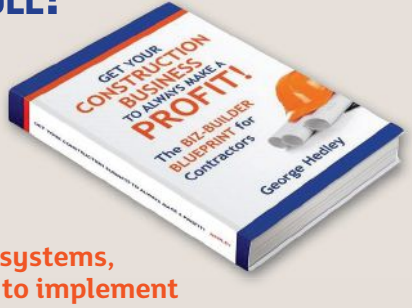
George Hedley CPBC was named *2017 Business Coach Of The Year* by the Professional Business Coaches Alliance

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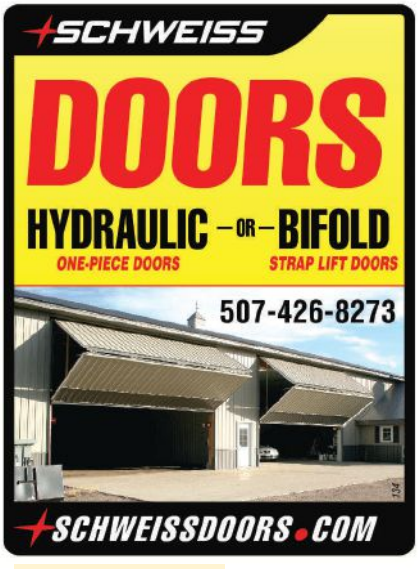
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Annual Value of Construction Put in Place

October 2016/2017/2018 Annual Rate Comparison

This chart compares the two previous years' total value of construction put in place to an annual forecast based on October 2018 figures. (Millions of dollars. Totals may not add up perfectly due to rounding.)

	2016*	2017**	Oct 18***
Total Private Construction	**920,097**	**961,630**	**998,692**
Residential	482,029	529,523	538,958
Nonresidential	438,068	432,106	459,733
Total Public Construction	**286,477**	**285,901**	**310,156**
Residential	6,921	6,413	5,897
Nonresidential	279,556	279,488	304,049
TOTAL Construction	**1,206,574**	**1,247,531**	**1,308,848**

**Seasonally Adjusted Annual Rates. Source: U.S. Census Bureau*
***With the May 2018 release, unadjusted data will be revised back to January 2016 and seasonally adjusted data will be revised back to January 2011. With each May release, seasonally adjusted data will now be revised for an additional 5 years beyond the revision period for unadjusted data. Research has shown that this revision span should produce more reliable seasonally adjusted time series.*
****At print, the U.S. government shutdown prevented updates to November data.*

$1,308,848*

OCTOBER 2018 TOTAL ANNUAL VALUE OF CONSTRUCTION PUT IN PLACE

*At print, the U.S. government shutdown prevented updates to November data.

"Despite some concerns about a potential economic downturn, architecture firms continue to report strong billings, inquiries and new design contracts," said AIA Chief Economist Kermit Baker, Hon. AIA, Ph.D. "For the coming year, concerns about the economy among architecture firm leaders tend to be balanced by their concerns about a lack of qualified employee prospects."

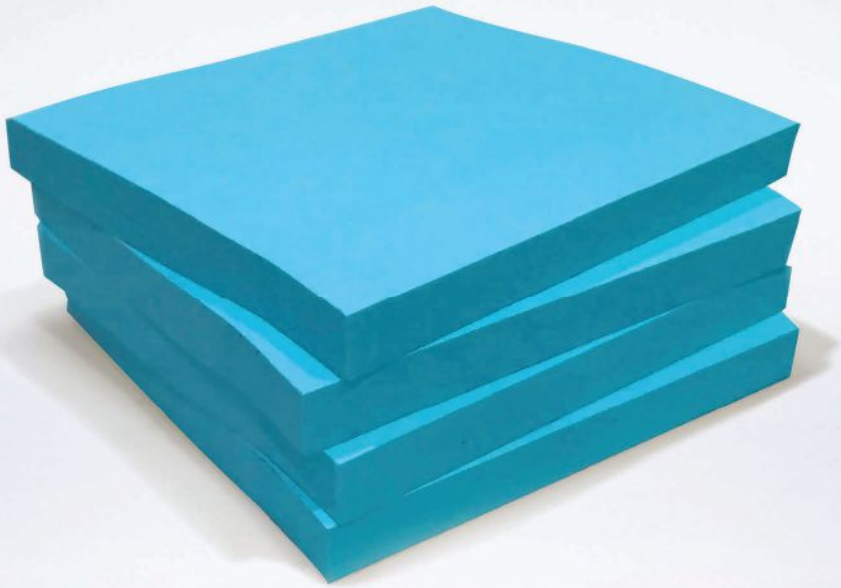
AIA Architectural Billings Index (ABI)

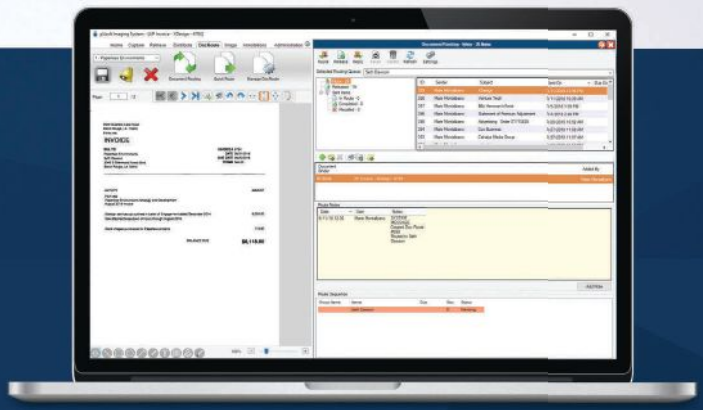
	National		*Regional - Billings				*Sectors - Billings			
Month	Billings	Inquiries	Northeast	Midwest	South	West	Multifamily Residential	Commercial/ Industrial	Institutional	Mixed
Jun-18	51.3	56.0	50.2	49.8	57.4	46.9	54.6	53.4	51.6	49.3
Jul-18	50.7	60.5	48.0	49.3	55.2	49.6	54.6	50.1	51.1	48.2
Aug-18	54.2	58.0	46.9	52.5	57.0	54.2	55.6	53.6	52.3	51.7
Sep-18	51.1	58.8	46.6	59.7	54.1	53.1	54.9	50.8	55.1	53.4
Oct-18	50.4	58.6	51.8	57.8	48.4	46.9	52.3	48.9	52.0	52.7
Nov-18	54.7	63.1	56.8	53.1	50.5	49.0	51.2	53.8	50.8	53.8

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.

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